Demand Creation and Supply Chain Development For Scaling Up Rural Sanitation in Hoa Binh Province

Post-Intervention Rapid Assessment Report

March 2016
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<tr>
<td>BCC</td>
<td>Behavior Change Communication</td>
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<tr>
<td>CHS</td>
<td>Commune Health Station</td>
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<tr>
<td>CHW</td>
<td>Commune Health Worker</td>
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<tr>
<td>CLTS</td>
<td>Community-Led Total Sanitation</td>
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<tr>
<td>CPM</td>
<td>Center for Preventive Medicine</td>
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<tr>
<td>DHC</td>
<td>District Health Centre</td>
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<tr>
<td>DoH</td>
<td>Department of Health</td>
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<tr>
<td>DoLiSA</td>
<td>Department of Labor, Invalids and Social Affairs</td>
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<tr>
<td>FGD</td>
<td>Focus Group Discussion</td>
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<tr>
<td>FY</td>
<td>Fiscal Year</td>
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<tr>
<td>HH</td>
<td>Household</td>
</tr>
<tr>
<td>HoV</td>
<td>Head of village</td>
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<tr>
<td>M&amp;E</td>
<td>Monitoring and Evaluation</td>
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<td>MARD</td>
<td>Ministry of Agriculture and Rural Development</td>
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<tr>
<td>MoH</td>
<td>Ministry of Health</td>
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<tr>
<td>NTP</td>
<td>National Target Program</td>
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<tr>
<td>OD</td>
<td>Open Defecation</td>
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<tr>
<td>ODF</td>
<td>Open Defecation Free</td>
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<tr>
<td>PC</td>
<td>People’s Committee</td>
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<tr>
<td>PCERWASS</td>
<td>Provincial Center for Rural Water Supply and Sanitation</td>
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<tr>
<td>RFG</td>
<td>Revolving Fund Groups</td>
</tr>
<tr>
<td>SaniFOAM</td>
<td>Sanitation-Focus, Opportunity, Ability, Motivation</td>
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<tr>
<td>SN</td>
<td>Netherlands Development Organization</td>
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<tr>
<td>TA</td>
<td>Technical Assistance</td>
</tr>
<tr>
<td>URENSO</td>
<td>Urban Environment Company</td>
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<tr>
<td>VBSP</td>
<td>Vietnam Bank for Social Policies</td>
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<tr>
<td>VHW</td>
<td>Village Health Worker</td>
</tr>
<tr>
<td>VHEMA</td>
<td>Vietnam Health and Environment Management Agency</td>
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<tr>
<td>VSPB</td>
<td>Vietnam Social Policy Bank</td>
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<tr>
<td>WASH</td>
<td>Water Sanitation and Hygiene</td>
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<tr>
<td>WB</td>
<td>World Bank</td>
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<td>WSP</td>
<td>Water and Sanitation Program</td>
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<tr>
<td>WU</td>
<td>Women’s Union</td>
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Acknowledgements

The authors would like to express their sincere thanks to and support from the Ministry of Health, Vietnam Health Environment Management Agency (VIHEMA) and the Center for Preventive Medicine of Hoa Binh province. The authors would also like to thank the local authorities in Hoa Binh province, and Kim Boi and Mai Chau districts, who helped to facilitate and participate in the rapid assessment.

Also, we would like to thank all participants: sanitation promoters/motivators (village heads, village health workers, members of the Women Union), members of households that adopted and that have not yet adopted hygienic sanitation, owners of SANCON shops, sales agents and masons for their participation to in-depth interviews and focus group discussions.
Executive Summary

In order to assess the impact and effectiveness of the tools and approaches to scaling up rural sanitation in Hoa Binh province, the World Bank Water and Sanitation Program (WSP) and the Vietnam Environmental Health Management Agency (VIHEMA)\(^1\) conducted a rapid assessment in Kim Boi and Mai Chau districts following sanitation interventions in nine communes within the NTP3\(^2\) budget of the Government of Vietnam. The objectives of the evaluation were to: i) assess whether evidence-based behavior change communication (BCC) strategy and supply chain strengthening initiatives led to increased coverage of hygienic sanitation in the intervention communes; ii) evaluate the effectiveness of the interventions and related constraints and opportunities; iii) formulate policy recommendations on the sustainability and replicability of the approach in similar contexts characterized by low sanitation access, remoteness and ethnic minorities.

The post-intervention rapid assessment was carried out in December 2015, one year after the implementation of traditional IEC interventions, and another year after rolling out the full intervention package in the nine communes. It relied on both qualitative and quantitative data collection. VIHEMA conducted a survey in all the intervention communes targeting 801 randomly selected households. Focus Group Discussions (FGD) and In-depth interviews with key respondents complemented survey data, and provided opportunities for triangulation and in-depth investigation of participants’ ideas and understanding of the local context. Comparisons among data from this post-intervention survey and data from a pre-intervention rapid assessment carried out in 2014 allowed temporal analysis of hygienic sanitation coverage, households’ knowledge of sanitation, access to sanitation information and perceptions on sanitation. This evaluation also employed a unique methodology to estimate impact. Endline data were compared to Join Monitoring Program (JMP) and National Target Program 3 on Rural Water Supply and Sanitation (NTP3 –RWSS) data to look at trends in coverage, and to check the robustness of the main baseline-endline comparison.

Hygienic sanitation coverage significantly increased both in Kim Boi and in Mai Chau: 48.4% of all households in the intervention communes had a hygienic latrine in 2015; this is 20.7 percentage points more than the 27.7% value recorded in February 2014 while national NTP3 and JMP data point to an annual increase between 3.8 p.p. (JMP data) and 6 p.p. (NTP3 data) during the same period. This also suggests that hygienic sanitation coverage in intervention communes was greater than the coverage in non-intervention communes by 2015. Increase in coverage in the nine communes mainly occurred when full BCC and supply chain strengthening strategy and tools were applied. Sanitation focal points and promoters/motivators all agree that it was the BCC interventions that allowed rapid and substantial increase in hygienic sanitation coverage in the nine communes and that, without these activities, hygienic sanitation coverage would not have increased so much and so rapidly.

The increase in hygienic sanitation benefitted all income groups and all ethnic groups, even those living in the remotest and most challenging mountain areas. This was possible because of the ability of motivators (village heads, village health workers and representatives from the Women Union) to adopt the approach and adapt it to the local context. In Tan Mai commune for instance, HH visits saw the active involvement of all possible motivators and HHs would be fined if they did not participate in

\(^1\) VIHEMA operates under the Ministry of Health (MoH) and the Ministry of Agriculture and Rural Development (MARD).

sanitation village meetings. These expedients were undertaken to involve all HHs who live fragmentally in isolated villages in Tan Mai. In Binh Son commune, each motivator was tasked to persuade and convince a certain number of HHs from the Dao ethnic group to adopt hygienic sanitation, given that this group has less access to information and tends to be more marginalized than others.

Key elements of the BCC interventions were the role of motivators, and their communication skills, and the active involvement of beneficiaries and sanitation focal points (political leaders). Households were not only receivers of sanitation information, but also main source of the need perceived by motivators to be re-trained and to increase their technical knowledge on hygienic latrines. Provincial, district, commune and village leaders got involved in the sanitation intervention, and embraced the need to institutionalize the sanitation targets in each commune socio-economic development plan, and to set up a system of sanitation rewards and sanctions.

Together with BCC activities, the sanitation marketing interventions developed a one-stop-shop sanitation model. The model aimed at making hygienic sanitation accessible to all HHs (independently from their financial capacity) by reducing operation and transaction cost. SANCON owners that were able to adapt their offer to the market demand, to establish close collaboration with sales agents, to withstand competition by changing the quoted price, and to be actively involved in BCC activities thrived the most. This is especially the case for SANCONs based in Kim Boi.

Even though the number of latrines built via SANCONs is still low, households still prefer to build themselves and they do not fully trust the new concrete-ring technology, the sanitation market is growing in the nine intervention communes, with expected demand for sanitary toilets in the coming months also for SANCON businesses. The effective growth will depend on the ability of all market actors (sanitation focal points, motivators, households, SANCON owners, sales agents and masons) to cooperate and compete with one another. Since the beginning of the intervention, it was clear that the peculiarity of the sanitation marketing approach in Hoa Binh was implementing the strategy’s components together under government costs norms. The intervention also demonstrated that ‘together’ would not only mean ‘at the same time,’ but rather in an all-inclusive way.

The endline rapid assessment further demonstrated that the majority of adopters that became willing to build hygienic latrines after the intervention managed to do so by relying on their own savings. It was also clear that the ability of the better-off to take action (and eventually build a toilet) was higher due to their higher ability to pay. The main recommendation that emerges from this post-intervention rapid assessment is that sanitation marketing interventions should be adjusted to the local context, and that they should consider its geographical features, households’ income level and the initial level of hygienic sanitation coverage. Hence, in remote areas, ‘fixing’ the supply chain is even more important than in better connected communes. Besides, where coverage is low, all HHs should be targeted by BCC and SANCON interventions (independently from their income level). This would generate awareness of the importance of hygienic sanitation and boost advocacy. After this first ‘step’, BCC promotion should focus on ad-hoc sanitation solutions, SANCON development should be strengthened and hygienic sanitation financing enhanced (through VBSP loans). Once this second step is also over, the focus should be on the last mile of hygienic sanitation coverage and on those that have been left behind. These are likely to be the poorest, and the most marginalized. Hence, BCC activities should specifically target these groups, sanitation finance should meet their repayment capacity (possibly with partial subsidies) and a system of rewards and sanctions should be introduced. This gradual approach to hygienic sanitation marketing aims at achieving 100% hygienic sanitation coverage, and it is grounded on the constant involvement of political leaders and deep understanding of the local cultural set-up.
1. Introduction

1.1. Sanitation coverage

With 67% of the population living in rural areas, Vietnam remains primarily a rural country. The strong economic growth of the last decades coupled with government interventions improved rural sanitation dramatically. Prevalence of improved facilities in rural areas increased from 29% in 1990 to 70% in 2015 and rural open defecation dropped from 43% to 1%. These remarkable results hide persistent gaps between rural and urban areas and among regions. The 70% rural improved sanitation level in 2015 was 25.5% less than the corresponding 94% urban value. Under the Government of Vietnam’s stricter standards for ‘hygienic latrines’, 70% was also a very optimistic value. Rural ‘hygienic’ sanitation was just over 50% in 2011.

21.9% of all households in the Central Highlands region and 12.9% of those in the Northern Midlands and Mountainous Area were still practicing open defecation in 2013/14. Inequalities in access among income and ethnic groups remained profound: 38.4% of all HHs in the poorest quintile were using improved toilets in 2013/14, as compared with 99.9% of HHs in the richest quintile. 87.9% of Kinh households had access to improved sanitation in 2013/14, versus 51.5% of HHs from ethnic minorities.

Research conducted by the World Bank Water and Sanitation Program (WSP) in 2014 demonstrates that in the mountainous regions (Central Highlands and Northern Midlands and Mountain Area) the height of a child decreases when community-level unimproved sanitation increases. In particular, an average five-year-old child living in a rural village where villagers use unimproved toilets is likely to be 3.7cm shorter than a child of the same age living in a village where everybody uses an improved toilet. Being born in a poor household increases the chances for the household members to use unimproved toilets, and for the children of that household to be stunted. Stunting is not only an indicator of height-for-age: stunted children are more likely to experience poor cognitive development later in life, and to become less productive adults.

Target 6.2 of the Sustainable Development Goals (SDGs) recites: ‘By 2030, achieve access to adequate and equitable sanitation and hygiene for all and end open defecation [...]’. Yet, what is generally considered ‘adequate’ (i.e. basic sanitation) appears in fact to be inadequate for rural areas of mountainous regions of Vietnam. This is because eliminating open defecation would not suffice for the elimination of stunting. More than moving along the sanitation ladder (i.e. from open defecation to unimproved sanitation, and then up again from unimproved to improved), the key in these regions is to achieve universal improved sanitation coverage. ‘Policies and interventions should focus on community-wide behavioral change and outcomes for improved sanitation, rather than only on individual household investments in improved sanitation. Government targets and

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3 World Bank World Development Indicators 2014 data.
5 MICS 2013/14 data.
6 Ibid.
7 9.7% of all HHs in the Central Highlands and 13.7% of those in the Northern Midlands and Mountain Area, especially poor households, were using unimproved toilets in 2013/14 (MICS5 data).
incentives need to go beyond open defecation-free status and focus on community-level universal access to improved sanitation. To reach this target, interventions should take into account the initial level of hygienic sanitation coverage, and they should be adjusted to existing differences in households’ income levels.

1.2. The National Target Program for Rural Water Supply and Sanitation RWSS-NTP3 and the WSP Technical Assistance

National Target Program for Rural Water Supply and Sanitation

The National Target Program for Rural Water Supply and Sanitation (NTP) is the Government’s primary instrument for implementing Vietnam’s rural water supply and sanitation (RWSS) Strategy to 2020. NTP had a first phase from 2000 to 2005 (NTP1) and a second phase from 2006 to 2011 (NTP2). Though largely responsible for rural water supply coverage increases over that period, NTP1 and NTP2 did not devote sufficient attention and funding to household sanitation. Furthermore, while the Ministry of Health was officially responsible for rural sanitation promotion, in practice it played only a supporting role.

In 2012, NTP entered its third phase (2012-15). Like its predecessor, NTP3 involved a number of ministries under the overall leadership of the Ministry of Agriculture and Rural Development (MARD). In a departure from the previous phase, however, NTP3 was divided into three discrete sub-projects:

Project 1: Rural Domestic Water Supply and Environment
Project 2: Rural Sanitation
Project 3: Capacity building; communication and supervision; monitoring and evaluation.

The establishment of a dedicated rural sanitation project (Project 2) was designed to ensure that this subject would receive greater attention than it had before, under the leadership of the Ministry of Health (MoH). MARD remained the designated lead agency for Project 3, however; good co-ordination between the health and agriculture sectors became essential.

The Government of Vietnam has set targets for hygienic sanitation in the next five, ten and fifteen years: 75% rural households have ‘hygienic’ latrines by 2020, 85% by 2025 and 95% by 2030. Meanwhile, the country will reach national open-defecation-free status by 2025 and sustainable Open Defecation Free (ODF) status by 2030. Targets have been accompanied by propositions, with the Prime Minister addressing the rural sanitation challenge and making sanitation the core of its NTP3 (2012-2015).

Differently from its predecessors (the 2000-2005 NTP1 and 2006-2011 NTP2), NTP3 is less focused on subsidizing latrine construction, and it concentrates on behavioral change communication, demand creation and supply chain development. Government’s Decision No. 366/QD-TTg further

10 ‘The transition from NTP2 to NTP3 also marked the introduction of some significant policy changes, including measures to improve cost recovery and financial sustainability; greater scope for private sector management of rural water supply schemes; and a move away from the blanket use of hardware subsidies for household toilet—subsidies should now be provided only to the poor and near-poor’ (World Bank, Water and Sanitation Program 2014 ‘Water Supply and Sanitation in Vietnam Turning Finance into Services for the Future’, page 10).
highlights that priority should be given to poor households, remote areas, ethnic minority areas and [...] water-scarce areas.

The WSP TA in Vietnam in general and in Hoa Binh province in particular

In 2013, the WB WSP began implementing a multi-year program of capacity building support to the Government entitled ‘Scaling up Rural Sanitation in Vietnam.’ The WSP assistance aims at strengthening the Government’s capacity to scale up hygienic sanitation within and beyond NTP3, with a particular focus on poor households in low access areas.¹¹

The support has been structured as two TAs, one of which aims at enhancing the implementation capacity of the Government’s NTP3 to effectively generate demand generation for sanitation, as well as strengthening supply chain development in hard-to-reach areas with low sanitation access (P133773).¹²

The support from the WB WSP to the Government of Vietnam further extends from the national to the local level, where selected provinces act as ‘learning hubs’ that provide new evidence-based knowledge on affordable and desirable sanitation solutions especially targeting the poorest and the most remote villages with ethnic minorities. One of these learning hubs is the Hoa Binh Province, with its districts of Kim Boi and Mai Chau, in the Northern Midlands and Mountain Area. While the intervention focuses on these two districts of Hoa Binh, the program will be a used to improve hygienic sanitation coverage in other districts of Hoa Binh province.

Hoa Binh is meant to be a learning lab for other provinces under the second World Bank Programme-for-Results (PfR), Results-Based Rural Water Supply and Sanitation under the National Target Program.

1.3. Hoa Binh Intervention

Strategy and tools for Scaling up Rural Sanitation in Hoa Binh Province 2015-2020

In 2014, the WB WSP and VIHEMA working through SNV – the Netherland’s Development Organization and CODESPA built a strategy and related tools for behavior change communication (BCC) and supply chain (SC) strengthening that were affordable by the Hoa Binh government in consideration of the limited information, education and communication (IEC) budget available.

The Hoa Binh campaign was developed over the span of eight months, and it included the campaign concept, visuals, messages and interpersonal communication tools for frontline workers to implement face-to-face or interpersonal communication (IPC) activities. The strategy and tools were prepared based on the results from a 2014 baseline research,¹³ literature review and learning from sanitation programs in Vietnam and other countries in South East Asia.¹⁴ In 2015, the Hoa Binh

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¹² The TAs were designed to apply to the Vietnamese rural sanitation context the theory of change for rural sanitation developed and implemented by governments with WSP support in a total of 16 countries including Indonesia and other East Asian countries; India; Tanzania; and Ethiopia.
¹³ The baseline research aimed at understanding barriers and motivations of rural men and women to acquire hygienic sanitation. Its goals were also to identify supply chain actors for materials and services in Kim Boi and Mai Chau and existing and potential business models for sanitation delivery, and to assess the policy, regulatory, and institutional environment influencing rural sanitation in Hoa Binh.
¹⁴ Indonesia, Philippines, Lao PDR and Cambodia
government started implementation through a ‘Provincial Rural Sanitation Behavior Change Communication and Market Strengthening Strategy, 2015-2020’ with technical support from the WB WSP.

The strategy targets VIHEMA, CPM, provincial and district People’s Committees responsible for budget planning and resource allocation, district- and commune-level health staff in charge of WASH promotion and any other provinces that are making progress towards scaling up rural sanitation. The strategy stresses the importance of

- Communication activities that go beyond raising awareness and spur action and active involvement of commune members
- Strengthening government officials’ implementation capacity
- Promoting private-public partnership towards sanitation service delivery to rural households
- Facilitate access to sanitation finance by the private sector

The Hoa Binh strategy’s overall objective is to increase hygienic latrine coverage and reduce the incidence of sanitation-related diseases in rural districts of the Province under an inclusive market-based approach. The assumption is that the expected overarching goal can be achieved if the strategy’s components are implemented together (i.e. theory of change) under government cost norms.

Expected results for 2015 are a 10-percentage-point\(^1\) increase in hygienic coverage in the nine intervention communes, and 1% of villages in those communes certified as Open-Defection Free (ODF) villages. This 1% value may seem very low; though, the implementation period was also very short.

The provincial strategy also sets goals and targets for the scale-up period, and it states clear objectives for each component, including two important components: behavioral change communication and supply chain strengthening.

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\(^1\) Percentage points are the difference between two percentages. For instance, the difference between 50% and 25% is 25 percentage points \([50\% - 25\% = 25 \text{ p.p.}]\)
The Strategy’s Behavior Change and Communication objectives 2015-2020

1. Desired behavior: HHs that do not have latrines or are using unhygienic latrines will build or upgrade a hygienic latrine

Communication objectives: After the campaign, rural men and women who do not have latrines and are exposed to the campaign will:

- **Know**
  - of various hygienic latrine options including components and required technical inputs for self-building hygienic dry latrine models
  - basic information on use and maintenance
  - where to access products and services
  - the Government criteria for hygienic latrines
  - that a clean, odor-free and solid latrine is affordable

- **Believe** that
  - investing in a hygienic latrine will make their lives more convenient, comfortable and healthy
  - a clean village should be a common goal for their community, which can be achieved if everyone helps each other build hygienic latrines

- **Feel** that it is important to have a hygienic latrine in order to comply with government regulations

- **Want** a hygienic latrine so their family can be proud, modern and respected by the community

- **Develop** a plan for building a latrine within the next two years.

2. Desired behavior: latrine use and maintenance

Communication objectives: Household will know/belief/want to properly clean and empty latrines

Specific objectives of the market strengthening strategy are:

- **Introduce innovative and more affordable sanitation technology** that can reduce the production and installation costs, providing more profitable options for the private sector.

- **Support development of sales agent and distribution networks** of sanitation products and services that reach households at village level.

- **Strengthen financing mechanisms** that facilitate rural households, particularly those with low incomes, to invest in sanitation products and that reduce the transaction cost of building a hygienic latrine.

- **Support capacity building for the private sector to operate profitably in the rural sanitation market.** These capacities include the ability to elaborate business plans, expand their businesses by accessing external financing and develop their market by conducting marketing activities and participating in the communication campaign’ activities.

The enabling environment component of the Strategy includes laws and regulations on latrine design, construction and operation standards, subsidies for poor households, special and temporal allocation of public funds, the introduction of new financial tools to spur hygienic latrines’ adoption, the definition of roles and responsibilities within the public sector and its engagement with the private sector, and monitoring and evaluation of projects and programs. The main challenges that currently prevent the establishment of an enabling environment should also be tackled. These include insufficient funds allocated to sanitation interventions, the lack of prioritization for marginalized groups and communities, the scarce planning and implementation capacity by the health staff, poor institutional coordination and involvement of the private sector. It is foreseen that, because of its nature, it will take time for the enabling environment component to fully unfold (i.e. the whole five years between 2015 and 2020).
**Intervention in 2014 and 2015**

The Hoa Binh government conducted dissemination of traditional information, education and communication (IEC) interventions in 2014. The full intervention package was rolled out in 2015. This package included both behavior-change communication (BCC) and supply-chain (SC) tools. The intervention took place in nine communes of Hoa Binh province: four communes of Mai Chau district (Cheing Chau, Dong Bang, Bao La and Tan Mai) and five communes of Kim Boi district (Binh Son, Sao Bay, Nam Thuong, Thuong Bi and Vinh Tien). A post-intervention rapid assessment was carried out in December 2015.

**Figure 1 Activities Timeline**

**Description of the BCC interventions**

The behavior change communication strategy was based on emotional messages and participatory style. It highlighted the benefits hygienic latrines bring to the community, the family and intangible benefits as respect. It motivated households by urging them to act for solidarity, for the sake of their children’s growth and for gaining the respect of their neighbors and guests. The strategy combined different communication channels: face-to-face (household visits and village meetings), direct consumer contact (sanitation festivals) and mass media (loudspeakers).
Motivators (i.e. village heads, village health workers, and staff from the Women Union) carried out sanitation village meetings, household visits and festivals in the villages of the nine intervention communes in 2015 (mostly after June 2015). Face-to-face communication and in-depth discussions on sanitation with HHs during village meetings and HH visits aimed at creating and/or increasing HH awareness of hygienic sanitation (on hygienic latrines types and costs, on the criteria for hygienic sanitation, on the threats associated with open defecation and the diseases preventable through the use of hygienic latrines). They also aimed at affecting households’ decision to acquire hygienic sanitation. Households were informed on where and how to purchase a toilet, what toilets were available and at what cost, and proper latrine operation and maintenance.

The table below describes these activities in detail. Whenever feasible, the activities were complemented by the use of loudspeakers spreading sanitation messages.

**Figure 2 BCC Activities conducted in the nine intervention communes in 2015**

<table>
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<th>Activities</th>
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<tr>
<td><strong>Village meetings</strong></td>
<td>➢ In general, three village meetings on sanitation were conducted by the village head (who introduced the meetings) and the village health worker (who provided sanitation-related knowledge and technical information)</td>
</tr>
<tr>
<td>(face-to-face communication)</td>
<td>➢ Attendance: 70-80% of all HHs in the village</td>
</tr>
<tr>
<td></td>
<td>➢ First meeting on posters’ presentation, SANCON introduction and explanation of loan from VBSP; second meeting on latrine types and operation and maintenance</td>
</tr>
<tr>
<td></td>
<td>➢ HHs acquired greater understanding after the second meeting</td>
</tr>
<tr>
<td><strong>HH Visits</strong></td>
<td>➢ Mainly conducted by health workers</td>
</tr>
<tr>
<td>(face-to-face communication)</td>
<td>➢ In general, visited 5 HHs per month; each HH would be visited 2-3 times</td>
</tr>
<tr>
<td></td>
<td>➢ First visit to learn the condition of the HH, explain the benefits of sanitation and convince the HH to register for a hygienic latrine that would meet each HH’s conditions; second visit to remind the HH about the importance of hygienic sanitation adoption. HHs would be visited again after the latrine was built to check latrine’s quality and explain operation and maintenance</td>
</tr>
<tr>
<td><strong>Sanitation festivals/clean games</strong></td>
<td>➢ Sanitation festivals actively involved HHs in role plays and cultural performances and Q&amp;A quiz on sanitation (during some of the festivals)</td>
</tr>
<tr>
<td>(face-to-face communication, usually held in September 2015)</td>
<td>➢ HHs were rewarded for singing, dancing and role plays related to sanitation. In some clean games, rewards were given to villages with a high proportion of hygienic latrines</td>
</tr>
<tr>
<td></td>
<td>➢ HHs were introduced to the SANCON services, and explained how to install a septic tank with concrete ring</td>
</tr>
<tr>
<td><strong>Loudspeakers</strong></td>
<td>➢ Loudspeakers were used to broadcast sanitation messages (supporting channel to face-to-face communication)</td>
</tr>
</tbody>
</table>

During the endline survey, as many as 72% of all HHs (68.7% of HHs in Kim Boi and 76.5% of HHs in Mai Chau) stated that they received information about sanitation in 2015. To increase HHs’ attention, motivators used posters during village meetings and leaflets during HH visits. Examples of this communication material are illustrated below. Posters focused on emotional messages: the importance of hygienic sanitation for the health of HHs’ members (particularly children and the elderly), the possibility for HHs with proper sanitation facilities to better welcome friends and neighbors, and the sense of being proud and well-respected. Leaflets were designed to explain technical options of hygienic sanitation and help HHs make an informed choice on the adoption of hygienic latrines. Figure 3 presents examples of posters and leaflets used during the intervention.
61.5% of all interviewed households (59.5% in Kim Boi and 64% in Mai Chau) could recall seeing posters, leaflets and other printed material on sanitation in 2015.

*Figure 3 Examples of posters used during the intervention*

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**The SANCON component**

The market strengthening strategy addressed existing gaps in the private sector’s provision of sanitation products and services in rural areas of Hoa Binh. It relied on the ‘One Stop Shop’ (SANCON) business model that was adapted for Hoa Binh and named locally ‘Sanitation Convenience Shop’. SANCONS are places where customers can, in one visit, obtain advice on latrine types, prices

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16 The ‘basic supply chain development package’ focuses on

- OSS selection and establishment (where priority is given to businesses already involved in the construction of sanitation facilities, and that operate in areas with good road infrastructure and access to construction materials)
- OSS sales and service network development (i.e. selection of masons and sales agents)
and operation and maintenance requirements, and they can also purchase materials and arrange for packaged delivery and installation of latrines by trained masons collaborating with the SANCON. Group purchases between a SANCON and many customers were encouraged to minimize transport costs in difficult-to-reach areas in Mai Chau. Importantly, some SANCONs allow households to spread out payments for latrines between up to 4-6 months without interest (depending on the SANCON).

*Figure 4 The SANCON Business Model*

The key of the SANCON business model is to simplify the latrine purchase and installation process and make quality sanitation products and services affordable and easily accessible for every HH; be it poor, near-poor and better-off. The use of concrete rings for septic tanks, rather than clay bricks or cement bricks, resulted in a 50% reduction in cost (from USD 168 to USD 87 per latrine) for the same size of substructure and mid-structure – two critical components of a hygienic latrine. In addition, the concrete rings reduced the possibility of incorrectly connecting tanks: a very common mistake that households and masons tend to make when building brick tanks.

Further reductions in transaction costs is achieved by the SANCONs through dissemination of latrine information via sales agents. Sales agents are responsible for actively promoting and marketing SANCON sanitation products and services. To equip sales agents with tools (other than for BCC), the intervention developed product catalogues showing pictures of latrine products and information on prices of components, including combinations of materials for latrines within the consumer’s budget.

Guidelines were prepared to explain how sales agents and village motivators could work together in a village meeting, so that households could easily access product information at the end of the meeting. Training was provided not only to sales agents and SANCON owners on marketing and communications skills, but also to masons on latrine construction and to SANCON owners on business planning.

- OSS network capacity building (i.e. training of OSS owners and masons on latrine construction, training of OSS owners and sales agents on communication, marketing and promotion skills, OSS owners’ training on business planning);
- Financing options for OSS and households (that is, facilitation of households’ access to VBSP’s funds, promotion of sanitation revolving fund groups, creation of links between these groups and the OSS);
- Provision of promotional material to the OSS network and its sales network (i.e. product menus, latrine stickers and business cards).

The ‘extended package’ further assists OSS and their sales agents’ network with brand positioning strategies and material in order to reduce the transaction costs that they face during market entry and developing.
Ten SANCON shops have been set up in 2015; nine out of ten are still functional as of December 2015. The price of supplied sanitation materials, concrete rings, transportation and installation services can be as low as 1.5 million VND.

Table 1 List of SANCON that have been set up in 2015

<table>
<thead>
<tr>
<th>No</th>
<th>Name of the SANCON owner</th>
<th>Commune</th>
<th>District</th>
<th>Time started</th>
<th>Product provided</th>
<th>Price</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Phạm Tuấn Anh</td>
<td>Ch'ieng</td>
<td>Mai Chau</td>
<td>Early 2015</td>
<td>Concrete rings</td>
<td>2,400,000 VND</td>
<td>Ongoing development</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Transportation and Installation services</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Phạm Quốc Lập</td>
<td>Bao La</td>
<td>Mai Chau</td>
<td>Early 2015</td>
<td>Materials Concrete rings</td>
<td>1,500,000 VND</td>
<td>Ongoing development</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Transportation and Installation services</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Bùi Văn Lâ</td>
<td>Vinh Dong</td>
<td>Kim Boi</td>
<td>Early 2015</td>
<td>Concrete rings</td>
<td>1,500,000 VND</td>
<td>Ongoing development</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Transportation and Installation services</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Quách Thị Chung</td>
<td>Nam Thuong</td>
<td>Kim Boi</td>
<td>Early 2015</td>
<td>Concrete rings</td>
<td>2,300,000 VND</td>
<td>Ongoing development</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Transportation and Installation services</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Trần Ngọc San</td>
<td>Vinh Tien</td>
<td>Kim Boi</td>
<td>Aug 2015</td>
<td>Concrete rings</td>
<td>2,000,000 VND</td>
<td>Ongoing development</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Transportation and Installation services</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Bùi Văn Bé</td>
<td>Thuong Bi</td>
<td>Kim Boi</td>
<td>Sep-15</td>
<td>Materials Concrete rings</td>
<td>2,100,000 VND</td>
<td>Ongoing development</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Transportation and Installation services</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Bùi Văn Lanh (self set-up SANCON)</td>
<td>Sao Bay</td>
<td>Kim Boi</td>
<td>Jul-15</td>
<td>Concrete rings</td>
<td>2,000,000 VND</td>
<td>On going development</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Transportation and Installation services</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Trịnh Thị Thương</td>
<td>Tan Mai</td>
<td>Mai Chau</td>
<td>Aug-15</td>
<td>Lending mold for on-site fabricating concrete ring</td>
<td>Change the model due to geographical settings</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Bàn Văn Hồng</td>
<td>Tan Mai</td>
<td>Mai Chau</td>
<td>Oct-15</td>
<td>Lending mold Masonry service for fabricating &amp;installing latrine</td>
<td>Change the model due to geographical settings</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Nguyễn Thị Khải</td>
<td>Dong Bang</td>
<td>Mai Châu</td>
<td>Early 2015</td>
<td>No more sanitation business</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
2. Post-intervention Rapid Assessment Objectives and Design

This report documents the results of the rapid impact assessment of the BCC and SC interventions in Hoa Binh province, so as to inform government policy for scaling-up such interventions across other districts and other provinces in Vietnam.

The following sections introduce the objectives and the design of the post-intervention rapid impact assessment.

2.1. Assessment – Objectives

- Assess the impact of BCC and OSS interventions in terms of increasing coverage of hygienic sanitation in the intervention communes
- Evaluate the effectiveness of BCC and OSS interventions as perceived by household beneficiaries, BCC campaign implementers and local businesses.
- For HHS (beneficiaries):
  - information access and exposure
  - main tools that motivated them to building a hygienic latrine
  - feedback on BCC interventions
  - feedback on the affordability of hygienic sanitation technologies
- For users of the BCC tools (including motivators): feedback on the tools and how to improve them
- For OSS:
  - support received to start and run their business
  - feedback on this support and how to improve it
  - sustainability of the business and possibility of its expansion
- Evaluate the sustainability and replicability of the sanitation promotion approach to similar contexts characterized by limited budget and capacity on the ground

2.2. Assessment – Design

This rapid assessment relies on the integration of NTP3 and JMP national survey data with baseline/endline data (‘before-after’ design, including recall data at the endline). Though this is not an experimental study, it uses on the best available data and methods to assess increase in hygienic sanitation coverage, aiming to construct a plausible counterfactual, and using triangulation with qualitative data.

We are aware that comparing NTP3 data with JMP national survey data (that are not representative at the provincial level) and with baseline/endline data leads to ‘indicative’ results. Thought, this methodology is unique, in that it recognizes the limitations of the before/after approach, and it triangulates several methods to test robustness of main results. The limitations of the before/after are the motivation for triangulating with several other sources of data.
The before-after experimental design: features and limitations

The ‘before-after’ design involves measuring access to hygienic sanitation both before and after the households (i.e. the intervention area I) have been exposed to the intervention. The effect (E) of the intervention and of any natural increase in hygienic latrine coverage is equal to

\[ E = \beta_0 + \beta_1 \times (I_{2015} - I_{2014}) + \epsilon \]

Where \( I_{2015} \) captures the value of hygienic latrine coverage in 2015 (ex-post, after the intervention), \( I_{2014} \) captures the value of hygienic latrine coverage in 2014 (ex-ante, before the intervention and as recorded by the baseline survey), and \( \epsilon \) is the unobservable error term. The value for \( I_{2014} \) has been derived from the baseline baseline research. The value for \( I_{2015} \) comes from the endline survey.

In the before-after design there is no comparison group (i.e. the non-intervention communes are excluded from the study). Hence, the risk is that changes in E are attributed to the intervention while they are due to other uncontrolled variables and to history (i.e. events that happened when the intervention was underway and that may distort the interventions’ outcome/s). Likewise, sanitation uptake may also increase without the intervention or in the presence of the NTP3 intervention. Moreover, the baseline research (early 2014 pre-intervention rapid assessment) involved taking some preliminary measures before the intervention was conducted. This ‘pretesting’ might have created awareness of the upcoming intervention, which in turn would make beneficiaries more perceptive to the intervention. The before-after experimental ignores pretesting. Furthermore, as people get older their needs and attitudes are subject to change, and this may affect the impact of the intervention.

The baseline rapid assessment

The baseline rapid assessment was conducted in 9 of the 51 communes located across the two districts (Kim Boi: 27 communes and 1 district town; Mai Chau: 22 communes and 1 district town). The selected communes include Binh Son, Nam Thuong, Sao Bay, Thuong Bi and Vinh Tien in Kim Boi and Bao La, Chiem Chau, Dong Bang and Tan Mai in Mai Chau.

The baseline rapid assessment commenced in early November 2013. Data collection was carried out between February to March 2014. For the baseline rapid assessment, a mix of quantitative and qualitative research methods was applied, including (i) a desk study, (ii) a household survey, (iii) in-depth interviews (IDIs), and (iv) focus group discussions (FGDs). Household heads or representatives were included in the survey.

A Slovin sampling formula\(^{17}\) was used to estimate a sample size for each district surveyed. Based on the total population of each district and with a desirable error margin of 5% and a 95% level of confidence, the selected sample size is 801 households (341 in Mai Chau and 460 in Kim Boi). The sample size was inflated by 10% to account for non-response and refusal.

The household survey was conducted in nine communes, of which five communes were in Kim Boi and four communes were in Mai Chau. Stratified random sampling was employed to select communes and villages. Across the communes, rates of hygienic latrine coverage (<30%, 30-50%, 50-65%, >65%) and levels of village economic status (poor, near poor and better-off households) was also considered in the sampling strategy.

\(^{17}\) Slovin formula: \( n = \frac{N}{[N \times (e)^2 + 1]} \) with \( n \) = sample size, \( N \) = number of total survey population, \( e \) = desired margin of error (\( e \) = 1-degree of confidence). The Slovin sampling formula was also employed to estimate the sample size for each selected commune with a confidence level of above 90% and a margin of error below 0.1 (10%).
NTP3 data

According to the World Bank ‘Results-Based Rural Water Supply and Sanitation under the National Target Program Technical Assessment’ (2012, pages 30 and 31), 18

‘The NTP has a well-established Monitoring and Evaluation (M&E) system which uses a set of 14 indicators to track progress on program implementation. This system has been rolled out over the past five years after a national coordination and consultation effort supported by UNICEF, which has also assisted in the development of a geographical information database (WESmapper), as a key tool to facilitate program supervision, monitoring and evaluation. The national M&E system produced its first national data set last year [i.e. in 2011]. The system is now being reviewed to simplify the set of indicators and improve the database.

Data is collected at the district level and processed at the provincial level. Summary reports on investments and progress on the M&E indicators are sent to the National Center for Rural Water Supply and Sanitation (NCERWASS) which compiles the information at the national level. In theory, through the WESmapper it is possible to map data on investments, coverage and service delivery down to the commune level for the entire country. Usually the staff under the Provincial Center for Water Supply and Sanitation (PCERWASS) is responsible for compiling the data collected at the commune and district levels and introducing it in the system to which NCERWASS has access’.

JMP data

The WHO/UNICEF Joint Monitoring Programme (JMP) for Water Supply and Sanitation uses household surveys and censuses. As reported on the JMP website, 19 the sources of JMP data are,

Demographic and Health Surveys (DHS) are nationally-representative household surveys funded by the U.S. Agency for International Development (USAID) that provide data on population, health, and nutrition. Sample sizes range from 2,000 to 30,000 households, and surveys are conducted in over 75 countries approximately every 5 years.

Multiple Indicator Cluster Surveys (MICS) are household surveys collected by country governments with assistance from UNICEF for monitoring the situation of children and women. MICS provide internationally comparable estimates of a range of indicators on health (water, sanitation and hygiene), education, child protection and HIV/AIDS.

World Health Surveys (WHS)
These surveys, administered by the WHO, offer comprehensive baseline information on the health of populations, the outcomes associated with the investment in health systems, the way health systems are currently functioning and ability to monitor inputs, functions, and outcomes.

Living Standards Measurement Surveys (LSMS)
The Living Standards Measurement Study is administered by the World Bank to generate policy-relevant household level data in view of technical assistance.

Population and housing censuses
Data on access to water and sanitation are often collected in housing censuses. Current JMP estimates are derived from over 250 censuses.

19 http://www.wssinfo.org/definitions-methods/data-sources/
JMP data only report national aggregates. Survey data for the JMP are not representatives at the provincial level for Vietnam.

**The endline rapid assessment**

A survey questionnaire was administered by VIHEMA in December 2015. The Appendix reports a copy of the questionnaire prepared by VIHEMA. The endline survey included questions on participants’ attitudes, opinions and/or behavior towards hygienic sanitation, intention to acquire hygienic sanitation, knowledge on hygienic sanitation and of any information on sanitation received in 2015. It also included questions about the time of latrine construction in order to estimate \( I_{2015} \).

**Sample size calculation**

VIHEMA conducted the sample size calculation for Mai Chau and Kim Boi as follows. The number of intervention communes in Mai Chau district is 4 and in Kim Boi it is 5. The 31 surveyed villages at the endline were the same villages surveyed during the baseline.

The sample size was determined based on a minimum detectable effect formula.

\[
n = \left\{ z_{1-\alpha} \sqrt{2\bar{P}(1-\bar{P})} + z_{1-\beta} \sqrt{P_1(1-P_1) + P_2(1-P_2)} \right\}^2 / (P_1 - P_2)^2
\]

For **Mai Chau**

\( P_1 = 24 \text{ per cent} \) - This is the percentage of households with sanitary latrines at the baseline survey time

\( P_2 = 36 \text{ per cent} \) - This is the estimated percentage of households with hygienic latrines at the endline survey time (i.e. predicted increase of 12 percentage points from baseline to endline).

The sample size for Mai Chau was initially of 305 households. This was increased by 10 per cent in order to account for non-response, which resulted in 336 households. For convenience, the final sample size for Mai Chau was eventually equal to 341 households to make it correspond to the number of households included in the baseline rapid assessment for Mai Chau.

For **Kim Boi**

With \( P_1 = 31 \text{ per cent} \) and \( P_2 = 42 \text{ per cent} \). The difference between \( P_1 \) and \( P_2 \) is of 11 percentage points. This is less than the 12 percentage points for Mai Chau because \( P_1 \) for Kim Boi was greater than \( P_1 \) for Mai Chau (it is expected that the increase in hygienic sanitation coverage slows down after overcoming initial stages).

The resulting sample size for Kim Boi was equal to 401 households, which was increased by 10 per cent for non-response. The 441 sample size was eventually equal to 460 households that is the same number of households included in the baseline rapid assessment for Kim Boi.

Overall, 801 households were interviewed in 31 villages (12 villages in Mai Chau and 18 villages in Kim Boi) of 9 communes (4 in Mai Chau and 5 in Kim Boi). 341 households were interviewed in Mai Chau and 460 households were surveyed in Kim Boi.

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20 Recall bias may influence the estimated effect of the intervention.
Table 2 Sample size distribution across communes and villages

<table>
<thead>
<tr>
<th>District</th>
<th>Selected commune</th>
<th>Total households</th>
<th>Sample size</th>
<th>Total villages</th>
<th>Selected villages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mai Châu</td>
<td>Chiềng Châu</td>
<td>867</td>
<td>92</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Đồng Bằng</td>
<td>360</td>
<td>81</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Bao La</td>
<td>559</td>
<td>88</td>
<td>7</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Tân Mai</td>
<td>337</td>
<td>80</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>341</td>
<td>25</td>
<td>13</td>
<td></td>
</tr>
<tr>
<td>Kim Bôi</td>
<td>Bình Sơn</td>
<td>624</td>
<td>90</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Sào Bây</td>
<td>930</td>
<td>92</td>
<td>9</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Nam Thương</td>
<td>1098</td>
<td>94</td>
<td>7</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Thường Bì</td>
<td>537</td>
<td>87</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Vĩnh Tiến</td>
<td>1575</td>
<td>97</td>
<td>17</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>460</td>
<td>43</td>
<td>18</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>901</td>
<td>68</td>
<td>31</td>
<td></td>
</tr>
</tbody>
</table>

Sampling strategy

At each commune, 50 per cent of all villages were randomly selected at the baseline.21 Accordingly, VIHEMA surveyed a total of 31 villages at the endline, 13 of which were in 4 communes of Mai Chau district and 18 in 5 communes of Kim Boi district. The villages in the baseline survey were the same to the end-line survey.

Households were randomly selected both at the baseline and at the endline. The survey targeted household heads or household representatives who were at least 18 years of age at the time of the interview, and it included both HHs owning a sanitary toilet (i.e. adopters) and HHs not yet owing a hygienic latrine (non-adopters). HHs of all income levels (poor, near-poor and better-off, and based on the commune people’s committee definition of income poverty) and of all ethnic groups (Kinh, Muong, Thai, Dao and Tay) were represented according to their prevalence in the commune population. This means that the sample size for the poor, near poor and non-poor in selected villages at each commune was calculated according to the proportion of the poor, near poor and non-poor of the commune and selected by systematically random method.

Direct structured sanitation and hygiene observations

In addition to the structured questionnaire, investigators used checklists (i.e. observation forms) to collect on-site direct observations on the presence, construction, use and maintenance of hygienic toilet facilities in the households.

The endline qualitative research

Qualitative research was used to further explore households’ attitudes, feelings and practices towards sanitation, which could not be directly captured though survey questions. It was also used to collect information on the supply chain from SANCON owners, masons and sales agents, and on the BCC interventions from motivators. In-depth interviews were also conducted with sanitation focal points to gather their understanding and perceptions on the intervention.

21 Random sampling averted selection bias, and allowed the average of the sample to approach the population average.
Focus group discussions with key respondents

Impartial moderators facilitated FGDs with several groups of stakeholders, as indicated in figure 5 (typically between 7-12 participants and lasting for around 2 hours). Participants were selected based on their roles, functions and responsibilities with regard to sanitation and hygiene issues.

FGDs were based on FGD-specific checklists prepared in advance. Discussions they were recorded if participants gave their consent.

For FGDs with adopters and non-adopters of hygienic sanitation, two communes from each district were identified based on a hygienic latrine coverage criteria. One of the two communes recorded the lowest rate of hygienic latrine coverage in 2014, and the other had a rate of hygienic latrine coverage similar to the simple average for all communes considered in each district. Hence, for Mai Chau, the selected communes were Bao La and Tan Mai. For Kim Boi, the selected communes were Binh Son and Vinh Tien. The grey row in table 3 indicates the communes that were eventually selected.

Table 3 Commune selection for qualitative data collection

<table>
<thead>
<tr>
<th>Mai Chau</th>
<th></th>
<th>Kim Boi</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Commune</td>
<td>% of HHs with hygienic latrines</td>
<td>Commune</td>
<td>% of HHs with hygienic latrines</td>
</tr>
<tr>
<td>Bao La</td>
<td>33</td>
<td>Binh Son</td>
<td>50</td>
</tr>
<tr>
<td>Chieng Chau</td>
<td>41</td>
<td>Sao Bay</td>
<td>60</td>
</tr>
<tr>
<td>Dong Bang</td>
<td>34</td>
<td>Nam Thuong</td>
<td>58</td>
</tr>
<tr>
<td>Tan Mai</td>
<td>18</td>
<td>Thuong Bi</td>
<td>45</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Vinh Tien</td>
<td>43</td>
</tr>
<tr>
<td>Average</td>
<td>32</td>
<td>Average</td>
<td>51</td>
</tr>
</tbody>
</table>

FGDs were conducted with motivators/village sanitation promoters (i.e. village heads, village health workers and commune Health Station representatives) from Bao La, Dong Bang and Tan Mai communes in Mai Chau, and from Binh Son, Sao Bay, Nam Thuong, Thuong Bi and Vinh Tien communes in Kim Boi.

In-depth interviews (IDIs) with key respondents

A number of semi-structured interviews were conducted with key respondents following the preparation interview checklists with predetermined topics or loosely-worded questions. IDIs allowed for informal conversation between the interviewer and the interviewee, which made it possible for new questions to be brought up during the discussion.

The interviewees were selected based on their roles, functions and responsibility with regard to sanitation and hygiene issues (non-probability, purposive sample).

All interviews took place in private and they were taped-recorded for accuracy (when participants gave consent). Additionally, notes were taken by a note taker (accompanying the interviewer) in order to provide summaries of each interview in Vietnamese and English.
**Figure 5 Key respondents for in-depth interviews and focus group discussions**

<table>
<thead>
<tr>
<th>In-depth interviews with key respondents:</th>
</tr>
</thead>
<tbody>
<tr>
<td>➢ VIHEMA</td>
</tr>
<tr>
<td>➢ Vice director of DOH</td>
</tr>
<tr>
<td>➢ Provincial CPM director</td>
</tr>
<tr>
<td>➢ District CPM (vice-) directors</td>
</tr>
<tr>
<td>➢ Commune People’s Committee (vice-) Chairman</td>
</tr>
<tr>
<td>➢ Head of the Commune Health Station</td>
</tr>
<tr>
<td>➢ District Women’s Union representatives</td>
</tr>
<tr>
<td>➢ District VSPB representatives</td>
</tr>
<tr>
<td>➢ SANCON owners</td>
</tr>
<tr>
<td>➢ Masons both those working and those not working for the OSS network</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Focus group discussions with key respondents:</th>
</tr>
</thead>
<tbody>
<tr>
<td>➢ Sanitation focal points at provincial level</td>
</tr>
<tr>
<td>➢ Sanitation focal points at district level</td>
</tr>
<tr>
<td>(representatives from District CPM)</td>
</tr>
<tr>
<td>➢ Motivators/village sanitation promoters: village heads, Village health workers, Commune Health Station representatives</td>
</tr>
<tr>
<td>➢ Sanitation supply chain service providers – sales agents</td>
</tr>
<tr>
<td>➢ Representatives from households with hygienic latrine acquired during the intervention</td>
</tr>
<tr>
<td>➢ Representatives from households without hygienic latrines</td>
</tr>
</tbody>
</table>
3. **Endline Rapid Assessment Findings**

3.1. **Hygienic sanitation coverage before and after the intervention**

Baseline survey data indicate that hygienic sanitation coverage in the nine intervention communes in Kim Boi and Mai Chau was equal to 27.7% in late 2013/the beginning of 2014. Endline data suggest that hygienic sanitation coverage reached 48.4% in the nine intervention communes in December 2015. This means an endline increase in coverage of 20.7 percentage points greater than the 27.7% baseline value in two years. Consequently, the average annual increase of hygienic sanitation coverage is equal to 10.3 percentage points (i.e. half the 20.7 value). Hence, the nine intervention communes achieved the expected 10 percentage-point increase in hygienic sanitation coverage in 2015.

In order to provide additional evidence on the effectiveness of the intervention, we refer to national NTP3 data and JMP data for Vietnam. We are aware that both JMP and NTP3 data are nationally representative datasets (i.e. they do not specifically refer to Hoa Binh province); though, these are the only sources of data available for comparison. We also acknowledge that JMP data refer to ‘improved’ sanitation and not to ‘hygienic’ sanitation (as for baseline, endline and NTP3 data). Even if the definitions of improved and hygienic sanitation are different, we are mostly concerned with relative changes.

JMP data for Vietnam report that improved sanitation coverage increased from 27.7% in 2013 to 31.5% in 2015 (**+3.8 overall percentage-point increase in two years**).

NTP3 administrative data\(^{22}\) suggest that hygienic sanitation coverage surged from 27.7% in 2013 to 33.7% in 2015 (**+6 overall percentage points increase in two years**).

Although the comparison is indicative due to the limitations outlined above, the 20.7 percentage-point increase for the nine intervention communes is much larger than the 3.8-6 percentage-point increase shown by JMP and NTP3 data for Vietnam during the same period.

**Chart 1 Sanitation coverage between late 2013 and December 2015**

\(^{22}\) The monitoring system for NTP3 is coordinated by MARD.
The 2014 value for hygienic/improved is very important, as the roll out of the BCC and supply chain development interventions was mainly during the initial nine months of 2015. Chart 1 confirms that the increase in hygienic sanitation coverage in the nine intervention communes mainly occurred in 2015.

### 3.1.1 Characteristics of the Increase in Hygienic Sanitation Coverage

In this section, we further investigate the aspects of the increased hygienic sanitation coverage in the nine intervention communes. In particular, we analyze whether the increase was different for Mai Chau and Kim Boi, whether it mostly occurred after changes in unimproved sanitation or reduction of open defecation, whether it was in line with the Ministry of Health criteria for hygienic toilets, and if it benefitted all income levels and ethnic groups.

#### Increase in hygienic sanitation coverage by intervention districts

Hygienic sanitation coverage significantly increased both in Kim Boi and Mai Chau: in both districts, coverage in December 2015 is statistically greater than in February 2014 (at the 1% significance level).

The coverage in Mai Chau increased from 23.8% in February 2014 to 50.4% in December 2015 (+26.6 percentage points), and it increased from 30.6% to 47% in Kim Boi (+16.4 percentage points). This is somehow counterintuitive, given that communes in Mai Chau tend to be more remote, less accessible, located in mountain areas and with greater prevalence of ethnic minorities. It is likely that two factors interacted to explain differences in coverage in the districts: different initial conditions and different population size.

Mai Chau started from lower hygienic sanitation coverage levels than Kim Boi, and in some of its communes villagers never received any sanitation promotion in the past. This may have made Mai Chau villagers more receptive to BCC activities than Kim Boi villagers. Lower initial coverage may have offered Mai Chau more potential for hygienic sanitation growth, especially due to a number of households with ‘latent’ demand that could easily be capitalized. If more and more households have sanitation, social norms may also start to change and people may experience more peer-pressure.\(^23\)

Data from intervention communes indicate that 185 hygienic latrines were built in Mai Chau district and 173 hygienic latrines were built in Kim Boi district between August and October 2015. These numbers are very similar; though, the number of households in Kim Boi is much greater than that in Mai Chau,\(^24\) which explains that Mai Chau shows a higher coverage increase.

#### Nature of the increase in hygienic sanitation coverage: decrease in unimproved sanitation and/or open defecation?

The increase in hygienic sanitation has been mostly associated to a decrease in unhygienic sanitation as more people moved up the sanitation ladder from unimproved to hygienic toilets, and the share of community members using unhygienic toilets dropped. This is corroborated by survey results, because 66.4% of all adopters stated that they decided to build a hygienic toilet in 2015 to replace an unhygienic toilet that they already had.

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\(^{23}\) Little research has been conducted so far on the role of peer-pressure.

\(^{24}\) 2009 Population and Housing Census data indicate that the rural population of Mai Chau (44,680 people) was 3 times less than the rural population of Kim Boi (137,342 people).
Yet, survey data also report a statistically significant increase in open defecation across the sample population: from 12.6% in 2014 to 17.7% in 2015 (p-value: 0.0017). It is possible that shared sanitation access has decreased after the intervention. Survey data show that the percentage of households using shared toilets decreased on average both in Mai Chau (from 4.7% to 2.5%) and in Kim Boi (from 4.9% to 3.4%). As more households acquired hygienic sanitation, they might have decided to make exclusive use of their new facilities (as they felt higher ownership for those facilities in terms of cleaning and maintenance), leaving households previously sharing with no option than to resort to open defecation.

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25 The increase in Mai Chau was from 13.5% in 2014 to 17.3% in 2015 (p-value: 0.0841); the increase in Kim Boi was from 12% in 2014 to 18% in 2015 (p-value: 0.0036).
Table 4 Prevalence of hygienic sanitation – Baseline and endline surveys

<table>
<thead>
<tr>
<th></th>
<th>Mai Chau (N=341)</th>
<th>Kim Boi (N=460)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hygienic sanitation facilities</td>
<td>Baseline (February 2014, per cent)</td>
<td>Endline (December 2015, per cent)</td>
</tr>
<tr>
<td>VIP latrine</td>
<td>0.3</td>
<td>0.0</td>
</tr>
<tr>
<td>Double Vault</td>
<td>2.4</td>
<td>2.6</td>
</tr>
<tr>
<td>Soakage pits</td>
<td>2.6</td>
<td>4.1</td>
</tr>
<tr>
<td>Septic tank</td>
<td>18.5</td>
<td>42.5</td>
</tr>
<tr>
<td>Latrine connected to biogas system</td>
<td>0.0</td>
<td>1.2</td>
</tr>
<tr>
<td>Unhygienic sanitation facilities</td>
<td>58.7</td>
<td>29.0</td>
</tr>
<tr>
<td>No facility/bush/field (i.e. open defecation)</td>
<td>13.5</td>
<td>17.3</td>
</tr>
<tr>
<td>Don't know</td>
<td>4.1</td>
<td>0.0</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>Among households with latrines, those that are shared latrines</td>
<td>N=295</td>
<td>N=282</td>
</tr>
<tr>
<td></td>
<td>4.7</td>
<td>2.5</td>
</tr>
</tbody>
</table>

Hygienic latrine coverage more than doubled in Mai Chau

Hygienic latrine coverage increased by 1.5 times in Kim Boi
Change in hygienic sanitation coverage according to the Ministry of Health standards

The Government of Vietnam sets a higher standard for improved sanitation than the WHO/UNICEF Joint Monitoring Programme definition of improved toilet facilities. In fact, the Ministry of Health (MoH) classifies as ‘hygienic’ sanitation only water flush, composting and ventilated improved pit (VIP) latrines. The simple pit latrine with a slab and cover, but without a vent pipe, is not considered ‘hygienic’. It is noticeable that MoH criteria also relate to the cleanliness and maintenance of the toilet facility.

Data collected through direct structured sanitation and hygiene observations both at the baseline and endline offer a snapshot of how many hygienic sanitation facilities met the MoH standards of construction, operation and maintenance in February 2014 and December 2015. This percentage remarkably increased: it moved from 7.5 per cent (baseline) to 38.5 per cent (endline) in the nine intervention communes — that is a fivefold increase in less than two years.

Furthermore, the gap between the prevalence of improved toilets based on the WHO/UNICEF JMP classification and that of hygienic sanitation facilities according to the MoH standards dropped from 20.2 percentage points in 2014 (difference between 27.7% and 7.5%) to 9.9 percentage points in 2015 (difference between 48.4% and 38.5%). 79.5% of all hygienic latrines met the MoH standards of hygiene in December 2015.

This indicates that BCC interventions did not only aim at motivating households to acquire an improved toilet facility: they also aimed at building households’ awareness on how to maintain their facility, and motivation to keeping it clean. In other terms, results suggest that households moved to a higher sanitation service levels.

Chart 3 MoH standards of hygienic latrines’ construction, operation and maintenance

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26 According to the WHO/UNICEF JMP definitions, improved sanitation includes water flush latrine (that is, flush to piped sewer system, septic tank, pit latrine or unknown place), pit latrine with a slab and cover, ventilated improved pit (VIP) latrine, composting toilet and, for rural areas, hanging toilets/latrines. Unimproved sanitation is the use of pit latrines without slab/open pit, bucket toilets, and flush or pour-flush to elsewhere (that is, street, yard or plot, open sewer, a ditch, a drainage way or other location). Open defecation refers to defecation in the bush, field or forest.
Hygienic sanitation coverage by income level and ethnic group

Comparison between general socio-demographic characteristics of households at the baseline and endline suggest that households were better educated at the endline (20.7% of all interviewed households completed high school at the endline, while 16.9% did so at the endline, Table 4), and they were better-off. In Mai Chau, 26.1% of surveyed households were poor at the baseline and 21.1% at the endline. In Kim Boi, 28.4% of surveyed households were poor at the baseline and 16.3% at the endline. Greater income levels and higher education may be additional factors explaining households’ decision to jump on or move along the hygienic sanitation ladder.

Table 5 Households’ socio-demographic characteristics by district

<table>
<thead>
<tr>
<th></th>
<th>Baseline survey</th>
<th>Endline survey</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mai Chau</td>
<td>Kim Boi</td>
</tr>
<tr>
<td>N</td>
<td>N=341</td>
<td>N=460</td>
</tr>
<tr>
<td>Respondents age</td>
<td>Mean 44</td>
<td>Mean 45</td>
</tr>
<tr>
<td>Gender (male)</td>
<td>% 46.6</td>
<td>% 50</td>
</tr>
<tr>
<td>Ethnicity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kinh</td>
<td>% 18.2</td>
<td>% 12.4</td>
</tr>
<tr>
<td>Muong</td>
<td>% 16.7</td>
<td>% 84.3</td>
</tr>
<tr>
<td>Thai</td>
<td>% 56.9</td>
<td>% 0.4</td>
</tr>
<tr>
<td>Dao</td>
<td>% 7.6</td>
<td>% 2.8</td>
</tr>
<tr>
<td>Others (H’Mong, Tho)</td>
<td>% 0.6</td>
<td>% 0.0</td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Illiterate</td>
<td>% 1.2</td>
<td>% 0.4</td>
</tr>
<tr>
<td>Only know how to read, write</td>
<td>% 0.3</td>
<td>% 1.1</td>
</tr>
<tr>
<td>Completed primary (1-5)</td>
<td>% 28.7</td>
<td>% 25.5</td>
</tr>
<tr>
<td>Completed secondary (6-9)</td>
<td>% 40.8</td>
<td>% 53.2</td>
</tr>
<tr>
<td>High school (10-12)</td>
<td>% 18.2</td>
<td>% 15.9</td>
</tr>
<tr>
<td>Above high school</td>
<td>% 10.9</td>
<td>% 3.9</td>
</tr>
<tr>
<td>Don’t know/don’t remember</td>
<td>% 0.0</td>
<td>% 0.2</td>
</tr>
<tr>
<td>Number of members per household</td>
<td>Mean 4</td>
<td>Mean 5</td>
</tr>
</tbody>
</table>

Hygienic latrine coverage increased across all income levels (i.e. poor, near poor and better-off) and all ethnic groups (Kinh, Muong, Thai and Dao) between the baseline (February 2014) and the endline (December 2015).

Coverage increased by a factor of 1.3 for the poor (from 17.7% to 23.8%) and 1.8 for the better-off (from 33.6% to 59.9%). Because coverage for the better-off grew faster, the gap between coverage for the poor and the better-off also grew larger. Hence, for every poor that had a hygienic toilet in February 2014, there were 1.4 better-off households that had one; yet, for every poor that had a hygienic toilet in December 2015, there were 2.5 better-off households that had one.

---

Endline and baseline surveys do not show much difference in ethnic group composition in Mai Chua and Kim Boi. Both at the baseline and at the endline, respondents in Kim Boi were mainly from the Muong ethnic group, and in Mai Chau they were mainly from the Thai ethnic group.
Between the baseline and the endline, hygienic latrine coverage increased by a factor of 3.5 for the Thai, 2.4 for the Dao, 1.7 for the Muong and 1.4 for the Kinh.

Among other reasons that led to the selection of Hoa Binh for pilot intervention was its multiple ethnic population. 2009 Population and Housing Census data suggest that 72% of the whole population in rural areas of Hoa Binh province was from the Muong ethnic group, 18% from the Kinh ethnic group, 4% from the Thai and 2% from Dao ethnic groups (with another 4% from ‘other ethnic groups’).

If we combine this information with the hygienic latrine coverage information from the baseline and endline surveys, it appears that ethnic groups that started from lower hygienic coverage levels (ex. Dao and Thai) benefitted the most from the intervention. One possible explanation is the adjustment of BCC intervention to the local context in order to reach ethnic minorities. In Binh Son commune, for instance, the typical BCC package was extended with ad-hoc activities tailored to the characteristics of the Dao ethnic group. Flexible tools and able motivators allowed meeting local needs, and ensuring increase in coverage even in the most challenging settings.

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28 The ‘other ethnic group’ category includes mainly Tay, Mong, Nung and Hoa ethnic groups.
3.2. BCC intervention and HHs’ knowledge of, attitudes towards and adoption of hygienic sanitation

3.2.1 Household's information exposure during the intervention

During data collection, households were asked where they received information on sanitation, from whom and when (i.e. in which months of 2015), and what kind of sanitation information they could access.

86.9% of all HHs (90% in Kim Boi and 83% in Mai Chau) attended sanitation village meetings; 29.3% (25.6% in Kim Boi and 34% in Mai Chau) took part in sanitation festivals and 12.7% (10.6% in Kim Boi and 15.3% in Mai Chau) discussed sanitation information with motivators during HHs’ visits.

These percentages suggest that village meetings are the most effective way to reach out households, and that household visits require a much more intensive approach. The percentages for Kim Boi and Mai Chau (reported in brackets) indicate that there was no big difference in information access between the two districts. 85% of all households participated in sanitation BCC activities between June and December 2015, when the majority of BCC interventions took place.

When it comes to the ‘sources’ of sanitation information in 2015, survey results indicate that the penetration of sales agents’ work was quite good. This is remarkable because sales agents are new members in the Hoa Binh sanitation market.

Table 6 Households’ sources of sanitation information in 2015

<table>
<thead>
<tr>
<th></th>
<th>Total (N=577)</th>
<th>Kim Boi (N=316)</th>
<th>Mai Chau (N=261)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Village leaders</td>
<td>44.2%</td>
<td>40.9%</td>
<td>48.7%</td>
</tr>
<tr>
<td>Village health workers</td>
<td>39.5%</td>
<td>31.3%</td>
<td>50.4%</td>
</tr>
<tr>
<td>Sales agents</td>
<td>31.2%</td>
<td>30%</td>
<td>32.8%</td>
</tr>
<tr>
<td>Women Union’s Staff</td>
<td>16.6%</td>
<td>19.6%</td>
<td>12.6%</td>
</tr>
</tbody>
</table>

During the intervention, HHs mainly received information on hygienic toilet models and costs, benefits of hygienic sanitation (and related diseases) and sanitation convenience shops (SANCON). Between 5.4% (in Kim Boi) and 9.1% (in Mai Chau) of all interviewed households recalled information on toilet operation and maintenance. This should be an area of attention considering that operation and maintenance standards define the difference between a ‘hygienic’ and an ‘unhygienic’ toilet facility (according to the Ministry of Health classification). Less than 5% of all households could remember information on prices (of construction materials and sanitation products). This piece of information is particularly important because many households still perceive that hygienic toilets are expensive, and this acted as deterrent to their willingness to acquire hygienic sanitation.

Table 7 Kind of sanitation information that household received through BCC activities

<table>
<thead>
<tr>
<th></th>
<th>Kim Boi (N=460)</th>
<th>Mai Chau (N=341)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hygienic toilet models</td>
<td>61.7%</td>
<td>72.1%</td>
</tr>
<tr>
<td>Costs of hygienic toilets</td>
<td>21.5%</td>
<td>25.8%</td>
</tr>
<tr>
<td>Benefits of sanitary latrines</td>
<td>19.3%</td>
<td>23.5%</td>
</tr>
</tbody>
</table>
### 3.2.2 Households’ Knowledge of and Attitude Towards Hygienic Sanitation Before and After the Intervention

Comparison between baseline and endline data supports that conclusion that households’ knowledge of hygienic sanitation and of the threats associated with its lack greatly improved after the intervention. Households’ knowledge of different types of hygienic latrines increased after the intervention. The proportion of respondents who knew at least one hygienic type of latrine grew from 82% in February 2014 to 96% in December 2015.

The percentage of those practicing open defecation and not knowing of any kind of hygienic latrine dropped from 41.7% at the baseline (N=96) to 7% at the endline (N=142) – a six fold decrease in less than two years. This indicates that those practicing open defecation acquired greater understanding of their sanitation status after the intervention. In other terms, more people seemed to understand that use of ‘bush, field and forest’ was tantamount to open defecation after being exposed to BCC activities.

Both at the baseline and at the endline, households were asked about the criteria that define hygienic latrines: no bad smell/stink, feces are covered/not open, no contamination of the environment (ground, water) and no flies/rodents. The proportion of HHs knowing all of the 4 criteria increased 5 times at post-intervention (from 1% in February 2014 to 4.7% in December 2015).

When asked about the harms that open defecation would cause, 95% of all respondents at the endline (and 81% at the baseline) answered ‘environmental pollution’. 50% of all respondents at the endline (44% at the baseline) said that open defecation would cause transmission of diseases, and 23% of them (13% at the baseline) said that it would cause contamination of sources of water.

Households gathered more knowledge of the diseases that the use of hygienic latrines can prevent after the intervention shows that the percentage of HHs not knowing of any preventable disease in December 2015 (17%) (answer: ‘Do not know’) was half its value in February 2014 (34%).

| Table 8: Households’ knowledge of the diseases that the use of hygienic latrines can prevent |
|-----------------------------------------------|-----------------|-----------------|-----------------|
|                  | Overall N=801 % of respondents | Kim Boi N=460 % of respondents | Mai Chau N=341 % of respondents |
| Diarrhea          | 72.2                        | 70.2                        | 74.8                        |
| Helminthiasis     | 38.1                        | 37.8                        | 38.4                        |
| Don’t know        | 16.6                        | 17.6                        | 15.2                        |

---

29 Notwithstanding this increase, very few people could name all criteria at the endline.
<table>
<thead>
<tr>
<th>Disease</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cholera</td>
<td>14.2</td>
<td>14.1</td>
<td>14.4</td>
</tr>
<tr>
<td>Other</td>
<td>10.5</td>
<td>11.3</td>
<td>9.4</td>
</tr>
<tr>
<td>Dysentery</td>
<td>7.4</td>
<td>8.9</td>
<td>5.3</td>
</tr>
<tr>
<td>Trachoma</td>
<td>2.7</td>
<td>2.4</td>
<td>3.2</td>
</tr>
<tr>
<td>Hepatitis A</td>
<td>2.1</td>
<td>2.4</td>
<td>1.8</td>
</tr>
<tr>
<td>Typhoid</td>
<td>1.6</td>
<td>2.0</td>
<td>1.2</td>
</tr>
</tbody>
</table>

By December 2015, more than 95% of households thought that building a hygienic toilet would improve their family’s health, especially their children’s health, and it would make family members and friends feel relaxed because of comfort and cleanliness. At the same time, more than 50% of interviewed households suggested they would feel embarrassed if a guest came and they did not have a toilet, and that they might be then looked down by other members of their communities. Emotional and health-related messages did create a sense of urgency among households towards the acquisition of hygienic sanitation.

3.2.3 **BCC INTERVENTIONS AND HOUSEHOLDS’ DECISION TO ADOPT HYGIENIC SANITATION IN 2015**

In-depth interviews and focus group discussions with sanitation focal points and promoters/motivators provide evidence of the association between BCC interventions in 2015 and the rapid and substantial increase in sanitary latrines in the nine communes. All of these respondents agree that, without the intervention, hygienic sanitation coverage would not have increased so much and so rapidly. The following quotes capture their thoughts and understanding, in their own words.

‘People have become aware of hygienic sanitation. The percentage of hygienic latrines has increased in the last two years’ (Vice chairman of Commune People Committee in Dong Bang commune, Mai Chau district)

‘Without BCC interventions, the rate of increase in hygienic latrines would not have been as high as this year’ (Vice Chairman of Commune People Committee in Thuong Bi commune, Kim Boi district)

‘In 2010, sanitation coverage was 0% (no HH had a hygienic latrine). Thanks to the project activities and the efforts of commune and village staff, a significant change in the commune can now be seen. HHs have changed their behavior. In 2014, around 16 latrine were built in the commune. In 2015, around 30 latrine were built in one village only (Khoang village). The commune sanitation coverage has increased up to around 30%’ (Head of commune Health Station, Tan Mai commune, Mai Chau district)

‘The high increase in hygienic sanitation coverage was due to the impact of communication activities’ (Motivators, Thuong Bi commune, Kim Boi district)

‘My sales of hygienic latrines have increased thanks to the promotion activities conducted by promoters in the commune’ (Owner of the SANCON in Nam Thuong commune Kim Boi district)

Quantitative data collected during the endline survey also suggest that BCC interventions affected households’ decisions to acquire hygienic sanitation. Households that had an unhygienic toilet before the intervention decided to move up the sanitation ladder, and they either acquired hygienic...
sanitation in 2015 or planned to do so in 2016. Many households without toilet facilities (i.e. practicing open defecation) also made plans to access hygienic sanitation in 2016. Among the reasons that all these households mentions motivated their decision to go hygienic there was exposure to sanitation information.

Households’ decision to replace unhygienic sanitation with hygienic sanitation in 2015

Among households that already had a toilet in 2015, 66.4% replaced their old toilet with a new hygienic toilet because they understood that their old toilet was unhygienic. 8.6% of all households that replaced an unhygienic with a hygienic toilet in 2015 did so after receiving ‘communication, advice and introduction’ on hygienic sanitation. This was mentioned by 10% of interviewed households in Kim Boi and 7.1% of those in Mai Chau.

If we compare these percentages with those in 2014, among households that already had a toilet in 2014, 44.6% replaced their unhygienic toilet with a hygienic toilet that year. Back in February 2014, 6.9% of all interviewed households in Kim Boi and 0% of the households in Mai Chau stated that their decision to adopt hygienic sanitation was related to communication they received on sanitation.

At first glance, loans from the VBSP seems to be another important factor that motivated HHs to acquire hygienic sanitation in 2015 both in Kim Boi (13.3% of HHs) and in Mai Chau (10.7%). Nevertheless, only 3.4% of all HHs that built a hygienic toilet in 2015 (1.7% in Mai Chau and 5.4% in Kim Boi) did so because their old toilet was not hygienic and because of the VBSP loan. This suggests that the majority of HHs that upgraded their unhygienic toilet in 2015 made this decision that same year after receiving sanitation information in 2015 (and after understanding the difference between hygienic and unhygienic sanitation), and they did so by using their own savings. Only 3.4% may have made the decision before 2015, and then waited to build the toilet until 2015 when they were able to access the VBSP loan. VBSP loans did play a role in households’ ability to move up the sanitation ladder, but households that were convinced of the importance of hygienic sanitation and willing to acquire hygienic sanitation managed to move up the ladder mainly by relying on their own savings.

This conclusion is further supported by the percentage of HHs that waited to build a hygienic toilet because they could not afford it. This percentage almost halved between 2014 and 2015, slowing down from 12.5% to 6.9%. This can be both the result of improved knowledge on prices and higher willingness to pay generated by the campaign.

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30 Endline survey results show that households with an unhygienic toilet will demand hygienic latrines in 2016. Among these households, 30.7% are planning to newly construct a hygienic toilet (32.5% in Kim Boi and 28.4% in Mai Chau) and 5.8% (7.2% in Kim Boi and 3.9% in Mai Chau) are planning to upgrade their unhygienic toilet. If planning to construct, 75.4% of those HHs (78.1% in Kim Boi and 71.3% in Mai Chau) will build a septic tank, and 15.3% of HHs (12.2% in Kim Boi and 20% in Mai Chau) will build a double-vault compost latrine.

31 Endline survey data point out that households practicing open defecation will demand hygienic latrines in 2016. In fact, 83.1% of all HHs that are practicing open defecation are planning to construct a hygienic toilet (89.2% in Kim Boi and 74.6% in Mai Chau). 64.4% of all HHs without a toilet (70.3% in Kim Boi and 54.6% in Mai Chau) will build a septic tank; 14.4% (14.9% in Kim Boi and 13.6% in Mai Chau) will build a double-vault compost latrine. Among the factors that explain their decision, there is: ‘We received communication, advertisement and introduction on sanitation’. This is the case for 31.4% of households, 37.8% in Kim Boi and 20.5% in Mai Chau.

32 This is also indicated by the fact that 80% of households with a hygienic toilet (both in Kim Boi and in Mai Chau) managed to build it (in 2015 or before than) using saved money. Another 19% (13.4% in Kim Boi and 26.5% in Mai Chau) relied on a VBSP loan and 12% sold their assets to afford the cost.
**Table 9** Do HHs think that the information on sanitation and communication that they received affected their decision to access hygienic sanitation?

<table>
<thead>
<tr>
<th>Reason that they built a hygienic toilet at that time</th>
<th>For HHs that built their toilet in 2014:</th>
<th>For HHs that built their toilet in 2015:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Overall</td>
<td>Kim Boi</td>
</tr>
<tr>
<td></td>
<td>N=56</td>
<td>% of respondents</td>
</tr>
<tr>
<td>Have no toilet</td>
<td>28.6</td>
<td>31.0</td>
</tr>
<tr>
<td>Old toilet is not hygienic</td>
<td>44.6</td>
<td>41.4</td>
</tr>
<tr>
<td>Old toilet was broken</td>
<td>16.1</td>
<td>10.3</td>
</tr>
<tr>
<td>Loan from VBSP/credit organisation</td>
<td>1.8</td>
<td>3.4</td>
</tr>
<tr>
<td>Purchase, transportation and construction services are convenient</td>
<td>1.8</td>
<td>3.4</td>
</tr>
<tr>
<td>Being communicated, advised and introduced</td>
<td>3.6</td>
<td>6.9</td>
</tr>
<tr>
<td>Till that time could not afford to build</td>
<td>12.5</td>
<td>13.8</td>
</tr>
<tr>
<td>Other</td>
<td>1.8</td>
<td>0.0</td>
</tr>
</tbody>
</table>

**What is still stopping some of the households from adopting hygienic sanitation?**

71% of HHs practicing open defecation in December 2015 do not have a toilet because they still think that it is too costly and they cannot afford it (this percentage is the same for both Kim Boi and Mai Chau).

The non-adopters that consider hygienic toilets expensive think that the cost of these toilets is around 6-10 million VND. Many could in fact afford to pay 2-5 million VND, but because they are thinking of 6-10ML VND instead, they lack money to build and they are waiting for the VBSP loan. It is important to note that 2.5ML VND could allow them to build a septic tank with concrete ring.

Some of the non-adopters have registered for the VBSP loan, and many think that registration is a guarantee for receiving the loan. In reality, the ability of the district VBSP to disburse loans depends on budget allocation from the provincial VBSP. These households also think that the loan interest rate should be no more than 0.55% for them to be able to pay back; ‘Sanitation is not a productive investment,’ they stated during FGDs.

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33 This is also related to the fact that many households do not think of a latrine ‘per-se’, but a [latrine + bathroom + cement roof + water tank]. Their idea of ‘moving along the sanitation ladder’ (i.e. moving from open defecation to unhygienic sanitation and then up again to hygienic sanitation) means that households want to upgrade the whole latrine, and not only the substructure. In Kim Boi, for instance, 27% of villagers had single-vault latrine in February 2014 and at the beginning of the intervention (baseline) and were then looking for upgrading that latrine and for adding, at the same time, a super-structure.
3.3. Supply chain development during the intervention

Ten SANCON shops were set up in 2015 (five in Mai Chau and five in Kim Boi), of which nine are still operational in the sanitation market and seven sell concrete rings with transportation and installation services. The remaining two SANCONs are lending a mold for on-site fabrication of concrete ring.

During the intervention, SANCON shops were established both from existing concrete-ring producers and from existing shops selling sanitation materials. Evidence gathered during the 2015 rapid assessment shows that concrete-ring producers have experience, technical ability and equipment to work with concrete rings, and transport facilities to carry concrete rings, and they can easily adapt their offer to the sanitation market demand.34

SANCON shops born from pre-existing shops that specialized in the sale of sanitary material are more likely to sell a whole package of material plus transport and installation. Nonetheless, they may also find it more profitable to promote the supply of latrines made with brick because of the longer construction time involved and, consequently, the opportunity for greater profit. This may then clash with the intent of the intervention that is making hygienic sanitation affordable to every HH, independently from the HH’s financial conditions.

3.3.1 Households’ knowledge about SANCON

SANCON shops were introduced to households during village meetings and sanitation festivals. HHs mainly received information on SANCON from health workers (29% of respondents), village leaders (22%), staff of the Women Union (10%), but also friends, relatives and neighbors (26% of all interviewed households).

Following the intervention, more than 43% of all households were aware of the existence of SANCON. For Kim Boi, this percentage is even higher and it reached 48%; for Mai Chau, it is equal to 37%.

SANCON shops in Nam Thuong (Kim Boi) and in Bao La (Mai Chau) are known by more than 60% of respondents: this is most probably because they were among the first SANCONs to be set up and to start operating in the market. This suggests the importance of promoting the SANCON as much as possible during its first months of operation in the sanitation market.

<table>
<thead>
<tr>
<th>District and commune</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kim Boi</td>
<td>48.0</td>
</tr>
<tr>
<td>Binh Son</td>
<td>18.9</td>
</tr>
<tr>
<td>Sao Bay</td>
<td>48.9</td>
</tr>
<tr>
<td>Nam Thuong</td>
<td>69.2</td>
</tr>
<tr>
<td>Thuong Bi</td>
<td>69.0</td>
</tr>
<tr>
<td>Vinh Tien</td>
<td>35.1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>43.3</strong></td>
</tr>
</tbody>
</table>

34 Their strength may as well become limiting factor though if the SANCON is not able to adopt and adjust to alternative sanitation technologies. This may particularly happen at early stages of their sanitation activity when customers may still be unwilling to embrace the concrete-ring version of the sanitary toilet.
Households that know about the existence of SANCONs were asked to mention the services that they are aware SANCONs are providing. 96% of all these households said that SANCON shops sell construction materials and sanitation products. Even if more households in Mai Chau than in Kim Boi mentioned transportation services (53% of the households in Mai Chau and 40% of those in Kim Boi), it was mainly households from Kim Boi to recall about SANCONs’ other services. This is the case for ‘advice on latrine type and design’ (mentioned by 33% of the households in Kim Boi and 15% of those in Mai Chau), ‘construction and installation services’ (22% of households in Kim Boi and 16% of those in Mai Chau), and ‘delayed payment’ (16% of households in Kim Boi and around 9% of those in Mai Chau).

The generally greater levels of awareness of SANCONs’ activities by households living in Kim Boi than in Mai Chau may be a result of greater effectiveness of BCC activities promoting the SANCON network in Kim Boi. It is also an indicator of the different stages of market development of the SANCON network in the two districts. The SANCON network in Kim Boi appears to have reached farther stages of market development than the network in Mai Chau.

This conclusion is also corroborated by 2015 sales data provided by the SANCON network during the endline rapid assessment.

### 3.3.2 SANCONs’ SALES BY VOLUME AND TYPE OF PRODUCT

Data from the SANCON network indicate that SANCON shops in Kim Boi sold 180 products (material/concrete rings and completed latrines) in 2015 as compared with 84 products sold by SANCON shops in Mai Chau. At the same time, buyers in Mai Chau preferred to buy material/concrete rings than the complete latrine. Buyers in Mai Chau bought 40% of the total number of material/concrete rings sold by the SANCONs in the nine intervention communes (total N=147) and 21% of the total number of sold completed latrines (total N=117).

**Chart 6 SANCON’s sales in 2015**

Endline survey data report a similar trend. Among HHs that built their hygienic toilets in 2015, more HHs in Mai Chau (21.4%) bought the material for building the hygienic toilet from a SANCON than HHs in Kim Boi (13.1%). This may be related to the geographical settings of Mai Chau that transport difficult and make transportation costs high. This is especially the case for the communes of Tan Mai, Chieng Chau, Dong Bang and Bao La. In these communes, villagers live far from the SANCON shop,
and they may prefer not to buy a full-package latrine: they would instead buy concrete rings in bulk from the SANCON (4-5 HHs together), and then buy other materials from local retailer shops that are located nearby.

83.3% of all HHs that relied on SANCON services (77.7% in Kim Boi and 88.9% in Mai Chau) are either satisfied or completely satisfied with these services. The main reasons that made those HHs satisfied with SANCON services are the sufficient types of products that SANCON shops offer (79.2% of HHs in Mai Chau), their quality (57.1% of HHs in Kim Boi) and affordable cost (52.4% of HHs in Kim Boi).

3.3.3 SANCON NETWORK DEVELOPMENT IN KIM BOI AND MAI CHAU
What factors explain the different stages of market development of the SANCON network in the two districts, knowing that the intervention per-se gave equal attention to both districts? The box that follows gathers and reformulates information collected during in-depth interviews with SANCON owners and focus-group discussions with sales agents.

Why is the SANCON network more developed in Kim Boi than in Mai Chau?

- OSS owners in Kim Boi quickly recognize new business opportunities and rapidly solve business challenges (ex by improving the quality of their latrines, by fabricating tools for latrine installation, by changing their late-payment policy based on HHs’ ability to pay and the commission policy with their sales agents)
- Competition among SANCON owners is also more pronounced in Kim Boi, and some OSS owners participated to (and sponsored) village meetings, and they displayed their products at sanitation events
- SANCON in Kim Boi is well aware of the local government system, and they could create strong connection with government promotion activities
- HHs in Kim Boi accepted and adopted new technical options (i.e. septic tanks with concrete rings) more promptly: at the beginning, they only wanted to buy concrete rings (the material), but they then gradually started ordering packages of product and services. All the OSS in Kim Boi offer inclusive packages of concrete rings plus transportation and installation: this guarantees the good quality of the whole toilet facility, and not only of its individual parts
- Transportation is easier in Kim Boi than in Mai Chau (mountain areas), and concrete rings can be easily transported with reduced risk for them to get broken
- SANCON owners in Kim Boi have good collaboration with sales agents and motivators: sales agents in Vinh Tien, Nam Thuong and Thuong Bi helped SANCON owners to get customers and collect money back from them; the SANCON owner in Vinh Dong also has good collaboration with the village heads in his commune.

To summarize, the different success story of SANCONS in Kim Boi and Mai Chau seems to derive from a combination of remoteness (too remote SANCON are less promising) and overall business attitudes, capabilities and linkages of SANCON businesses in Kim Boi. We cannot know whether greater capabilities are a function of the generally ‘less isolated’ SANCONS in Kim Boi or if they are a specific feature of the SANCON owners in this district. We can only speculate that, the more remote the villages, the less dynamic SANCON owners appear to be. Hence, in remote areas, a potential solution to strengthening the SANCON system would be to link the SANCON shops with local retailers. SANCONS could then supply these retailers with specific inputs for hygienic latrine construction. The sanitation market supply chain would then move closer to the households and to potential market demand.
Table A in the Appendix collects further evidence of the key pre-requisites that make a SANCON business successful. These pre-conditions span from endowment of tools and equipment, business acumen of the SANCON owner and interaction between the owner and all the other sanitation market actors. SANCON success factors are then a mix of physical assets and intangible skills.

3.3.4 CHALLENGES FACED BY THE SANCONS AND POSSIBLE SOLUTIONS

Table B in the Appendix groups the main challenges faced by the SANCONS into three main categories,

- Difficulties in collecting money back from customers (related to the late-payment policy) while facing growing competition in the sanitation market (which would make the late-payment policy a way to win competitors)
- Challenges in cooperating with masons that do not seem very engaged in the SANCON business, and that may in fact promote hygienic latrines with brick (instead of concrete ring) to boost their gains.
- Limited market demand for septic tanks made with concrete ring (further explanation of the limited demand for concrete ring septic tanks is provided in the following section)

Focus group discussions with adopters of hygienic sanitation highlighted the reasons behind households’ preference for septic tanks with brick.

‘We prefer the septic tank made with brick. We think that the concrete ring technology is not durable enough as it has only 2 tanks. A good septic tank should include 3 tanks.’ When asked why they do not add another tank to the two tanks, households suggested: ‘In the official leaflet the septic tank with concrete is presented with 2 tanks only, and we do not know whether the addition of another tank is possible or if it could cause any problem’ (adopters in Binh Son, Kim Boi)

This is not only the case for HHs that adopted hygienic sanitation in 2015. When asked the kind of hygienic latrine that they would choose if they decided to adopt hygienic sanitation, the great majority of non-adopters in both Kim Boi (78.1%) and Mai Chau (71.3%) would build a septic tank.35 Focus group discussions with them also indicate that they would especially build a septic tank made with brick, even though this is more expensive than the septic tank made with concrete ring.

‘All villagers want to build a septic tank with brick because we need big tanks. My family for instance has six people and the concrete ring would get full too quickly’ (non-adopters in Vinh Tien, Kim Boi)

35 This is the case even though sales agents usually promoted four types of hygienic latrines: septic tanks, pour-flush, double vault and VIP latrines.
36 ‘With the same dimension, a septic tank with concrete ring costs around 5 million VND while a septic tank built with brick costs around 7 million VND’ (including bathroom and water tank, OSS owners in Bao La commune, Mai Chau). ‘To build the substructure of a septic tank made with bricks you need around 4 million VND’ (sales agents in Binh Son commune, Kim Boi). ‘The substructure of a septic tank made with bricks costs around 3-4 ML VND [...] The septic tank made with concrete ring instead is affordable by all HHs in the villages of Chieng Chau and Dong Bang communes’ (sales agents in Chieng Chau and Dong Bang communes, Mai Chau). ‘The total cost of the substructure of a septic tank made with brick (including materials and masonry fee) is around 4 ML VND. The price of a septic tank made with concrete ring provided by the OSS is around 2.3 ML VND’ (mason not working with OSS in Vinh Tien commune, Kim Boi). ‘The lower price of the septic tank made with concrete ring makes this hygienic latrine type affordable to almost every HH in my area’ (mason working with the OSS in Vinh Tien commune, Kim Boi).
Moreover, many HHs view the latrine as ‘social symbol’. Sales agents in Tan Mai Commune (Mai Chau) reported that,

‘HHs in our villages think that this latrine type is for poor HHs, and that using this latrine is a sign of poverty. They want to be seen as wealthy HHs by other villagers; hence, they want to build the septic tank made with brick. Thus, many HHs are still waiting to have enough saved money and build a septic tank made with brick’ (sales agents in Tan Mai commune, Mai Chau).

Meanwhile, the concrete ring technology drastically reduces the costs of building hygienic sanitation, and makes sanitary toilets affordable to virtually all HHs. Sales agents in Dong Bang communes, for instance, said,

‘It is not necessarily the SANCON model that reduces the cost of hygienic latrines for HHs, but the latrine type itself offered by the SANCON model that is septic tanks made with concrete rings. Villagers that leave far from the SANCON may find the price of the SANCON full package of latrine (material + transportation + installation) higher than the price of hygienic sanitation quoted by local retailers because of high transportation costs. This is why in Dong Bang commune, which is far from Mr Tuan Anh’s SANCON, customers do not buy a full latrine package, but they only buy concrete rings from Mr Tuan Anh’s SANCON shop, and they then buy other materials from local retailer shops located in their commune. The main advantage of using the SANCON network is that also customers in Dong Bang can have a hygienic latrine with lower costs, which can be installed and used quickly’ (sales agents in Dong Bang commune)

Table C. in the Appendix further compares advantages and disadvantages of septic tanks with concrete ring and with brick as perceived by HHs.

Each of the aforementioned challenges faced by the SANCONs have potential solutions. These solutions entail closer collaboration between SANCON owners and motivators (village leaders and village health workers), closer collaboration between SANCON owners and sales agents (and ongoing training of sales agents on communication and persuasion skills), masons’ closer engagement in the SANCON business and diversification of the range of products and services that the SANCON offers to customers (see Table B. in the Appendix for further details).
3.4. Interaction between BCC and OSS interventions towards greater hygienic sanitation coverage in the nine communes

The graph below shows the increase in hygienic latrine coverage between the baseline and the endline (in percentage points) on the Y-axis as function of the percentage of households that received sanitation information in 2015 on the X-axis.

*Chart 7 Sanitation information and increase in hygienic latrine coverage*

The chart shows that Ching Chau and Nam Thuong received relatively low levels of sanitation information, but experienced high coverage increases. Instead, Thuong Bi, Dong Bang and Sao Bay were exposed to higher levels of information, but they recorded lower coverage increases. Bao La, Tan Mai, Binh Son and Vinh Tien indicate the existence of a positive correlation between access to sanitation information and increases in hygienic sanitation coverage.

What factors could explain such differences among these three groups of communes? Intuitively, we would assume that what holds for the communes ‘in blue’ should hold for any other commune. If we drew a trend line crossing these blue communes, the line would have a positive slope because of the positive correlation between information access and sanitation coverage. Yet, the communes in red and those in green would make the path of such trend line less clear.

It turns out that

- Communes in blue either started from very low levels of sanitation coverage at the baseline (9% in Bao La and 14% in Tan Mai) or BCC activities were especially tailored to the local context (as in Binh Son, Vinh Tien and Tan Mai) and SANCON owners were particularly active (as in Vinh Tien, Bao La and Binh Son).
- In communes in red, many more households declared at the endline that they were practicing open defecation (as for Thuong Bi) or they were sharing latrines (as for Sao Bay) than in other communes. Otherwise, as in Dong Bang, the initial hygienic sanitation coverage was very high (the highest among all communes and equal to 38% at the baseline), which may have created the need for ad-hoc BCC interventions that did not take place. Because of
lack of market demand, the SANCON business in Dong Bang is the only SANCON that ceased its sanitation activities in 2015.

- The highest increase in hygienic sanitation coverage in Nam Thuong and Chieng Chau was mainly driven by better-off households, who represent more than 70% of the surveyed population in these communes. These are also communes where the percentages of poor households are the lowest (7% in Chieng Chau and 3% in Nam Thuong).

Overall, commune-specific results highlight the need for BCC interventions to vary according to initial coverage levels and the initial income distribution. BCC activities should generate enough market demand for the SANCON network. In turn, this network needs to be proactive, keen on grasping new business opportunities and go the extra mile to meet customers’ demand also in challenging geographical settings. Only then BCC and SC intervention will strengthen each other, and the hygienic sanitation market will develop.

The following sections further investigate differences across the three groups of communes.

3.4.1. **Communes ‘in blue’ – How BCC and SANCON interventions strengthened each other**

Communes in blue are those where more than 70% of households reported to have received information about toilets and sanitation in 2015. BCC activities had a pivotal role in boosting hygienic sanitation in these communes. Focus group discussions and in-depth interviewed in Vinh Tien, Tan Mai and Binh Son provide further evidence of the importance of BCC interventions.

**Vinh Tien commune**

In Vinh Tien commune, 15% of all interviewed households said that communication activities received during 2015 convinced them to build a toilet that year. Furthermore, 30% of these households acknowledged that communication activities induced them to building a hygienic toilet.

<table>
<thead>
<tr>
<th>Hygienic sanitation coverage in Vinh Tien commune and the importance of BCC interventions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-adopters in Vinh Tien commune had good access to the BCC activities and all received information from the BCC intervention. They are aware of the benefits of hygienic sanitation, the types of latrines and some even know how to build a hygienic latrine. Only some of them do not know well about the cost of latrines. The main sources of information for non-adopters were village meeting and HH visits.</td>
</tr>
<tr>
<td>All adopters in Vinh Tien have good knowledge of sanitation, and they are confident to talk about the types of latrines and the criteria for hygienic latrines. They can easily recall the massages they received from the description of pictures and the sanitation material. All adopters participated in the sanitation festival, and they found it very exciting. Many adopters welcomed the septic tank with concrete rings, and they said that they were convinced by the village motivators about its quality. Adopters confirmed that it is because of BCC activities that they become aware of the importance of sanitation. ‘If there were no BCC activities, only some HHs would have built a latrine. Yet, we can now see a big change in hygienic sanitation and many people have a plan and intention to building a hygienic latrine. Without BCC activities, only few HHs would have built new latrines.’</td>
</tr>
<tr>
<td>Many respondents repeated that motivators were keen on providing detailed information and guidance on the selection of the appropriate type of latrine for their HH. ‘Without BCC, we would have used our savings for other purposes, but when we attended these activities we became more willing to spend our savings to build a latrine, and we considered building a latrine high priority.’</td>
</tr>
<tr>
<td>Motivators in Vinh Tien played an important role in facilitating BCC activities, and they showed good knowledge of sanitation, good communication skills and ability to transfer their knowledge to villagers. One advantage in this commune is that women union staff at village level are also sale agents: hence, they attended the sales agents’ training course, and they have been very active in knowledge transfer.</td>
</tr>
</tbody>
</table>
Tan Mai commune

Similar to Vinh Tien, households in Tan Mai commune were exposed to sanitation information in 2015. Given the geographical settings of Tan Mai commune, motivators adjusted BCC activities to the local context in order to make them effective. In fact, Tan Mai is located in a remote geographical area in Mai Chau district. The HHs in the commune live fragmentally and many are hard to reach. In such situation, village meetings are difficult to organize as villagers seem not to like gathering for the meetings due to distance. Hence, in order to create incentives for participation, HHs in Tham Nhan village were asked to pay a fine of 10,000 or 20,000 VND per village if they failed to show up. A sanitation-specific village meeting could be organized only in Xom Khoang village, which is located at the center of the commune; in other villages (where villagers need to travel long distances to reach the meeting venue), the sanitation topic was integrated with the discussion of other social-economic issues.

HH visits in Tan Mai were usually conducted by a group including a member of the commune health staff, a member of the commune WU cadre, the village head and the village health worker. The presence of the village head was especially important to stir households’ willingness to adopt sanitary toilets. The head of the commune clinic and health staff were also very active in motivating villagers to adopt septic latrine with concrete rings.

Binh Son commune

Binh Son commune is another example of a commune whether the ‘BCC package’ was adjusted to the local reality to make it more successful. This commune has 4 villages, among which Hang Lom village is a Dao village (the other villages are mainly Muong villages).

‘Hang Lom (a Dao village) is the most difficult village in terms of persuading HHs into building a hygienic latrine because Dao people tend to be less educated, they tend to have less access to information, and Hang Lom village is underdeveloped as compared with Muong villages in Binh Son commune. To overcome these challenges, in addition to the usual project activities, the commune/village staff was assigned with clear responsibilities to persuade HHs in Han Lom to build hygienic latrines. Hence, for example, commune WU had to persuade 5 HHs to build a latrine, commune Yong Union had to persuade another 5 HHs etc.’

(Vice Chairman of Commune People Committee in Binh Son commune, Kim Boi district)

The role of SANCONs in the communes in ‘blue’

Good results achieved through BCC interventions translated in good market demand for sanitary toilets. Good market demand in turn benefited SANCONs operations in Vinh Tien and Binh Son communes, and also Bao La commune. These are three communes where the greatest number of sales of material/concrete rings (in Bao La) and complete latrines (in Vinh Tien and Binh Son) were recorded in 2015.
SANCON owners in these communes were also particularly active and creative, which helped hygienic sanitation coverage to increase faster. The SANCON in Vinh Tien commune started operating with sanitation products quite late, and surely later than other SANCONs in Kim Boi, but it managed to achieve the greatest volume of sales.

In Binh Son, the coordination between the SANCON owner and his sales agent based at the village (also working as a mason) was pivotal in permitting the SANCON to meet households’ requests. 37

The SANCON in Bao La commune is a fairly successful SANCON as compared with all other SANCONs in Mai Chau. Its owner received around 60% of all sanitation orders via sales agents. He guaranteed the good quality of his products by building concrete rings with reinforced iron, and adopted a late payment on a case-by-case basis to avert customers’ inability to repay. To stand increasing market competition, this SANCON owner decided to diversity the range of his products, and to expand his sanitation business by selling ceramic tiles (for making toilet floors), ceramic toilet bowls and latrine pans. It has also actively participated in BCC activities by presenting his sanitation products during the sanitation festival in Bao La commune, and by relying on the help of the WU chairwoman to introduce his SANCON to HHs during HH visits.

The SANCON model was not applied in Tan Mai commune because of its geographical settings. The commune was instead provided with 2 moulds for on-site fabrication of concrete rings. The commune assigned a village health worker (and village WU representative) and a village head to keep these moulds and to lend them to HHs. The mould keepers also took responsibility of providing HHs with guidelines on how to fabricate concrete rings and install concrete ring and/or offering masonry services from a mason they hired (2 masons were trained by the project in the commune). Both mould keepers were trained by project staff in latrine construction and communication skills.

### 3.4.2. Communes ‘in red’ and the lowest increase in hygienic sanitation coverage

Between 60% and 80% of all interviewed households in Sao Bay, Thuong Bi and Dong Bang communes reported having received information on sanitation in 2015. Though, the increase in hygienic sanitation coverage in these communes between 2014 and 2015 was at least 5 percentage

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37 This collaborations was better than that between the SANCON owner and the sales agent based at the commune level.
points less than that recorded in the communes ‘in blue’, and it was in fact the lowest recorded across all intervention communes. What are the possible reasons behind these numbers?

**Thuong Bi commune**

In an attempt to answer this question, we take into account the changes in declared open defecation and shared toilet facilities occurred in all the considered intervention communes from baseline to endline. Results point to the fact that the percentage of households declaring that they were practicing open defecation increased by a factor of 2.5 in Thuong Bi (from 8% to 19.5%). This is the greatest increase among all communes. This seems to suggest that many more households (in this commune) acquired awareness of their unhygienic sanitation practices after the intervention. This is also showed by contradictory statements on open defecation from households during baseline focus group discussions and in-depth interviews (also reported in the baseline report) that indicate that households were not clear at that time of the extent of ‘open defecation’.

“At present, nobody still practices OD. None is backward at that level” (Male – IDI - Non-adopter – Poor - Khoai village, Thuong Bi commune, Kim Boi district).

“I think that there are more men who practice OD than women, as women prefer having privacy”. (Female - FGD with Female - Non Adopter - Thuong Bi commune, Mai Chau district).

**Sao Bay commune**

When it comes to Sao Bay, it is interesting to investigate what happened to the prevalence of shared sanitation in this commune. The percentage of households sharing toilet facilities either decreased or remained the same in the other intervention communes from 2014 to 2015. In Sao Bay though, 2.2% of all interviewed households were sharing toilet facilities in 2014 and almost 5% were doing so in 2015; this is almost a threefold increase.38

**Dong Bang commune**

Dong Bang is another commune where exposure to sanitation information was high in 2015, but increase of hygienic sanitation coverage between 2014 and 2015 was less than in other communes of Mai Chai district. This may be explained by the high hygienic sanitation covered that Dong Bang commune reported at the baseline. 38% of all households interviewed in Dong Bang already had sanitary toilets in 2014: that was the greatest coverage of hygienic toilets across all intervention communes at the baseline. The implication is that when BCC and SANCON interventions are applied in settings where more than 35% of households already have a hygienic latrine, they may need some adjustments. In fact, these interventions seem to fit quite well settings where hygienic sanitation coverage is less than 35% This also suggest the need for a gradual approach to hygienic sanitation marketing.

### 3.4.3. Communes ‘in green’ – The greatest increase in coverage and the role of income

Even though hygienic sanitation coverage increased for every income-level group, it was mainly the better-off to benefit from the highest increase. Better-off households are mostly concentrated in Chieng Chau commune in Mai Chau district (where 16.4% of all interviewed better-off households

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38 The percentage of shared toilet facilities also increased in Bao La after the intervention, although to a much smaller extent (1.2 percentage points) than in Sao Bai.
reside) and in Nam Thuong commune in Kim Boi district (where 14% of all interviewed better-off households live).

An in-depth interview with the Vice Chairman of Nam Thuong Commune People’s Committee revealed that ‘Poor families are not equally aware of the importance of sanitation,’ as if BCC communication reached poor and better-off households differently.

Is this the case? Let us consider Chieng Chau. When asked if they received any information on sanitation in 2015, 93% of all better-off households answers ‘Yes’; though, only 4% of all poor households responded in an affirmative way. Let us then move to Nam Thuong: 75% of better-off households said ‘Yes’, while a meagre 2% of the poor households said so.

In Chieng Chau and Nam Thuong we find both the smallest percentages of poor households (as compared with the prevalence of poor households in other intervention communes), and the smallest percentages of poor households that confirmed receipt of sanitation information in 2015. In all other intervention communes, apart from Chieng Chau and Nam Thuong, the percentages of poor households that stated that they received such information was at least equal to (and generally greater than) 8% (with peaks of 25% in Binh Son and 45% in Tan Mai).

Thus, BCC communication activities seem to have benefitted poor and better-off households differently in Chieng Chau and Nam Thuong. Better-off households greatly recall the received sanitation information. This information, in turn, may have contributed to the increase in sanitation coverage, concentrated among the better-off, in Chieng Chau and in Nam Thuong between 2014 and 2015.

What this also means is that in communes where less than 10% of households are poor, those poor households should be ‘specially’ targeted by BCC activities, and by ‘specially’ we mean with ‘ad-hoc’ sanitation information interventions. Otherwise, the risk is that those poor households may be eventually left behind, and hygienic sanitation will not be able to achieve 100% coverage.
3.5. Feedback on approaches and tools by leaders, sanitation focal points, motivators and beneficiaries

In-depth interviews and focus group discussions with key respondents allowed gathering their feedback on the sanitation approach, the training of trainers and the manuals provided to guide motivators during the implementation of BCC activities.

3.5.1. Approach

Key respondents think that the sanitation approach is efficient and the tools were developed following an evidenced-based process. ‘Current sanitation activities have many advantages because they were researched, tested and then put into practice’ (Hoa Binh, FGD with Provincial CPM).

‘Activities were conducted step-by-step and they complement one another’ (IDI with Provincial CPM Director, Hoa Binh Province). ‘Promotion on sanitation under the current approach is more effective: diversified activities were well-planned and they support each other. For example: village mapping has to be carried out before village meeting, and it helps village meeting be more effective’ (FGD with Mai Chau district CPM).

‘The activities are conducted with the participation of people: for example, during village meeting people do not only sit and hear sanitation messages, they can discuss and talk about their thoughts, and motivators help them understanding the importance of hygienic sanitation. Villagers are very excited to participate in the activities’ (Hoa Binh, FGD with Provincial CPM). ‘People have an active role in sanitation meetings: they provide their ideas and comments’ (IDI with Provincial CPM Director, Hoa Binh Province).

‘The intervention offers specific and detail instructions for the implementation of the activities’ (Hoa Binh, FGD with Provincial CPM). ‘The guidelines were very useful for the health workers in all levels’ (FGD with Kim Boi district CPM).

Leaders participated in sanitation festivals and were engaged in hygienic sanitation promotion. ‘The advocacy activities by P.CPM (and supported by the WB WSP, such as inviting the provincial leaders to the provincial workshop for sanitation, participating to study tours etc.) have produced a good result: the Provincial People Council accepted to set the sanitation target in the provincial development plan [hence, the District People committees (D.PC) and then the Commune People’s Committee (C.PC) will have to set the sanitation target in their annual development plan and activities for sanitation].

The coordination between P.CPM and the provincial Viet Nam Bank for Social Policy (VBSP) is also better than before. At the beginning of the year, they shared their annual plans, VBSP then allocate budget for sanitation to the district where the P.CPM will focus its sanitation promotion. Finally, the coordination between P.CPM and WU is also better, and the WU also implementing its program (named “5 no and 3 cleans”), which include hygiene and sanitation promotion activities’ (IDI with Provincial CPM Director, Hoa Binh Province).

3.5.2. Training and Capacity Building

FGDs with trainers suggested that the training content was understandable and enough, very detailed guidance was provided on the implementation steps of the sanitation approach during the training, questions and answers sessions were very valuable, guidance also covered hygienic latrines’
maintenance and operation. They also made it clear that the outcome of BCC activities heavily depends on the village promoters/motivators’ communication skills. Thus, more time should be set to practice these skills with villagers during the ToT and refresher trainings should be offered. Personnel changes at commune level, and new commune staff should be regularly trained.

Feedback on the content and methodology

‘The training was organized by the D.CPM. Its content was understandable, and the training’s time was suitable. The training content focused on the harmful effect of unhygienic latrine and the types of hygienic latrine’ (Motivators in Thuong Bi, Kim Boi).

‘The training was very helpful: we learnt the methods and acquired skills on how to conduct communication activities on sanitation. The content was enough and comprehensive. We were provided with very detailed guidance on each steps of the implementation (for example on how to carry out village meetings and households visits). The training was also good because they allocated time for practicing’ (Motivators in Bao La commune, Mai Chau).

‘The training was good also because there were intensive Q&A sessions, and we could practice on how to implement HH visits. In that occasion, officials from district/province accompanied the health workers, and they then provided comments to them on how to improve their performance’ (Motivators, Tan Mai Village, Mai Chau).

Feedback on the trainers

‘Good communication skills of motivators are essential for sanitation knowledge transfer to villagers. All village promoters (village head, village health workers and village WU) should have good communication skills, and it is very important to set enough time to practice communication skills with villagers during the training’ (FGD with Mai Chau district CPM). To this end, refresher training should be provided also because personnel may change at commune and village level.

Training curriculum

‘The training was sufficient. However, it would be better if we could practice communication skills in the field, not in the classroom as it happened. The content of the training should be simpler: for instance, during the training we practiced many steps for a HH visit, and in reality a HH visit is much simpler and shorter because HHs here are too busy. In addition, we already known each other, and there is no need to introduce ourselves’ (Sales agents in Bao La commune, Mai Chau).

3.5.3. MANUALS AND PROMOTION MATERIAL

Trainers valued the training manual and found it useful. 'We [i.e. health workers] all have seen and red the guide book [...] We often read the manual before the village meetings. We find it very useful, and it is enough for providing information to HHs’ (motivators in Bao La commune, Mai Chau).

Both users and beneficiaries (motivators/promoters) think that posters, leaflets, catalogues and promotion materials are easy to follow and to apply. Only sales agents in Bao La commune (Mai Chau) noted that ‘When it comes to the promotion material, the messages presented in this material are too wordy to catch HHs’ attention [they talked about the message: ‘Are you proud of the
sanitation in your village?,' which may results a bit wordy in Vietnamese or the local language]. *The message should be shorter and more relevant to sanitation*.

The following figures present feedback on the BCC activities (i.e. village meetings, HHs’ visits, sanitation festivals/clean games and use of loudspeakers) from beneficiaries and users. They gathered the feedback collected from these key respondents during FGDs in December 2015.

*Figure 6 Feedback on BCC activities – Beneficiaries*

<table>
<thead>
<tr>
<th>Activities</th>
<th>What have worked well</th>
<th>What need to improve</th>
</tr>
</thead>
</table>
| *Village meetings, village map and posters*  | ➢ 69.8% of all HHs (74.6% in Kim Boi and 63.7% in Mai Chau) stated that they *liked* sanitation *village meetings*  
➤ Village maps make HHs feel ashamed and want to change their sanitation condition  
➤ Posters are easy to recall by HHs (visual representation); they remain at the culture house and remind HHs of the importance of hygienic sanitation  
➤ Adopters are very confident to share the information they acquired on sanitation through village meetings, and they can usually recall the messages on the posters, the criteria for hygienic sanitation, hygienic latrine types and costs  
➤ Adopters of hygienic sanitation in Binh Son village (Kim Boi) also liked *‘consultation sessions’* at the village house of the commune, where they could ask as many questions on sanitation as they needed to, and get an answer on spot. These were *‘specialized focus discussions’* on sanitation (not village meetings) | ➢ Though many non-adopters participated in village meetings, some did not pay appropriate attention and do not remember the information provided during the meeting  
➤ HHs that built a toilet should share their experience and the sanitation knowledge they acquired with other HHs during village meetings  
➤ It is important to ensure that HHs’ members that attend the meeting (ex old people and children) share the acquired information with other HH members after the meeting |
| *HH Visits*                                   | ➢ 6.8% of all HHs (6.4% in Kim Boi and 7.3% in Mai Chau) *liked discussing sanitation with motivators*                                                                                                                                                                                                                                               | ➢ Not all non-adopters received HH visits                                                                                                                                                                                                                       |
| *Sanitation festivals/clean games* (usually held in September 2015) | ➢ 23.4% of all HHs (19% in Kim Boi and 29.1% in Mai Chau) stated that they *liked sanitation festivals*  
➤ Adopters are very confident to share the information they acquired on sanitation through sanitation games  
➤ Very few non-adopters in the two districts attended sanitation festivals and if so by accident. Even when they knew about the event, they were too busy working and could not join  
➤ Timing and location meant that many HHs (especially the poor and those living in remote areas) could not participate. The timing of the festivals is critical: to allow as many HHs as possible to attend festivals should not be organized at night, the day before the market day or when HHs are working. Some HHs |
proposed that the festivals should take place right after the marker time. To avoid HHs’ inability to participate in clean games because of distance, clean games could be organized at the village instead of commune level

- Adopters of hygienic sanitation should be rewarded and named at the festivals

- Loudspeakers provide an engaging and alternative way to disseminate sanitation information

- Non-adopters cannot usually recall sanitation information via loudspeakers

- HHs that live far from the center of the village and/or the culture house may not hear broadcasted messages, and it is not always possible to organize mobile loudspeakers. Similarly, HHs’ members usually leave early morning for work and they cannot hear loudspeakers’ messages

- Skits should be broadcasted with songs and music, otherwise they soon become boring to listen to

- Short broadcasted messages are not able to capture HHs’ attention and understanding on the importance of sanitation

**Figure 7 Feedback on BCC activities – Motivators**

<table>
<thead>
<tr>
<th>Activities</th>
<th>What have worked well</th>
<th>What need to improve</th>
</tr>
</thead>
</table>
| Village meetings, village map | ➢ Village meetings on sanitation create a village ‘movement for sanitation,’ and make HHs feel responsibility for their community’s commitment to hygienic sanitation
➢ The village map is a very successful tool because it makes non-adopted feel ashamed (their HH is colored in yellow on the map), and it induces behavioral change
➢ Pictures and posters helped to get HHs’ attention during village meetings: people tend to remember what they hear and see
➢ Posters’ messages were easy to explain and easily understood, and they can be adjusted to the local context | ➢ Attention of HHs in the meeting varies: the motivators should be able to equally engage all HHs. WU representatives could support HWs with their communication skills, and HWs could focus on explaining technical options for sanitation
➢ To keep participation high till the end of the meeting, the name list should be checked at the end of the meeting, non attendants should be fined and information on VBSP finance options should be revealed at the end of the meeting only
➢ In villages with high sanitation coverage or located in challenging geographical areas, village meetings may not be efficient. Instead, WU should be assigned to work closely with non-adopters |
<table>
<thead>
<tr>
<th>HH Visits</th>
<th>In the future, village meetings should be integrated with other meetings. Q&amp;As sessions on sanitation should be organized. The sanitation topic should be reminded in all regular village meetings, and sanitation should be integrated with discussions on how to build a culture village and a culture commune.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>HH Visits</strong></td>
<td>HWs should be provided with more details on latrine construction and how to install the pipe system in order to be able to better answer HHs’ technical and detailed questions.</td>
</tr>
<tr>
<td><strong>HH Visits</strong></td>
<td>HH visits are potentially very effective; though, time constraints faced by the health workers meant that many of them were unable to visit all HHs. Motivators are usually very busy: they need to have an incentive (ex small allowance also to cover transport costs); this would encourage diligence in their work. To create incentive, budget for organizing less successful activities could be re-located to increase allowance for village promoters.</td>
</tr>
<tr>
<td><strong>HH Visits</strong></td>
<td>Re-fresher trainings could further sharpen HWs’ communication skills.</td>
</tr>
<tr>
<td><strong>Sanitation festivals/clean games</strong></td>
<td>The participation of the village head (VH) is important because of his authority, and it can make HH visits very effective.</td>
</tr>
<tr>
<td><strong>Sanitation festivals/clean games</strong></td>
<td>The organization of sanitation festivals took a lot of time and funds arrived very late. There is a need for financial support before implementation.</td>
</tr>
<tr>
<td><strong>Sanitation festivals/clean games</strong></td>
<td>Signing commitment for building latrines among village heads should take place during the festivals.</td>
</tr>
<tr>
<td><strong>Sanitation festivals/clean games</strong></td>
<td>To make the activities more interesting, the culture agency may produce a mobile film on sanitation that would be shown at the festivals.</td>
</tr>
<tr>
<td><strong>Sanitation festivals/clean games</strong></td>
<td>Clean games may be used as “Kick-off event” for the sanitation program, and before implementing all other activities (assuming time and budget for their organization are available).</td>
</tr>
<tr>
<td><strong>Loudspeakers</strong></td>
<td>Clean games allowed mobilizing participation of authorities and mass organizations. This is good for advocacy.</td>
</tr>
<tr>
<td><strong>Loudspeakers</strong></td>
<td>L oudspeakers have the potential to be a good supporting tool to disseminate sanitation information: they are easy to apply and can keep reminding HHs of the importance of hygienic sanitation.</td>
</tr>
<tr>
<td><strong>Loudspeakers</strong></td>
<td>Loudspeakers are usually broken; if they function, the CD should be compatible with the IT system available at the village.</td>
</tr>
<tr>
<td><strong>Loudspeakers</strong></td>
<td>There is usually no clear responsibility of whom shall broadcast the sanitation messages via loudspeaker.</td>
</tr>
</tbody>
</table>
3.6. Replicability and sustainability

Qualitative data collection (in-depth interviews and focus group discussions) with sanitation focal points and motivators allowed the formulation of a judgement on the replicability of intervention activities in other villages/communes/districts in Hoa Binh province and other provinces. Activities seem in fact replicable because there were guidelines for their implementation, and the guidelines and communication material were very detailed and easy to understand and implement.

The model seems to have worked well for middle- and low-land areas, and here replicability could be carried out under government budget and cost norms. Most of communes have added sanitation as a socio-economic goal of the commune and villages, and this goal has been approved by the Commune People Council.

When it comes to the sustainability of the sanitation approach, sanitation focal points, motivators and sales agents are keen on continuing the sanitation promotion activities even after the end of the project, because they believe this is their ‘responsibility’ (this exact word was used by the Vice Director of Mai Chau District CPM and by sales agents in Binh Son commune, Nam Thuong commune, and Thuong Bi commune in Kim Boi and in Chieng Chau and Dong Bang communes in Mai Chau). Even when they think that the commission that they receive is not enough compared with their time and efforts that they are putting into these activities, sales agents want to achieve the target of 100% hygienic sanitation coverage for all HHs in their villages.

**BCC activities that are sustainable and that could be replicated**

FGDs with motivators indicate that,

- **Village mapping** can be easily introduced and regularly updated
- **Posters** are easy to explain, their content is easy to remember and they can be used for a long time
- If budget is lacking, all nine communes could integrate sanitation into general *village meetings*. In communes other than the intervention communes, instead of conducting village meetings three times a sanitation meeting could take place once only
- If budget is missing, the sanitation topic could be integrated with the usual *HH visits* carried out by mass organizations and health workers, instead of organizing ad-hoc sanitation HH visits. Thus, for instance, a HH visit could be conducted on nutrition plus sanitation. This would also allow to regularly check if HHs built a hygienic toilet, inform HHs of toilet operation and maintenance and keep persuading non-adopters to adopt
- **Clean games** could be organized once every two years because of the involved time and budget
- **Loudspeakers** should be replaced and strengthened in order to reach every village and each HHs in all intervention communes.

The continuation of BCC activities will require ‘refresher’ trainings for motivators (focused on communication skills and technical options for sanitation), financial support to help motivators conduct HH visits (to cover the time spent and transport costs), which would also encourage diligence in their work; it will also require and strong Involvement of commune and village leaders.
Sustainability and replicability of the SANCON model

Sustainability of the SANCON sanitation approach depends on the existence of market demand for SANCON services. 4.1% of HHs in Kim Boi that do not have a hygienic toilet, but are planning to build one, intend to rely on the services of a SANCON mason. 27% of those same HHs in Kim Boi and 9.1% of similar HHs in Mau Chau will get the material for building the toilet from a SANCON.

In order to boost SANCONS’ market demand, SANCONS’ late payment policy should be integrated with other sanitation finance opportunities for HHs that are unable to rely on their own savings. In fact, this late payment policy could quickly create hygienic sanitation demand for the SANCON shop, but it can also make the SANCON facing the risk of losing their capital while waiting for repayment. SANCONS in Bao La, Sao Bay and Nam Thuong faced difficulties in collecting money back from customers, and they are not allowing late payment only to customers that they think they can trust (SANCON in Bao La and Nam Thuong) or they stopped offering late payment altogether (SANCON in Sao Bay). Another solution would be to make three-six month the maximum period for payment delays, accompanied by adequate upfront payments (greater than 50% of the total cost).

Among alternative sanitation finance options, VBSP loans have played a role in boosting demand for sanitary toilets; less so is the case for revolving fund groups. 18.8% of all HHs that built a hygienic toilet in 2015 managed to do so after a loan from the VBSP, and 44.1% of non-adopters that are planning to build a toilet are waiting for the VBSP loan. Budget allocation by the Provincial VBSP will help the district VBSP clarify how many HHs of those currently registered for a sanitation loan will be able to effectively receive the loan.

‘Revolving funds could be a good option for financing hygienic latrine construction also because they increase awareness and motivation on hygienic sanitation among the members, who gather during monthly meetings. Adopters of hygienic latrines share their benefits and encouraged non-adopters to adopt’ (Adopters in Vinh Tien commune, Kim Boi).

Successful use of revolving funds for sanitation finance greatly depends on when the fund was established, on how many members participate and the members’ financial ability to regularly contribute.

In Dong Bang commune, RFGs (integrated with VBSP loans) seem to have worked quite well.

‘We have a revolving fund/savings group for building latrines in Dong Bang village, and each member contributes 400,000 VND a month. In each of the past months, each member received the money of 4 ML VND from the savings group plus VBSP loan for building a good latrine’ (Motivators, Dong Bang commune, Mai Chau).

In Say Bay commune, nonetheless,

‘One RFG was established recently for sanitation with 15 members. Up to date, no latrine was built from this group because the group was newly established’ (Sales agents, Sao Bay commune, Kim Boi)

Similarly, in Bao La commune,

‘Among 12 HHs that built a hygienic latrine in 2014, 4 HHs used funds from the RFG [around 33%]. Among 45 HHs that built a hygienic latrine in 2015, 7 HHs used funds from the RFG [around 16%]. At the moment, RFGs do not seem to work well as before because some members cannot contribute money regularly’ (Sales agents, Bao La commune, Mai Chau).
The relevance of RFGs in Chieng Chau and Nam Thuong communes seems also limited.

‘There are some RFGs operating in Dong Bang and Chieng Chua communes. So far, 2 HHs used this fund to build their latrines in Dong Bang, and 3 HHs did so in Chieng Chau’ (Sales agents, Chieng Chau and Dong Bang communes, Mai Chau).

‘Not many HHs received money from RFGs: only 3-4 HHs got money from this source to build a hygienic latrine’ (Sales agents, Nam Thuong commune, Kim Boi).

It is also possible that revolving funds worked well to fund a certain latrine type, but they then struggled to fund new latrine types that households started to wish for.

‘In the commune, we have 4 revolving funds with 10-12 members in each group. Each member contributes 100,000 VND per month. Revolving funds started operating for sanitation some years ago: some HHs received 1.5 ML VND for the latrine, which was enough for a dry double vault latrine at that time. This year nonetheless, people prefer septic latrines that cost more, so 1.5 ML VND are no longer enough to fund sanitation. Therefore, the revolving funds were used for other purposes’ (Motivators, Binh Son commune, Kim Boi).

Hence, late payment, VBSP loans and RFGs are far from being mutually-exclusive categories. Moreover, it is mainly own savings (not channelled through RFGs) that mainly fund acquisition of hygienic sanitation, and own savings tend to suffice to cover the 2.5ML VND cost of a septic tank with concrete ring or a double-vault latrine with concrete ring.

**Core SANCON activities that should continue in case of limited budget**

In case of limited budget, core activities that should continue for the development of the supply sanitation market are

- Training of the SANCON masons and sales agents
- The involvement of the SANCON in village meetings: HHs should become more aware of the existence of the SANCON, of all the services that the SANCON offers, and of the quality and affordability of hygienic latrines with concrete ring. To this end, HHs could be invited to participate to a ‘demonstration event’ ('bait product') and/or to visit other villagers’ hygienic latrines built by the SANCON in order to see and understand their good quality and durability, and then spread the messages among their villagers.
4. Conclusions and Recommendations

4.1 Conclusions

Between February 2014 and December 2015, there has been a rapid increase in hygienic sanitation coverage in nine communes of Hoa Binh province where a new hygienic sanitation marketing approach has been implemented. The intervention activities were mainly conducted between June and December 2015. They involved face-to-face communication (through village meetings, HH visits and sanitation festivals), complemented by the use of loudspeakers to disseminate sanitation messages. They focused on local community participation and commitment of leaders. In parallel, they built and strengthened local supply chain of hygienic sanitation products, through the establishment of one-stop-shop sanitation convenient shops based on the close collaboration among shop owners, masons and sales agent.

The increase in hygienic sanitation benefitted all nine intervention communes: they all reached at least 33% hygienic sanitation coverage in December 2015 starting from as low as 9% coverage in February 2014, with the communes of Chiang Chau (Mai Chau), Nam Thuong and Vinh Tien (Kim Boi) recording more than 53%. Comparison between endline data and NTP3 and JMP data suggest that the achieved change in access was higher than expected without the intervention. Similarly, there is widespread consensus among sanitation focal points, motivators and beneficiaries that, without the BCC interventions, this increase would not have been so high, nor would it have been so rapid.

Hygienic sanitation information access and exposure was widespread: 72% of all HHs received information on sanitation in 2015. During BCC interventions, new emphasis was given to hygienic toilet knowledge, options and prices. Sanitation information reached both poor and better-off and every ethnic group according to their prevalence in the communes. Leaders participated in sanitation promotion activities and specific and detailed guidelines were provided during training of trainers for activities’ implementation. The BCC tools and approach have been evaluated ‘easy to use and to introduce to households’ by motivators, and the sanitation marketing approach has been considered efficient and well-planned and implemented by the leaders.

Together with BCC interventions, other factors played a role in facilitating hygienic sanitation coverage in the intervention communes. Both poor and better-off households had access to the same sanitation information and motivational messages, but the ability of the better-off to take action was higher due to their higher ability to pay. In Chiang Chau (Mai Chau) and Nam Thuong (Kim Boi) communes, where the percentages of poor households are the lowest among all intervention communes, poor households struggled to recall sanitation information that they received in 2015.

Another factor facilitating hygienic sanitation adoption has been the ability of users (motivators) to adapt BCC interventions to the local context (as for Tan Mai commune that presents challenging geographical features). This built sanitation market demand, which in turn benefitted the operation of SANCON businesses.

More than 43% of HHs are aware of the existence of SANCON. HHs in Kim Boi seem to rely more on SANCON for installation services: 51% of all the HHs that used SANCON services in this district bought a complete latrine from SANCON. HHs in Mai Chau prefer to buy material/concrete rings from SANCON (this is the case for 71% of all HHs that have been SANCON customers in Mai Chau).
This may be explained by the geographical settings of Mai Chau (mountain areas), which make transport of sanitation material more difficult and expensive.

The SANCON network is more developed in Kim Boi than in Mai Chau, not only for the different geographical settings but also because of the engagement of Kim Boi SANCON owners in BCC activities, their good collaboration with sales agents and motivators and their ability to grasp new business opportunities, and adapt the product they offer to the local needs.

As much as tailoring BCC activities to the local context made them successful, the SANCON approach need to be locally tailored. Hence, in remote/less densely populated areas, more information/marketing of SANCON is needed as compared with more accessible areas. Likewise, an ‘extension’ SANCON may be set up closer to the village. In remote areas, ‘fixing’ the supply chain is even more important than in better connected communes.

Independently from their locations, SANCONs are also facing similar challenges. Many HHs are still reluctant to fully trust the quality of the new hygienic sanitation technology (septic tank with concrete ring), especially in Mai Chau (where the concrete ring could get more easily broken because of transport). To this end, good collaboration between the SANCON, sales agents and motivators to promote this technology is essential. Furthermore, many HHs (especially in Kim Boi) think of hygienic toilet as sub-structure plus superstructure (including bathroom, water tank and roof), which makes the overall construction cost pile up.39 In order to reduce the cost, alternative affordable hygienic sanitation technologies that are even cheaper than the septic tank with concrete ring (the double-vault latrine with concrete ring for instance, for which we identified potential market demand) may be promoted. The late payment policy should also be revised, with late payments granted only with adequate upfront payment, and based on ex-ante assessment of each customer’s ability to repay.

2015 survey results indicate that there is potential market demand for hygienic sanitation, and for SANCON services in the near future. Meanwhile, village meetings and HHs’ visits can be sustained even with limited budget. It is also expected that village meetings and HHs visits can be replicated in similar settings characterized by limited budget and ability on the ground. Nonetheless, support will be required particularly for training and re-training motivators with good communication skills, and involvement of the local authorities will remain of fundamental importance.

4.2 Recommendations
For the intervention to be maintained and replicated, pre-conditions should be in place. We formulate them as a series of recommendations addressed to sanitation focal points and users (promoters/motivators).

- Specific hygienic sanitation targets should be included in each commune socio-economic development plan before the project starts (at the beginning of the year). These sanitation targets should be specific to each district, commune and village (implementation plans), and the role and responsibility of each agency, officials and mass organizations, leaders at district, commune and village levels should be clearly stated.

39 ‘A septic tank made with brick that includes both substructure and superstructure could cost as much as 13-14 ML VND’ (sales agents in Bao La commune, Mai Chau).
The criteria of having a hygienic toilet should become compulsory for the recognition of a culture family and culture village, and a system of reward and sanctions should be introduced. Similarly, commune and village officials whose villages and communes have high hygienic sanitation coverage should be rewarded (i.e. introduction of an incentive system)

Health staff should play the active role of consulting leaders: calling for more attention from leaders to attend activities and give priorities to sanitation and update leaders of sanitation coverage/implementation in a timely manner

Clear roles and responsibilities of the health system in market development facilitation should be identified, as well as the system’s capacity to implement the assigned tasks

Interventions should be implemented ‘universally’: to the whole community, children in schools, health workers at all levels, leading officials

It is necessary to build a system of monitoring and evaluation of the intervention results with clear and consistent tools and easy to apply

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### Recommendations for market development

**For BCC**

- Organize regular refresher training for motivators, particularly on communication and persuasion skills
- Integrate promotion activities into regular village meetings
- Regularly update sanitation maps to encourage non-adopters to adopt

**For SANCON**

- Strengthen PR/introduction of SANCON products and services: concrete rings for septic tank and double vaults
- Encourage SANCON to have post-order service: e.g. product guarantee (1-2 years), repairing and upgrading services as needed
- Improving connection between sale agents and SANCONs: regular meetings/updating. As planned, each commune should have 2 sale agents, one sale agent should be at commune level and one sale agent should be at village level. In addition, one sale agent should be from WU and other one should be from Health staff
- Extend market into other communes, improving connection between health system and SANCON.

The main recommendation that emerges from this post-intervention rapid assessment is the need to adjust the sanitation marketing intervention (BCC and SANCON activities alike) according to the local context: its geographical features and the income distribution of households living in that context (these two features may be interrelated). The local context tends to be associated with the initial level of hygienic sanitation coverage, which should also be taken into account.
Based on this endline evaluation, we suggest to adapt hygienic sanitation marketing to initial coverage levels that can be less than 35% coverage, between 35% and 65% and greater than 65%. Because within the same village different households may be at different stages of hygienic latrine adoption, our hygienic sanitation marketing ladder promotes BCC and SANCON interventions that are not only tailored to the local context, but are also specific to each household in that context.

In practice, this means that motivators should know households well, and that they should be equipped with the skills to meet different households’ needs (for information, encouragement, persuasion etc.). Meanwhile, it may be necessary to introduce partial financial support to the poor, in the form of partial subsidies. This may be a discriminant factor for the ability of the interventions to reach the last mile of hygienic sanitation coverage, and to make sure that no one is left behind the adoption of hygienic sanitation.
Figure 8 The hygienic sanitation marketing ladder

Hygienic sanitation coverage in the village

65% hygienic sanitation coverage

- BCC promotion (village meetings and village mapping) for advocacy and awareness
- OSS establishment: guarantee the good quality of the first hygienic latrine produced
- Introduce hygienic sanitation financing

35% hygienic sanitation coverage

- BCC promotion (village meetings and village mapping) for advocacy and awareness
- OSS establishment: guarantee the good quality of the first hygienic latrine produced
- Introduce hygienic sanitation financing

Always boost advocacy, involvement of political leaders and understanding of the local cultural set-up

- BCC promotion (particularly HH visits by village heads) to reach the poor: the last mile of hygienic sanitation coverage
- Shape the sanitation financial help to the poor’s needs and to their ability to pay
- Introduce regulations and a reward-sanctioning system to hygienic sanitation adoption

Hygienic sanitation coverage

Always boost advocacy, involvement of political leaders and understanding of the local cultural set-up
Appendix

Household Survey Questionnaire

Good morning/afternoon, my name is ___. I am a member of the sanitation research team conducting
the survey in Kim Boi and Mai Chau districts of Hoa Binh province. Your household has been randomly
chosen to represent other local households to provide the information on sanitation at locality. . The
information you provide will be kept confidential and only used for the purpose of the study. It will
probably take you about 60 minutes to complete the questionnaire. Do you agree to participate in the
survey? (Note: the surveyor only start the interview when the respondent consents to being interviewed).

Name of householder: ___________________________ Households code: ..............................

Interview time: From: __ h/ m to: __ h/ m

Interview date __/ __/2015

Code of 2 pictures of toilet:
Pic 1: _____________________________ Pic 2: _____________________________

Position of HH: N: .............................. E: ..............................


Surveyor’s name: ____________________________ Surveyor’s signature: ____________________________

Field supervisor’s name: ____________________________ Field supervisor’s signature: ____________________________

(This part is for the interviewer and field supervisor only- the questionnaire is only validated when it is completed
and signed by both field supervisor and surveyor)

(Note: Surveyor only read out responses when there is an instruction below the question)

SECTION A: RESPONDENT INFORMATION

Q1. Location of survey household? (write the name of location in the appropriate box)
   1. District: ___________________________ Code: ..............................
   2. Commune: ___________________________ Code: ..............................
   3. Village: ___________________________

Q2. Name of the respondent: __________________________________________________________

Q3. Telephone number: 1. Yes, specify: __________________________________________________
   2. No

Q4. What is the relationship between you and the head of your household? (Single answer)
   1. Household head
   2. Spouse of the household head
   3. Children of the household head more than 18
   4. Parents of the household head
   5. Others, specify: __________________________________________________________

Q5. Respondents’ age: __ __ in years (solar year)

Q6. What is the respondent’s sex? 1. Male 2. Female

Q7. What is your ethnicity? (Single answer)
   1. Kinh
   2. Muong
   3. Thai
   4. Dao
   5. Tay
   6. Other (specify): ___________________________

Q8. What is the highest level of education you have achieved? (Single answer)
   1. Illiterate/never attended school and unable to read and write
   2. Never attended school, but know how to read, write
   3. Primary (Grade 1-5)
   4. Secondary (Grade 6-9)
   5. High school (Grade 10-12)
   6. Above high school (BA/BS, Master)

Q9. What is your main occupation? (Single answer)
   1. Farmer
   2. Trade/business
2. Wage/salary employee  
3. Casual/daily laborer  
4. Self-employed service provider (hair dressing, motorbike repair, tailor’s....)  
5. No members 5-14 years old Person (s)  
6. Civil servant/Official/Staff  
7. Housewife  
8. Unemployed  
8. Other, specify:…………………………………………

Q10. How many persons are currently living in your house including yourself? (Encircle and write the number of people)

Total number (including yourself): ☐ ☐ Person (s)

Read groups of age and write number of persons
1. No. members <5 years old ☐ ☐ Person (s)
2. No. members 5-14 years old ☐ ☐ Person (s)
3. No. members 15-49 years old ☐ ☐ Person (s)
4. No. members 50-60 years old ☐ ☐ Person (s)
5. No. members > 60 years old ☐ ☐ Person (s)

Q11. Household economic in 2015 according to commune people’s committee? (Single answer)
1. Poor  
2. Near-poor  
3. Non-poor

SECTION B: HOUSEHOLD TOILET ADOPTION

Q12. Does your household own a toilet facility?  
1. Yes → Go to Part B.I  
2. No → Go to Part B.II

PART B.I: ONLY FOR HOUSEHOLDS HAVING A TOILET FACILITY

Q13. What kind of toilet facility does your household use? (Single answer, Surveyors read out responses)
1. Bucket, bridge or hanging latrine  
2. Unimproved pit latrine  
3. Single vault latrine  
4. Ventilated Improved Pit (VIP) latrine  
5. Double-vault compost latrine  
6. Soakage pits  
7. Septic tank  
8. Latrine connected with biogas system  
9. Other, specify:…………………………………………  
10. Do not know

Note: Surveyors use the observation checklists to collect more detailed information the household toilet

Q14. Do you share this facility with others who are not members of your household?
1. Yes  
2. No → Go to Q16

Q15. If YES, how many households/families (including yours) share this toilet facility?
☐ ☐ household (s)

Q16. When did you construct toilet the last time?
1. New build, month ☐ ☐ year ☐ ☐ ☐ ☐  
2. Repair, month ☐ ☐ year ☐ ☐ ☐ ☐

Suggest investigator to ask again exactly about month and year of constructing/repairing toilet and circle one following suitable number:
1. Before 2/2014  
2. From 3/2014 to 12/2014  
3. From 7/2015 to present

Q17. Why did your family construct toilet in that time? (Surveyors don’t read out, multiple answers)
1. Have no toilet  
2. Old toilet is not hygienic  
3. Old toilet was broken  
4. Being borrowed from Bank for Social Policies/Credit organization  
5. Services of purchase, transportation and contracting toilet are convenient  
6. Being communicated, advised and introduced  
7. Till that time could not afford to construct  
8. Others (specify):…………………………………………  
9. Don’t know

Q18. Why did you choose to construct that type of toilet? (Surveyors don’t read out, multiple answers)
1. It is sanitary toilet
2. It was suitable with financial capacity of the family
3. It was suitable with local terrain
4. Received communication, counselling and introduction
5. Others (specify):.........................................................
6. Don’t know

Q19. **Who made/built your household toilet?** *(Surveyors don’t read out, single answer)*

1. Household members alone
2. Relatives, friends, neighbors with some knowledge of masonry (not a formal constructor)
3. Household members with help friends, relatives, neighbors
4. Local constructors (masons)
5. Masons of convenience shops (SANCON)
6. Don’t know
7. Other, specify:...........................................................

Q20. **Where did you get the materials for constructing your toilet?** *(Surveyors don’t read out, multiple answers)*

1. Made use of materials available in my house (such as timber, bamboo, thatch...)
2. Fetched materials by ourselves
3. Bought materials (cement, stone, sand, gravel, marbles pipe, toilet, ventilation pipes, wood, bamboo...)
4. Other, specify ..................

**Note:** If Q20 is not “3”, go to Q27

Q21. **Where did you buy the materials for constructing your toilet?** *(Surveyors don’t read out, multiple answers)*

1. Sanitation convenience shop (or mason of convenience shop), specify name of the shop and location:..............................................
   1.1. Lanh Du shop (Sao Bay)  
   1.2. Ke Chung shop (Nam Thuong)  
   1.3. Hang Be shop (Thuong Bi)  
   1.4. Thanh Lich-La shop (Vinh Dong)  
   1.5. San Thu shop (Vinh Tien)  
   1.6. Quoc Lap shop (Bao La)  
   1.7. Tuan Anh shop (Dong Bang, Chieng Chau)  
   1.8. Nguyen Thi Thuong shop (Tan Mai)  
   1.9. Ban Van Hong shop (Tan Mai)  
   1.10. Other shop, specify .................
2. Other sanitation shops
3. Other, specify:..............................
4. Local constructors (masons)
5. Don’t know

**Note:** If Q21 is not “1”, go to Q27

Q22. **Who introduced you about that shop?** *(Surveyors don’t read out, Multiple answers)*

1. Collaborators/educators
2. Health workers
3. Staffs of WU, FU
4. Motivators
5. Friends, relatives, neighbors
6. Village leaders
7. Know by myself
8. Other, specify:......................................................

Q23. **Besides of purchasing sanitation materials, which other services have you ever used at that shop?** *(Surveyors read out, Multiple answers)*

1. Transportation
2. Counseling and designing
3. Construction installation
4. Sell on credit
5. Product warranty
6. None
7. Other, specify:......................................................

Q24. **How about your satisfaction with services at that shop?** *(Single answer)*

1. Completely satisfied  ⇒ Go to Q26
2. Satisfied  ⇒ Go to Q26
3. It was OK  ⇒ Go to Q27
4. Not satisfied
5. Very dissatisfied
Q25. What are reasons that you were not satisfied with services at that shop? (Surveyors don’t read out, Multiple answers)

1. Insufficient types of materials
2. Materials not always available to buy
3. Quality of materials was poor
4. The cost of materials was too high
5. Transportation cost was too high
6. Construction cost was too high
7. Construction techniques were not good
8. Shops are too far away
9. Not for liabilities/deferred payment
10. Other, specify: ........................................

Q26. What are reasons that you were satisfied with services at that shop? (Surveyors don’t read out, Multiple answers)

1. Sufficient types of materials
2. Materials always available to buy
3. Quality of materials was good
4. The cost of materials was appropriate
5. Transportation cost was appropriate
6. Construction cost was appropriate
7. Construction techniques were good
8. Distance to reach the shop/time was appropriate
9. Were owed/deferred payment
10. Other, specify: ........................................

Q27. How much did you spend on constructing your toilet?

1. Total cost ................. dongs, of which
   Total amount of subsidy: ......................... dongs
   Total amount of money paid by the household: ................. dongs
2. It costs no money → Go to Q32
3. Don’t remember /don’t know → Go to Q32

<table>
<thead>
<tr>
<th>Cost items</th>
<th>Amount</th>
<th>Don’t know/do not remember</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Construction material, sanitation product costs</td>
<td>..................................................... dongs</td>
<td>99</td>
</tr>
<tr>
<td>b. Transportation cost</td>
<td>..................................................... dongs</td>
<td>99</td>
</tr>
<tr>
<td>c. Labor cost</td>
<td>...................... dongs</td>
<td>No. man days:........</td>
</tr>
</tbody>
</table>

Q28. How is the cost for latrine construction in compared with your estimates before construction? (Surveyors don’t read out, single answer)

1. Less than estimates
2. Equivalent to the estimates
3. More than estimates

Q29. Where did you get the money to build your toilet? (Surveyors don’t read out, Multiple answers)

1. Money granted from local program or project
2. Borrowing from Bank for Social Policies (VSPB)
3. Borrowing from NGO project credit scheme
4. Sale of assets
5. Borrowing from credit scheme of Cooperatives
6. Borrowing (informal moneylenders)
7. Saved money available
8. Borrowing from credit scheme of local Women’s Union
9. Borrowings from friends, relatives, neighbors
10. Borrowing from credit scheme of Farmers’ Union
11. Money given by family members/relatives, not to be returned
12. Retailers sell on credit
13. Don’t know
14. Other, specify: ...........................................

Q30. If borrow, how much did you borrow?

1. ............................................dongs
2. Don’t remember/don’t know

Q31. Have your family paid up the loan yet? Single answer
1. We have paid up the loan
2. We just paid a part of the loan amount
3. We have not been able to pay back the loan yet
4. The payment is not yet due
5. Other, specify: ........................................

Q32. We would like to know how satisfied or dissatisfied are you with your current toilet facility on each of the following attributes?

Surveyors read out the attributes and level of satisfactions—Single answer for each row.

<table>
<thead>
<tr>
<th>Attributes</th>
<th>Definitely not satisfied</th>
<th>Not satisfied</th>
<th>Satisfied</th>
<th>Completely satisfied</th>
<th>Do not know</th>
</tr>
</thead>
<tbody>
<tr>
<td>At the time of construction of latrines</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Cost of toilet</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>2. Time of needed to construct the toilet</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>3. Services (purchase materials, transportation, masons,...)</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>At the present</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Model of toilet</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>5. Quality of toilet</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>6. Toilet understructure (tank/pit)</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>7. Toilet middle structure (floor, toilet bowl, pan, etc)</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>8. Toilet superstructure (door, wall, roof...etc.)</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>9. Toilet use and maintenance</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>10. Other: ..................................................................................</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

Q33. Are you planning to newly-construct/upgrade your current toilet?

1. Yes, newly-construct          2. Yes, upgrade → Go to Q35          3. No → Go to Q48

Q34. Which model of toilet do you plan to construct? (Surveyors don’t read out, Single answer)

(Finish, go to Q36)

1. Bucket, bridge or hanging latrine
2. Unimproved pit latrine
3. Single vault latrine
4. Ventilated Improved Pit (VIP) latrine
5. Double-vault compost latrine
6. Soakage pits
7. Septic tank
8. Latrine connected with biogas system
9. Other, specify:.................................

Q35. If you are planning to renovate/upgrade your toilet, what aspects do you plan to renovate/upgrade? (Multiple answers) and how much would you pay for the renovations/maintenance work? (Note: If the renovation/maintenance work does not cost money, write the number 0-If Don't know, write X)

<table>
<thead>
<tr>
<th>Planned Renovations to be made</th>
<th>Planned cost (dongs)</th>
<th>Don’t know</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Plan to empty the existing pit</td>
<td>99</td>
<td></td>
</tr>
<tr>
<td>2. Plan to repair drainage and leaks in the underground part</td>
<td>99</td>
<td></td>
</tr>
<tr>
<td>3. Plan to repair the superstructure (door, walls or roof)</td>
<td>99</td>
<td></td>
</tr>
<tr>
<td>4. Plan to repair the sanitary ware/middle structure (pan, toilet bowl, etc.)</td>
<td>99</td>
<td></td>
</tr>
<tr>
<td>5. Plan to dig a new pit and build the same latrine model</td>
<td>99</td>
<td></td>
</tr>
<tr>
<td>6. Plan to build a new model of latrine (e.g. single pit to double vault)</td>
<td>99</td>
<td></td>
</tr>
<tr>
<td>7. Plan to install some additional improvements (handwashing facility, shower, etc.)</td>
<td>99</td>
<td></td>
</tr>
<tr>
<td>8. Adding / replacing ventilation pipe</td>
<td>99</td>
<td></td>
</tr>
<tr>
<td>9. Other, specify:.............................................................</td>
<td>99</td>
<td></td>
</tr>
<tr>
<td>10. Don’t know</td>
<td>99</td>
<td></td>
</tr>
</tbody>
</table>

Q36. When do you think the construction or upgrading work will be carried out? (Single answer)
1. Within three months  
2. Within from three to six months  
3. Within from six months to one year  
4. Over one year  
5. Could not say the exact time  
6. Other:___________________________________________

(Go to Q48)

PART B.II: FOR HOUSEHOLDS THAT HAVE NO TOILET FACILITY ONLY

Q37. What are the reasons why you do not have a toilet facility? (Surveyors don’t read out, Multiple answers)
   1. We do not own the house/land  
   2. No space in or near house  
   3. We can use others’ toilet or public toilet  
   4. Do not know how to build a toilet  
   5. We did not think about it; we are fine the way we are now  
   6. We do not have a nearby water source for a flush toilet  
   7. Not accustomed to use a latrine  
   8. The cost is too high and we cannot afford it  
   9. Don’t want to spend time on cleaning  
  10. Prefer open defecation to using a toilet because it does not smell bad and more comfortable  
  11. There is no mason in our village/commune  
  12. We don’t have available materials to build a toilet in our area  
  13. Cannot build a latrine because it is usually flooded in where we live  
  14. We are afraid it will bother our neighbor  
  15. Our neighbors do not want us to build a toilet near their household  
  16. We still wait for the financial support of the government/project  
  17. Other’s (specify):............................................................................................................

Q38. Where do you usually go for defecation? (Surveyors don’t read out, Multiple answers)
   1. Neighbors’ or relatives’ toilet ➔ Go to Q40  
   2. Public toilet within your village ➔ Go to Q40  
   3. At any open field/bush  
   4. Household garden  
   5. Paddy-field  
   6. Hills/mountains/forest  
   7. Cattle-sheds  
   8. Stream/spring  
   9. River/lake/pond  
  10. Others, specify:............................................................................................................

Q39. What are the reasons why you defecate in the open? (Surveyors don’t read out, Multiple answers)
   1. We do not have a toilet  
   2. There is no public toilet in my neighborhood  
   3. We are not allowed to use neighbors’ or relatives’ toilet  
   4. We are accustomed to open defecation  
   5. We dislike to defecate in the toilet because it is less comfortable and no smell  
   6. Other, specify:............................................................................................................

Q40. Are you planning to construct toilet?
   1. Yes  
   2. No ➔ Go to Q47  
   3. Don’t know ➔ Go to Q48

Q41. Which model of toilet do you plan to construct? (Surveyors don’t read out, Single answer)
   1. Bucket, bridge or hanging latrine  
   2. Unimproved pit latrine  
   3. Single vault latrine  
   4. Ventilated Improved Pit (VIP) latrine  
   5. Double-vault compost latrine  
   6. Soakage pits  
   7. Septic tank  
   8. Latrine connected with biogas system  
   9. Other, specify:............................................................................................................
   10. Do not know

Q42. Do you think will you newly construct toilet? (Single answer)
1. Within three months  
2. Within from three to six months  
3. Within from six months to one year  
4. Over one year  
5. Could not say the exact time
6. Other: ........................................................................

Q43. **Why is your family going to build toilet? (Surveyors don’t read out, multiple answers)**
1. Being borrowed from Bank for Social Policies/Credit organization  
2. Services of purchase, transportation and constructing toilet are convenient  
3. Being communicated, advised and introduced  
4. Till that time could not afford to construct toilet  
5. Others (specify): ................................................................

Q44. **Who will construct toilet? (Surveyors don’t read out, single answer)**
1. Household members alone (with no knowledge of masonry)  
2. Relatives, friends, neighbors with some knowledge of masonry (not a formal constructor)  
3. Household members with help friends, relatives, neighbors (with no knowledge of masonry)  
4. Local constructors (masons)  
5. Masons of convenience shops  
6. Don’t know  
7. Other, specify: ................................................................

Q45. **Where do you plan to get the materials for constructing your toilet? (Surveyors don’t read out, multiple answers)**
1. Use of materials available in my house  
2. Fetch materials by ourselves  
3. Buy at sanitation convenience shop (Surveyors asked for the name and circle the appropriate answer)
   1.1. Lanh Du shop (Sao Bay)  
   1.2. Ke Chung shop (Nam Thuong)  
   1.3. Hang Be shop (Thuong Bi)  
   1.4. Thanh Lich-La shop (Vinh Dong)  
   1.5. San Thu shop (Vinh Tien)  
   1.6. Quoc Lap shop (Bao La)  
   1.7. Tuan Anh shop (Dong Bang, Chieng Chau)  
   1.8. Nguyen Thi Thuong shop (Tan Mai)  
   1.9. Ban Van Hong shop (Tan Mai)  
   1.10. Other sanitation convenience shop, specify ....
4. At other sanitation shops  
5. Other, specify: ................................................................
6. Local constructors  
7. Don’t know

Q46. **Where will you get the money to build your toilet? (Surveyors don’t read out, Multiple answers)** (Finish, go to Q48)
1. Borrowing from Bank for Social Policies (VSPB)  
2. Borrowing from NGO project credit scheme  
3. Borrowing from credit scheme of Cooperatives  
4. Borrowing (informal moneylenders)  
5. Borrowing from credit scheme of local Women’s Union  
6. Borrowing from credit scheme of Farmers’ Union  
7. Debit/installment purchase of materials toilet shops  
8. Sale of assets  
9. Saved money available  
10. Borrowings from friends, relatives, neighbors  
11. Money given by family members/relatives, not to be returned  
12. Don’t know  
13. Other, specify: ................................................................

Q47. **If your family does not consider building a toilet, what are the main reasons that prevent your family to build a toilet? (Surveyors don’t read out, Multiple answers)**
SECTION C: KNOWLEDGE/INFORMATION ABOUT SANITATION

Q48. What types of toilet facility do you know? (Surveyors do not read out, Multiple answers)
1. Bucket, bridge or hanging latrine
2. Unimproved pit latrine
3. Single vault latrine
4. Ventilated Improved Pit (VIP) latrine
5. Double-vault compost latrine
6. Soakage pits
7. Septic tank
8. Latrine connected with biogas system
9. Other, specify: ………………………………………
10. Do not know

Q49. In your opinion, what type of toilet facility is considered as a hygienic toilet? (Surveyors do not read out, Multiple answers)
1. Bucket, bridge or hanging latrine
2. Unimproved pit latrine
3. Single vault latrine
4. Ventilated Improved Pit (VIP) latrine
5. Double-vault compost latrine
6. Soakage pits
7. Septic tank
8. Latrine connected with biogas system
9. Other, specify: ………………………………………
10. Do not know

Q50. In your opinion, what is a hygienic latrine? (Surveyors do not read out, Multiple answers)
1. No bad smell/stink
2. Feces are covered/not open
3. No contamination of environment (ground, water)
4. No flies, rodent
5. Other, specify: ………………………………………

Q51. In your opinion, what harms would open defecation cause? (Surveyors do not read out, Multiple answers)
1. Environmental pollution
2. Contamination of water sources
3. Ugly/worse landscape sight
4. Transmission of diseases
5. Family economic ISANCON/costs
6. Affect culture and society
7. Other, specify: ………………………………………

Q52. In your opinion, what diseases would untreated human feces cause? (Surveyors do not read out, Multiple answers)
1. Diarrhea
2. Cholera
3. Dysentery
4. Typhoid
5. Helminthiasis
6. Hepatitis A
7. Trachoma
8. Other, specify: ………………………………………
9. Don’t know

Q53. In your opinion, what diseases would using a hygienic toilet help to prevent? (Surveyors do not read out, Multiple answers)
1. Diarrhea
2. Cholera
3. Dysentery
4. Typhoid
5. Helminthiasis
6. Hepatitis A
7. Trachoma
8. Other, specify: ………………………………………
9. Don’t know

Q54. At your locality, is there any convenience shop? (Surveyors read out name of convenience shops at the surveyed district and circle the appropriate answer)
1. No
2. Yes
3. Other
1.1. Lanh Du shop (Sao Bay)  
1.2. Ke Chung shop (Nam Thuong)  
1.3. Hang Be shop (Thuong Bi)  
1.4. Thanh Lich-La shop (Vinh Dong)  
1.5. San Thu shop (Vinh Tien)  
1.6. Quoc Lap shop (Bao La)  
1.7. Tuan Anh shop (Dong Bang, Chieng Chau)  
1.8. Nguyen Thi Thuong shop (Tan Mai)  
1.9. Ban Van Hong shop (Tan Mai)  
1.10. Other sanitation convenience shop, specify .......

4. Don’t know → Go to Q60

Q55. **What services do you know the convenience shop provide?** (Surveyors do not read out, Multiple answers)
1. Sale of construction materials, sanitation products
2. Provide transportation services
3. Provide consulting, designing services
4. Provide construction and installation services
5. Provide services of deferred or installment payment
6. Provide warranty service
7. Other, specify: ..............................
8. Don’t know

Q56. **Where is the nearest convenience shop of construction materials, sanitation products located?** (Single answer)
1. At village: ......................km
2. In commune: ......................km
3. In other commune: ..................km
4. In district town: ......................km
5. Don’t know

Q57. **From whom do you know that convenience shop?** (Surveyors read out, Multiple answers)
1. Collaborators/educators
2. Health workers
3. Staffs of WU, FU
4. Motivators
5. Friends, relatives, neighbors
6. Village leaders
7. Know by myself
8. Other, specify: ..............................

Q58. **Have you ever visited or purchase construction materials or sanitation products at that shop?** (Single answer)
1. Visited but purchased at another shop
2. Purchased materials or products
3. Visited but have not purchased
4. Never visited  
5. Never visited  
6. Don’t remember  

Q59. **Have you ever introduced for other persons on the convenience shop?** (Single answer)
1. Yes, I have ever introduced  
2. No  
3. I will introduce

Q60. **Except for the convenience shop, is there any shop of construction materials, sanitation products at your locality?**
1. Yes  
2. No  
3. Don’t know  

Q61. **If yes, where is the nearest shop of construction materials, sanitation products located?**
1. At village: ......................km
2. In commune: ......................km
3. In other commune: ..................km
4. In district town: ......................km
5. Don’t know

Q62. **Have you ever visited or purchase construction materials or sanitation products at that shop?** (Single answer)
1. Visited but purchased at another shop
2. Purchased materials or products
3. Visited but have not purchased
4. Never visited  
5. Never visited  

Q63. **Have you ever introduced for other persons on the shop?** (Single answer)
1. Yes, I have ever introduced  
2. No  
3. I will introduce

Q64. **Who are the sanitation finance providers in your village/commune?** (Surveyors do not read out, Multiple answers)
1. Government led credit schemes (Women’s Union, Farmers’ Union...etc.)
2. Informal lenders
3. Retailers sell on credit
4. NGO revolving funds
5. Loan program from VN Bank for Social Policies
6. Saving and credit groups established by village WU
7. Other, specify: ...............................................................
8. None
9. Don't know

PART D. ACCESS TO INFORMATION FROM THE PROGRAM

Q65. In 2015, have you received any information about toilet/sanitation?
1. Yes 2. No  Go to Q74 3. Don’t remember  Go to Q74

Q66. What information did you receive? (Don’t read out responses-Multiple answers)
1. Hygienic toilet models
2. Costs of hygienic toilets
3. Prices of construction materials
4. Prices of sanitation products
5. Convenience shops
6. Shops/suppliers of construction materials
7. Shops/supplier of sanitation products
8. Criteria on hygienic construction, usage and maintenance
9. Benefits of sanitary latrines
10. Sanitation-related diseases
11. None
12. Other, specify: ..................................................................

Q67. From whom did you receive the information above? (Surveyors don’t read out, Multiple answers)
1. Relatives
2. Neighbors
3. Friends
4. Masons
5. Village leader
6. Health worker
7. Women’s Union staff
8. Farmers’ Union staff
9. Commune P.C staff
10. Purchasing collaborators
11. Motivators
12. Heads of convenience shops
13. Others:............................................................................

Q68. From what communication channels did you receive the information above? (Surveyors don’t read out, Multiple answers)
1. Television
2. Broadcast station
3. Commune/village loudspeaker
4. Leaflets/fliers
5. Posters/billboards
6. Meeting/workshop
7. Home visits
8. Communication competition
9. News sheet about sanitation
10. Other, specify:..................................................................

Q69. When was it the last time that you participated in sanitation communication activities? (Single answer)
1. Last month
2. From the last month to the last 3 months
3. From the last 3 months to the last 6 months
4. From the last 6 month to the last 12 months
5. Not participated in  Go to Q72

Q70. Which following sanitation communication activities did you participate in? (Surveyors read out, Multiple answers)
1. Participated in sanitation competition
2. Discussed with educators/collaborators at households
3. Attended village meetings
4. Don’t remember  Go to Q72

Q71. What is the activity that you liked the most?
1. Participated in sanitation competition
2. Discussed with educators/collaborators at households
3. Attended village meetings

Q72. In 2015, Did you remember that you saw any poster, pano, leaflet or other printing materials on sanitation? (Single answer)
1. Yes 2. No  Go to Q74 3. Don’t remember  Go to Q74

Q73. Which contents did those materials mention? (Surveyors read out, multiple answers)
1. Together for clean villages
2. Types of sanitary toilets
3. Importance of sanitary toilets
4. Criteria on sanitary toilets
5. Others, specify:.................................................................
6. Don’t remember
Q74. From whom do you meet when I want to know more information about the toilet/sanitation?  
(*Surveyors don’t read out, multiple answers*)

1. Relatives
2. Neighbors
3. Friends
4. Masons
5. Village leader
6. Health worker
7. Women’s Union staff
8. Farmers’ Union staff
9. Commune P.C staff
10. Purchasing collaborators
11. Motivators
12. Heads of convenience shops
13. Other, specify: ..........................................................................................
14. Don’t know

PART E: BARRIERS, DRIVERS FOR TOILET CONSTRUCTION & ATTITUDES TOWARD OPEN DEFECATION

Q75. In your opinion, from the following list, which do you think are the factors that would motivate local people to build a hygienic toilet? (*Surveyors read out each response and encircle the answer that applies*)

<table>
<thead>
<tr>
<th>Factors</th>
<th>1. Correct</th>
<th>2. Incorrect</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Provided preferential loan to build a hygienic toilet or they can access sanitation finance</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>2. Their village has a movement to build a toilet</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>3. There are technical information and sanitation services available</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>4. They are aware of the benefits of having a toilet (eg health, safety, smell or convenience)</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>5. There is a subsidy from the government</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>6. There are shops/suppliers of construction materials, sanitation products available in their community</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>7. There are cheap materials and sanitation products of cheap prices in their community</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>8. Toilets are cheaper to build</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>9. There are mason who can build a hygienic toilet in their community</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>10. Their economic condition is improved</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>11. Other: ........................................................................................................</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

Q76. In your opinion, from the following list, which do you think are the drivers that would motivate local people to build a hygienic toilet? (*Surveyors read out each response and encircle the answer that applies*)

<table>
<thead>
<tr>
<th>Drivers</th>
<th>1. Correct</th>
<th>2. Incorrect</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Government officials/Party members build a hygienic toilet as an example</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>2. There is a mechanism of award and sanction</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>3. Prove to be a well-to-do family</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>4. Feel embarrassed when having a visit if they do not have a hygienic toilet</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>5. For the sake of the family health, children’s health</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>6. Convenience and comfort</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>7. Privacy</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>8. Hygienic, clean</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>9. Demonstrate a modern life</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>10. Do not want to be looked down by others</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>11. Other: ........................................................................................................</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>
### Typical strengths of the SANCON business model in the 9 intervention communes of Hoa Binh:

#### Equipment, materials and tools
- Availability of enough tools for fabrication and installation of concrete rings
- Availability of a truck for transportation of concrete rings
- Ability to offer an all-inclusive package of product plus transportation and installation services that is more likely to ensure the good quality of the latrines, and gain customers’ trust in the concrete ring sanitation technology
- Experience in selling materials for both the sub-structure and superstructure of hygienic latrines – Only two SANCONs (one in Bao La, Mai Chau, and one in Thuong Bi, Kim Boi) currently provide this service

#### Skills of SANCON owners and masons
- SANCON owner has business skills and is able to quickly adapt to changing market conditions
- Availability of a masons’ team with good masonry experience and technical skills

#### Networking with sales agents, motivators and local authorities
- Good and established collaboration with sales agents and mass organizations. SANCON owners that have good collaboration with their sales agents will face less risk of collecting money back from their customers
- Possibility to access the network of the health system not only in the project commune, but also in other communes
- Experience of working with the local government, and good connection with promotion activities sponsored by local authorities

#### Financial conditions
- Availability of enough capital to keep the business running and to be able to allow late payment at affordable terms and without incurring in financial restraints

#### Location
- The OSS workshop is located nearby the main road, and it is easy to identify

The following factors would help SANCON set up independently from the intervention to thrive:
- The SANCON should receive timely support in training on technical skills for latrine construction
- They should have an existing business that is close to latrine production and sanitation services (ex concrete-ring producers)
- They should be well-connected with the sale agents network and/or they should receive support in setting up and develop a sale agent’s network

### Characteristics of sale agents, who play crucial role for the OSS business model:
- Sales agents should be hardworking, enthusiastic and keen on finding new customers
- Ideally, they should be multi-tasking and cover different responsibilities in the community: they could then combine their job with sanitation promotion activities. For instance,
  - Health worker + women’ union representative + sale agent
  - Head of village + mason + sale agent
- When SANCON sales agents are also health workers and/or masons, it is easier to persuade HHs into building hygienic latrines: these motivators can provide HHs with full information on the benefits of hygienic sanitation (as village health workers) on latrine types and building instructions (as masons) and on where to buy hygienic latrines’ material (as OSS sales agents)
- Sale agents should be at least one for each village as they have deep understanding of each HH living in the village
### Typical challenges faced by the SANCON business:

- The demand for septic tanks with concrete ring is still limited as compared with the OSS’ production capacity. This may jeopardize chances for the SANCON business expansion.
- Difficulty in collecting money back from customers.
- Increasing competition in the sanitation market.
- Masons seem to be ‘passive actors’ in the supply chain: they are usually OSS’ workers and they are not required to find customers; they also do not share the benefits of the SANCON business. Young and experienced masons tend to necessarily move to big cities to work; it is old masons and masons working seasonally that remain in the village and are engaged by the SANCON network.
- The design of latrines proposed by some masons may lead to faults and should be double-checked. Also, in some cases, concrete rings got broken during transport (particularly in mountain areas) because of bad roads.
- Masons may be more interested in building (and promoting) septic tanks with brick because of longer labour time involved and the greater profit that they could get from this technology.

### Possible solutions:

- Motivators should emphasise septic tanks built with concrete ring.
- Village leaders and SANCON owners should arrange village meetings where the SANCONs could participate and promote the concrete ring technology. SANCON owners should be active actors in BCC interventions.
- SANCONs should rely on the sales’ agent network to collect money back from customers. This requires close interaction and continued encouragement between SANCON owners and sale agents: sale agents are more active when they receive strong encouragement from the SANCON. When feasible, SANCONs should increase the allowance provided to sales agents (currently around 100,000 VND per person per month), in order to boost their financial incentives to conduct HH visits.
- Sales agents should be trained and re-trained regularly to refresh and update their communication and persuasion skills. During the training, specific guidelines should be offered on how to conduct communication activities, and these skills should be practiced in the field.
- Masons should be engaged more actively and closely in the OSS business.
- Customers should be provided with quality assurance to build their trust on septic tanks with concrete ring.
- Different options of the ring septic tank may be offered in the market. One of this could be a ‘Cadillac’/an aspirational option (with multiple rings or some sort of ‘added’ features) that would make the ring septic tank stand out, and not be seen as the toilet of the poor.
- Concrete ring should dry enough before transportation. Also, the project may provide the OSS owners with a machine for lifting concrete ring safely and easily.
- The range of sanitation products offered by the SANCON should be diversified to meet customers’ demand and increase the business’ competitiveness. For instance, concrete ring for double vault may be introduced given that there is currently potential market demand for double-vault latrines.
- SANCONs should provide sanitation materials other than concrete rings. This would allow the business to meet more demand of HHs wanting to build septic tanks with brick and a toilet superstructure.
### TABLE C. Advantages and disadvantages of septic tanks made with brick and concrete ring as perceived by HHs

<table>
<thead>
<tr>
<th>Advantages</th>
<th>Septic tank made with brick</th>
<th>Septic tank with concrete ring</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Advantages</strong></td>
<td>• Able to build the tank as big as they want(^\text{10})</td>
<td>• Relatively cheaper than the septic tank made with brick</td>
</tr>
<tr>
<td></td>
<td>• Rest assured about quality of the latrine because they saw this kind of latrine from their neighbors</td>
<td>• Quickly installed (only 3 hours)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Need less labor for assisting/supervising masons when latrine is installed</td>
</tr>
<tr>
<td><strong>Disadvantages</strong></td>
<td>• More expensive than septic tank made with concrete ring</td>
<td>• Tank is small, latrine may be filled quickly</td>
</tr>
<tr>
<td></td>
<td>• Longer time to build the latrine (around 10 – 15 days)</td>
<td>• Many HHs think that this type of latrine is for poor HHs, and that using this latrine is a sign of poverty. They want to be seen as wealthy HHs, who built septic tank made with brick</td>
</tr>
<tr>
<td></td>
<td>• Labor for assisting/supervising masons is required for long time</td>
<td>• Unsure about latrine quality: it was seen that the tank had leakages</td>
</tr>
</tbody>
</table>

\(^\text{10}\) The size of the septic tank may be the ultimate factor that explains HHs’ preference for the septic tank made with brick. In fact, ‘HHs can reduce the cost of the brick septic tank by building the tank themselves, and the cost of the material for the substructure (excluding masonry fees) is around 2 ML VND, which is similar to the cost of the septic tank with concrete ring provided by the OSS’ (mason not working with the OSS in Vinh Tien commune, Kim Boi).
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