CHAPTER 3

Building environments to support sustainability of improved sanitation behaviours at scale: levers of change in East Asia

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Abstract

Research evidence from many countries has established direct links between poor sanitation practices in communities and measurable stunting in children. The elimination of both open defecation (OD) and the usage of unhygienic latrines is now being recognized as necessary for a country's human resources to develop to their full potential. The Sustainable Development Goal challenge for the rural sanitation sector is therefore defined in terms of sanitation behaviour change by whole communities, at countrywide scale, within time spans as short as 5 to 15 years. This chapter presents learning about building supportive policy environments and institutional practices for catalysing sustainable collective sanitation behaviour change at scale. This includes scaling up the use of improved sanitation by all, along with improving the availability of affordable sanitation for all, to help rural communities achieve 'open defecation free' (ODF)[1] status that is sustained over the long-term. This chapter traces how a set of sector change-inducing levers were used to build enabling environments for rural sanitation in Lao PDR, Vietnam, and Indonesia over the period 2007–2015[2].

Keywords: Sustainability, Scaling up, Behaviour change, Enabling environment, East Asia, Change levers

Scalability and sustainability of sanitation behaviour change

Sanitation behaviour change at scale, by whole communities, within years rather than decades, and the sustainability of that change, have all become global imperatives.

Irrefutable research evidence is emerging from different countries that poor sanitation, particularly open defecation (OD) by community members, is causally linked to measurable stunting in children (Spears, 2013; WSP, 2014a; Quattri et al., 2014). The physical and cognitive development losses suffered

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by these children are often irreversible. No country can afford such a drain on its human resources. It is increasingly being recognized by policy-makers that the elimination of OD and other unhygienic practices in communities is necessary, to protect the physical and intellectual growth potential of children growing up therein.

There is a need, then, for the development of institutional environments and practices that can support collective behaviour change in relation to sanitation, to enable community-based processes like Community-Led Total Sanitation (CLTS) to be applied on a country-wide scale, along with fostering the growth of local markets offering improved sanitation services affordable by all.

CLTS began its meteoric impact on the rural sanitation sector, spreading steadily across continents at the start of the current millennium. It continues to evolve in terms of its capacity to catalyse rapid sanitation behaviour change at a scale hitherto unprecedented. However, several years after CLTS spread across continents policy-makers and sector professionals are seeking answers to questions about the sustainability of these behaviour changes. Research in a number of countries has revealed insights into what helps and what hinders the achievement of sustainable behaviour change, though some of the findings may well be country and situation-specific (Hanchett et al., 2011; Mukherjee et al., 2012; Tyndale-Biscoe et al., 2013). The search for generalizable influencing factors has not been limited to CLTS interventions. The scope of research and the learning related to successful scaling-up now spans a wide range of influencing factors, complementary approaches and programme environments, all of which need to be managed in a synchronized manner along with research on CLTS, for understanding what could make optimal impact on population-wide sanitation behaviours.

What is important is that the learning is utilized and internalized by sector institutions and government systems, as these are the only channels through which whole-country populations can be reached. With the goal being defined as achieving improved sanitation behaviours by whole populations it will be necessary for sector institutions and government systems to answer a number of key questions related to where to intervene, with what inputs, at what levels, through what channels, and in what sequence. This chapter explores these questions using experiences from Lao PDR, Vietnam, and Indonesia.[3] It draws on:

- The development of sector operational guidelines and sector capacity building strategies for rural sanitation in Lao PDR and Vietnam, during the period 2011–15.
- Pathways adopted in Indonesia for scaling-up rural sanitation learning from the Total Sanitation and Sanitation Marketing (TSSM) project 2007–10 in East Java to all provinces, and the resulting updates during 2011–15.

These experiences are used to identify several strategic and interconnected change levers used within each country. The change levers were applicable across the three countries, with comparable results in terms of sector transformation, even though the levers grappled with diverse country contexts and generated country-specific learning and solutions. It is plausible that they are applicable globally for sector development. The change levers are:

- Defining sector goals in terms of collective behaviour change, to generate accountability in sector systems for achieving them.
- Establishing a national monitoring system to track progress and outcomes in behavioural terms.
- Formulating a theory of change as the basis for identifying the programme methodology, roles, and responsibilities.
- Building institutional capacity to facilitate collective behaviour change at scale.
- Securing sustained funding for programme processes and human resources.
- Establishing efficient institutional learning and sharing mechanisms.

Country rural sanitation profiles: pre-scaling up

Systematic scaling-up of rural sanitation interventions began around 2010–11 in Laos and Vietnam, and several years earlier in Indonesia. The following country profiles reflect the timeline differentials in starting up. The progress achieved thereafter till the end of 2015 in each country, the paths taken, and the learning gained in the process are described in the next section on the levers of change.

Lao PDR

In 2010, Lao PDR was a country of 6.2 million of which 70 per cent were rural. One of the poorest countries in East Asia, UNDP's 2010 Human Development Index ranked it as 122nd out of 169 countries (UNDP, 2010) and 139th out of 187 countries in 2013 (UNDP, 2013). Poverty was, and continues to be, predominantly a rural phenomenon. Eighty-four per cent of the country's poor live in villages. The Joint Monitoring Programme (JMP) 2012 figures indicated that by 2011 Lao PDR's household access to improved sanitation had already progressed beyond the Millennium Development Goal (MDG) target of 54 per cent and reached 62 per cent (WHO/UNICEF, 2012). However, that figure represented mostly urban access growth, and growth of 'self-supplied' sanitation rather than programme achievements.

The extent of inequity in access to improved sanitation was extreme. The 2012 Lao Social Indicators Survey revealed that while 99 per cent of households of the richest quintile had access, only 12.7 per cent for the poorest quintile

did so (Government of Lao PDR et al., 2012). Access to improved sanitation was 51.2 per cent among rural households with road access, but only 22.5 per cent among those without road access. While central and northern regions had achieved 68 per cent and 61 per cent access rates respectively, the southern region lagged far behind with only 35 per cent access.

Meanwhile, estimated economic losses due to poor sanitation were costing up to 5.6 per cent of the country's GDP annually or US$193 million (Hutton et al., 2009). Even that did not adequately highlight the human development losses: almost 49 per cent of rural children and 61 per cent of the poorest children were found to be stunted in 2011. That the stunting figures were 20 per cent for the richest children and 27 per cent for urban children only illustrated how poor sanitation environments harmed all, across social and economic boundaries (Government of Lao PDR et al., 2012).

In 2010 there were a number of obstacles to be overcome in scaling up rural sanitation:

- Sanitation was a low priority on the national development agenda, and allocated little programme capacity.
- The nodal national agency, Nam Saat (the National Centre for Environmental Health and Water Supply), had a low profile within the Ministry of Health.
- There was no national programme vehicle or policy for rural sanitation. Consequently, the national government's budget and personnel allocations for rural water, sanitation, and hygiene (WASH) were minimal. Local government funding for rural sanitation was little or none.
- Formal mechanisms for sector coordination were lacking, while capital investment was financed externally, mainly from foreign aid (Giltner et al., 2010). The country was divided up into a series of donor projects, using a variety of approaches in the same or different provinces. Individual donors designed projects of their choice in bilateral consultation with the national government.
- The availability of sanitation products and services in rural areas was not known, but was estimated to be limited. There was no market assessment information available.

By 2011 a number of opportunities had been identified. These were:

- A new WASH Strategy for Lao PDR[4] was nearing completion, with UNICEF support.
- Positive experience and lessons had become available from CLTS pilots in two southern provinces during 2009–11.
- An agreement had been reached by major funding partners to adopt CLTS as a programme approach and to discontinue household subsidies.
- Government exposure to sanitation marketing approaches used in Cambodia and Indonesia had helped spark new thinking about what might be possible in Lao PDR.

- There was a willingness within the government and key funding partners to field-trial CLTS complemented by a sanitation marketing approach which had shown promising results in Asia and Africa.
- The country had set itself the economic development goal of exiting 'least developed country status' by 2020.
- An informal Technical Working Group established in 2009, involving all sector funding supporters, had begun to serve as an unofficial sector coordination mechanism.

By the end of 2015, much had changed in Lao PDR. Now there is a uniform national programme methodology guiding all rural sanitation interventions. In order to generate sustainable institutional capacity to apply the methodology across Laos, a capacity building framework and plan have been developed and are being implemented. Rural sanitation has gained political importance with the government's Sanitation and Water for All (SWA) commitment to reduce OD. Methods to monitor collective behaviour change have been standardized. Funding has been earmarked for rural sanitation within national programmes for poverty reduction and child malnutrition prevention. Sanitation marketing efforts to reach the poorest with affordable products are being developed in different donor-funded project areas, based on the government's countrywide formative research and supply chain assessments. Government-led sector coordination mechanisms are formally established and functioning.

Vietnam

The sanitation sector situation in 2010–11 in Vietnam was atypical by developing world standards. Home to a population of 87.8 million (Government of Vietnam, 2011), Vietnam has remained overwhelmingly rural (nearly 70 per cent of the population in 2010–11) and is characterized by great geographic and ethnic diversity. At a time when most countries were preoccupied with reducing the percentage of populations defecating in the open, Vietnam had achieved a steep 12 per cent annual decline in open defecators since 1990, and by 2011 only 3 per cent of the population practised OD (WHO/UNICEF, 2013). However:

- While household access to improved sanitation had grown to 56 per cent, the poorest two quintiles did not gain much.
- The 44 per cent that lacked access were poor, rural, mostly ethnic minorities for whom OD is culturally acceptable, and often linked to livelihood activities such as domestic animal breeding and agriculture.
- The population pockets without access were mostly in the mountainous areas far from markets and in flood-prone coastal plains where hanging latrines over fish-breeding ponds are the norm.
- During 1990–2012 the percentage of households using unimproved latrines did not decline – in fact, it grew from 26 per cent to 30 per cent.

The main sector programme was the Third National Target Programme for Rural Water Supply and Sanitation (NTP3), operational from 2011 to 2015 with the following features:

- There was overall coordination by the Ministry of Rural Development (MARD).
- The Ministry of Health (MoH) had responsibility for rural sanitation, but all funding for behaviour change interventions, capacity building, supervision, and monitoring remained under MARD management.
- In the early years of the NTP3, the methodologies used were still conventional ones and not tailored to changing behaviours in the population pockets identified above.

Vietnam has been searching for strategies to reach the unreached population groups which are still proving extremely resistant to desired behaviour changes. Meanwhile, children growing up in communities where unimproved sanitation is practised have been losing on average 3.7 cm of height and parallel cognitive development quotient, compared with children in communities where all households are using improved sanitation (Quattri et al., 2014).

By end-2015, rural household access to hygienic latrines had grown to 64 per cent, and several other milestones were reached. National guidelines to plan and implement rural sanitation have been launched by the MoH, and a sector capacity building strategy developed, based on them. Following the Government's SWA commitments for universal access by 2030 and an open defecation free (ODF) Vietnam by 2025, an ODF definition and verification system have been established by the MoH, tailored to the Vietnam-specific situation of little OD but wide usage of unhygienic latrines. A province-scale learning initiative is testing innovations to grow pro-poor sanitation markets and consumer demand for hygienic latrines in remote rural pockets. Funding has been committed in two new national WASH projects for scaling-up access to hygienic sanitation in targeted poor rural and ethnic minority-inhabited areas who have low sanitation access. The MoH has the mandate to manage and implement the sanitation and hygiene components in both projects.

Indonesia

Spread over more than 17,000 islands, Indonesia had a population of 239 million in 2010, of whom 110 million still lacked access to improved sanitation (WHO/UNICEF, 2012). The 2013 JMP Update reported that in 2011 more than 58 million still practised OD, nearly 42 million of whom lived in rural areas (WHO/UNICEF, 2013). The costs to the country from poor sanitation practices were amounting to US$6.3 bn annually at 2006 prices, equivalent to 2.3 per cent of its GDP (Hutton et al., 2009).

For several decades, rural sanitation efforts in Indonesia had focused on improving access to basic sanitation using hardware subsidies and hygiene

education. The approach proved to be ineffective, highlighting the size of the challenge:

- Rural household access to improved sanitation grew at less than 1 per cent per annum from 1985 to 2006, reaching only 20.6 per cent in 2006.
- With less than 10 years to 2015, the rural MDG target of 56 per cent seemed well beyond reach.

Policy-makers and sector administrators were anxiously searching for new directions when two promising new approaches emerged on the global scene, stirring up powerful winds of change in Indonesia. Exposure to CLTS and sanitation marketing in Bangladesh, India, and Vietnam provided hope and impetus to new rural sanitation thinking and experimentation in Indonesia during 2005–06, and the unprecedented success of the new approaches led to the MoH declaring CLTS as its national approach for rural sanitation in 2006, along with handwashing with soap.

By 2007, Indonesia was the first country in East Asia to embark on a new rural sanitation initiative at scale, combining CLTS and sanitation marketing with strengthening enabling policy and institutional environments. This was the Total Sanitation and Sanitation Marketing (TSSM) project covering all of East Java, a province of 37.5 million people. After several decades of stagnation, the rural sanitation scene began to change radically.

- TSSM signalled a complete break away from past subsidy-based approaches, and offered only a nine month window of technical assistance to local governments interested in becoming ODF districts.
- Four years later, by the end of TSSM, 2,200 communities had been verified as ODF, and more than 1.4 million people had gained access to improved sanitation over the baseline of 2007, with 100 per cent of the sanitation improvements being financed by rural households themselves.
- Within a year of TSSM implementation, the first national Sanitasi Total Berbasis Masyarakat or Community-based Total Sanitation (STBM) strategy was launched in 2008 as the Health Minister's Decree, officially discontinuing government subsidies for household latrines and identifying five key hygiene behaviour changes (the '5 pillars of STBM'), the first of which was eliminating OD.
- In 2014 it was replaced by the Health Minister's Decree 3/2014, establishing STBM as the national strategy, and providing operational guidelines for planning, implementing, and monitoring rural sanitation interventions.
- With changes in programme approaches, Indonesia's rural sanitation access growth rate has accelerated from less than 1 per cent in the years before 2006 to 3.4 per cent per annum during 2007–13.
- Rural access to improved sanitation more than doubled in seven years: from 20 per cent in 2006 to 44 per cent households in 2013 (BPS Indonesia, 2014).

From 2011 onwards, after TSSM closed, the learning gained is being applied in almost all of 34 Indonesian provinces through national systems for sector knowledge management, outcome monitoring, institutional capacity building, and support for the growth of pro-poor sanitation markets. How this progress has unfolded is described in the next section.

Levers of change for sustainability at scale

This section identifies six strategic and interconnected levers of change that can be operated when promoting sanitation sector transformation and working for sustainability at scale. They are illustrated by drawing on the experience of scaling up rural sanitation programmes nationally in the three countries, from the starting points described in the previous section.

Lever 1: Goals defined in terms of collective and equitable behaviour change for accountability in sector systems

As long as programme planners are held accountable for targets like the number of toilets built and the percentage of households having toilets, they may well ignore, or only pay lip service to, behaviour change objectives. Even today, monitoring systems in the majority of countries demand only sanitation coverage data; namely, data on the physical presence of household and institutional toilets. However, institutional accountabilities can be turned around once national goals are reset in terms of collective community behaviour change. An example of such a goal could be a targeted percentage of communities, villages, communes, or districts becoming ODF by a specified date. The definition of ODF would spell out the behaviour changes desired, i.e. elimination of both OD and unimproved sanitation usage, possibly along with handwashing at critical times. Targets can then be set for collective behaviour-changing interventions by sector institutions. Programme performance monitoring then must track numbers and percentages of communities intervened in, and verify the achievement of ODF outcomes, in addition to household access to toilets. The MDG targets for increasing only the access to sanitation caused the behavioural focus of sanitation programmes to be neglected. Now that the Sustainable Development Goal (SDG) targets include the elimination of OD (UNDP, 2015), country governments may be more willing to adopt goals defined in behavioural terms, and accept accountability for progress towards them.

In Indonesia, the national rural sanitation goal was first set in collective behaviour terms as *Indonesia ODF 2014*, in the National Medium Term Development (MTD) Plan 2010–14. Although unrealistic and unachieved, the 2014 ODF target served to highlight what it will take to push collective behaviour changes on a nationwide scale. A definition of ODF status and ODF verification guidelines, first applied in East Java by the TSSM project in 2008,

were adopted for national use by the MoH in 2011. Later, verification guidelines were expanded to cover the remaining rungs of the STBM behaviour change ladder up to 'Total Sanitation' (see Figure 3.1), and launched nationally in 2013 (MoH, 2013).

The 2015–19 MTD Plan has now set the goal as universal access by 2019. It has become evident that the 11 per cent annual access growth rate required to achieve such a goal will require a lot more than 'business as usual'. While funding levels and channels of intervention are being greatly stepped up, sector monitoring systems continue to track and publicize both access gains and ODF achievements by villages, sub-districts, and districts. The verification procedure provides for sustainability checks every two years and even allows for ODF status to be revoked when communities are found to have slipped (MoH, 2013).

In 2014, the Government of Vietnam made a high-level SWA commitment, for the country to be ODF by 2025, and universal access to be achieved by 2030. Subsequently, a collective behaviour change focus is being developed through making 'village-wide and commune-wide sanitation improvement' the performance target, proposing mechanisms to verify collective behaviour change outcomes uniformly, and rewarding commune leadership for outcomes. Although some provinces had already instituted their own ODF definitions and piloted ODF verification processes, until 2015 there was no recognition of 'ODF status' within government policy and legislation. After the SWA commitment, external funding partners are now working with the MoH on uniform national criteria for ODF and a standardized ODF verification process.

Lao PDR does not yet have a national rural sanitation goal in terms of collective behaviour change. But at the 2014 High Level Meetings on Sanitation and Water for All (SWA), the government made a commitment to reduce OD from 52 per cent to 35 per cent by 2016, and to develop a comprehensive national sanitation policy by 2016. The commitment to OD reduction can be seen as a first step towards developing accountability on the part of the government for behaviour change goals. The monitoring system reflects progress in this direction. The multiple ODF verification processes used in different projects have now been consolidated and one ODF verification process standardized by the MoH for national use.[5]

Box 3.1 Key learning 1: redefinition of goals catalyses all other changes

Defining goals in collective behaviour change terms is ideally the place to start as it can set the remaining levers in motion. However, real life sector situations in countries are not always conducive to allowing ideal entry point choices. Change influencers have to start working with whichever of the change levers provides the opportunity. From that platform they can open up other fronts, engaging and building consensus with country sector stakeholders in the process.

In addition to behaviour change, accountability for equity and inclusion in outcomes needs to be integrated into goals and tracked by sector monitoring systems. Macro-scale target definitions need to take into account country-specific regional disparities and unserved groups.

Vietnam is currently using geographic information system (GIS) mapping for concentrations of poor populations and overlaying them with mapping of access to sanitation, as well as mapping of the prevalence of child malnutrition. The results are eye-opening, and are determining priority target areas for national programmes. Monitoring systems for sanitation improvement are being redefined to ask for data disaggregated by unserved ethnic minority populations versus total populations.

Lao PDR is integrating CLTS and other sanitation behaviour change interventions into national-scale programmes addressing poverty and malnutrition. The forthcoming Health Governance and Nutrition Project will support the adoption of ODF as a new requirement for villages to achieve 'Model Healthy Village' status. This will greatly help establish collective sanitation behaviour change as a necessary condition for improving child health and nutrition. In addition, the Poverty Reduction Fund targeting the poor in remote rural areas of four provinces has integrated CLTS with its community-driven development process.

Indonesia continues to target the poorest households through pro-poor sanitation market development. Through *Asosiasi Pengelola dan Pemberdayaan Sanitasi Indonesia* (APPSANI), an association of sanitation producers and sellers, local entrepreneurs are being trained and mentored in setting up and growing their rural sanitation business by capitalizing on the consumer base at the bottom of the pyramid, where most households lack improved sanitation. Public sector banks have been drawn into the effort, in providing capital credit to entrepreneurs so that they can offer improved latrines to poor consumers on instalment credit.

Lever 2: Establishing a national monitoring system to track progress and outcomes in behavioural terms

Goals defined in population behaviour change terms mean little unless progress towards them is measurable. Monitoring indicators must be defined unambiguously and simultaneously with goal setting. However, since many projects have already been using CLTS and verifying ODF outcomes in a variety of ways in developing countries, building stakeholder consensus for nationally applicable indicators and methods can be a politically sensitive exercise and fraught with inordinate delays. To find the most workable and sustainable solutions, national governments have to take the lead in analysing sector needs with key stakeholders, and complete the process of developing a behaviour-focused sector monitoring system, tailored to the country's context.

Most countries in Africa, and some in Asia, started out in 2009–10 by defining ODF in terms such as, 'all community households using some kind of latrine rather than defecating in the open environment'. Problems with such a definition became evident after a few years of using it.[6] Many households continued using unimproved and unhygienic latrines; people failed to upgrade to hygienic latrines; many unimproved latrines collapsed and were not rebuilt; smelly unimproved latrines built after triggering turned people away from the notion of latrines and back to OD at some distance from homes. Most importantly, the continued use of unimproved latrines meant that there was no large-scale positive health impact. This was borne out by the evidence from studies in East and South Asia that linked child stunting with poor sanitation – unimproved latrine use and OD. The Government of Indonesia was the exception, having decided as early as 2008 in the TSSM project that East Java communities would be certified as ODF only when, besides other conditions, '100 per cent community households are using only improved latrines for all excreta disposal including the disposal of infant faeces' (STBM, 2010). This was later included among national criteria for ODF.

Until 2015, Vietnam had not instituted a national definition for ODF because the practice of OD had been almost eliminated, having declined to below 5 per cent of the population by 2010. However, in the perspective of the research linking the use of unhygienic latrines and child stunting, an approach aimed at achieving ODF villages and communes has been specifically included in Vietnam's Capacity Building Strategy for rural sanitation (MoH, 2015). Accordingly, 'village-wide and commune-wide sanitation improvement' have been incorporated as programme performance targets. During 2015, the major funding partners came together to review the experience with the MoH, to identify standard criteria and a verification procedure for ODF, tailored to the Vietnam situation wherein there is little real OD and high usage of unhygienic latrines. The MoH will apply the ODF verification process nationwide after the NTP3 ends, in 2015.

Developing nationally applicable indicators for the elimination of OD is also the opportunity to outline a country's vision for higher levels of hygiene behaviour change, by moving up the behaviour change ladder – and to define how that movement will be verified. The example of the 'hygiene and sanitation behaviour change ladder' from Indonesia, shown in Figure 3.1, covering five key hygiene behaviour changes (Five Pillars of STBM) is a case in point.

Box 3.2 Key learning 2: a country's definition of 'ODF' drives the outcomes it achieves

The quality and sustainability of community-level behaviour change outcomes depend greatly on what conditions are accepted as ODF in a country. The most useful definition of ODF would reflect the rural population's capacity and aspirations for change, the country government's vision about the level of sanitation behaviour change envisaged by target dates, and the capacity to manage data related to sanitation behaviour change on a national scale.

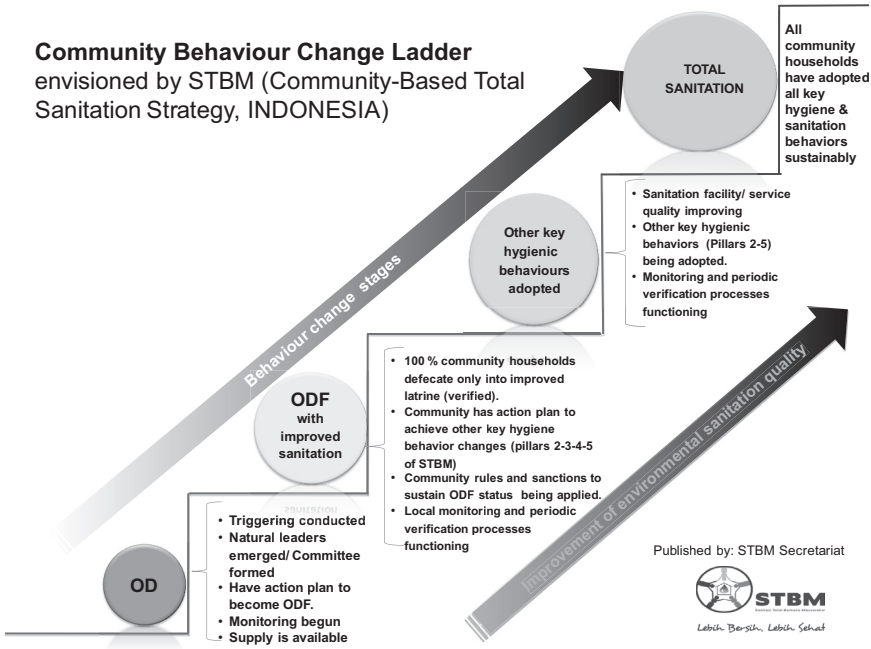

Figure 3.1 Community Behaviour Change Ladder envisaged by STBM (Indonesia)

Source: STBM Verification Guidebook, Ministry of Health, Government of Indonesia, 2013

Note: The five pillars of STBM (five key hygiene behaviours) are: stopping OD; handwashing with soap at critical times; safe food and drinking water handling; safe household solid waste disposal; and safe household liquid waste disposal

Manual monitoring systems become impractical and unsustainable at scale. In Indonesia, the TSSM experience quickly exposed the limitations of manual systems when the programme scaled-up even in a single province. Since cell phone penetration was high in rural Java, a cell phone-based monitoring system was trialled in East Java in 2010 and expanded to all districts by 2012. Valuable lessons were learned about what it would take to scale-up nationwide.

The system has now rolled out in all 34 provinces. By December 2015, the STBM website maintaining the web-based Management Information System (MIS) was reporting real-time data updates from 69,130 out of 80,276 villages. Data entry is done through mobile phones by trained community health centre staff. Data reported include ODF claims, ODF achievements, numbers of households using improved sanitation, sharing latrines, and defecating in the open. Access to the data is public through the STBM website, which also provides graphic translations of data and comparisons across districts and provinces. While the national STBM Secretariat channelled technical guidance from international funding partners for the roll-out, local governments

in Indonesia invested substantially in staff capacity building, to be able to participate in the web-based monitoring system.[7]

Lever 3: Formulating a theory of change as a basis for programme methodology, roles and responsibilities

That the quality of CLTS processes is fundamental for achieving sustained community-level outcomes is widely accepted, but that is only part of the story. When planning for sustainability at scale, the scope of the process must go well beyond CLTS *per se* and far beyond the community level. It needs to cover whole provinces, districts, and sub-districts, depending on the degree of decentralization of governance. For rural sanitation outcomes at scale, all key stakeholders (government staff, political leaders, external funding partners, implementation supporters) for rural sanitation at different levels need to have a shared understanding of:

- Programme objectives (the kind and extent of population behaviour change desired).
- The theory of change for the desired outcomes to be achieved.
- Key programme components (demand creation, supply improvement, enabling environment building).
- Implementation approaches (e.g. CLTS, expanding sanitation product and financing options for the poor, whether to use subsidies for household sanitation).
- The sequence and phasing of activities.
- Roles and responsibilities at each level.

The pre-CLTS era theory of change assumed that people defecate in the open only because they lack awareness of latrines and the health hazards of OD, and that poor households cannot build their own latrines unassisted. The principal approach therefore was to provide free or subsidized latrines to a few, along with health education messages for all. The expectation was that the rest would be stimulated to build and use latrines. We now know that such interventions failed, and millions of development dollars were wasted.

Post-CLTS, it has become possible to envisage behaviour change by whole communities, and even scaling-up that drives change rapidly across countries. Fresh insights have emerged from formative research into drivers of population sanitation behaviour,[8] identifying new kinds of interventions to catalyse collective behaviour change. But these approaches were unfamiliar to sector institutions accustomed to doling out subsidized latrine packages and instructions on how to build latrines. A new theory of change had to be understood and accepted by sector managers and implementers. Figure 3.2 summarizes the basics of the new theory of change that has been progressively adopted by many countries in recent years, starting with Indonesia, India, and Tanzania, where the Total Sanitation and Sanitation Marketing (TSSM) project introduced it during 2007–2010.[9]

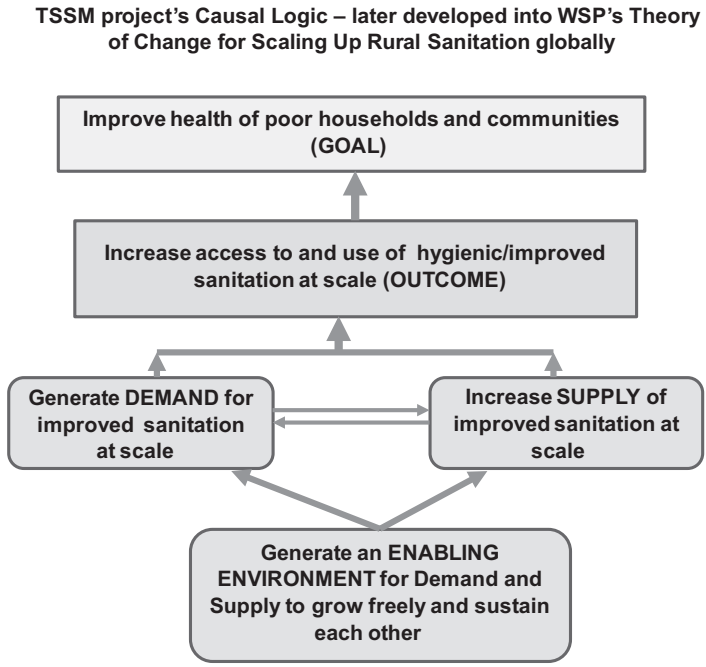

Figure 3.2 TSSM project's causal logic

Source: Author's own

The process of adoption of a theory of change is as important as the theory itself. In Lao PDR, as an initial step to scaling up rural sanitation, the WASH strategy draft prepared by a consultant in 2011 was reviewed with sector stakeholders in mid-2012, and made more explicit for rural sanitation. A theory of change and related programme components were added and it was finally issued by the MoH in 2012 as the National Plan of Action for Rural Water Supply, Sanitation and Hygiene (NPA) 2012–15.

The Lao PDR experience demonstrates how important it is that key concepts are defined, understood and agreed by sector stakeholders collectively. Once the new rural sanitation theory of change was defined in the NPA, the government urged donor partners who were funding almost all rural sanitation interventions in Laos through their various projects, to agree on a common programme implementation process. Initial dialogues in 2012 quickly revealed that people held very diverse views, and project-specific perceptions, about basic concepts relevant for the scaling-up process. It took several stakeholder workshops to get concepts defined and their implications discussed by stakeholder groups. They tussled with questions such as:

- What exactly is 'demand' for improved sanitation? Why is it necessary to work on demand creation?

- Why do the government and donor partners need to do anything on the supply side?
- What happens if they don't?
- What is an enabling environment? How does it make a difference?
- What comes first: demand creation, supply improvement, building an enabling environment, and why?
- How should interventions be sequenced at national and sub-national levels in the Lao PDR context?

The process of stakeholder consensus building culminated in the Government of Lao PDR's *Operational Program Guidelines for Scaling Up Rural Sanitation* being adopted by the MoH in 2013. The three-pronged intervention framework built into the NPA (the same as the *Demand – Supply – Enabling Environment* triangle at the base of Figure 3.2) provided the foundation for stakeholder dialogues. All rural sanitation interventions in Lao PDR are now required to follow the 2013 guidelines. It is expected to change the fragmented nature of sector support so far practised by many different agencies, by requiring consistent methods for implementation and monitoring, both of which are essential for scaling-up.

In Vietnam, the MoH utilized the National Target Program platform to redefine a rural sanitation theory of change and translate it into the *Guidelines for Planning and Implementation of Rural Sanitation Programmes*, launched in 2014 (Government of Vietnam, 2014). These were the result of an analysis of past programme approaches and a consultative process involving all sector funding partners, and provincial and district-level implementers. Programme components were identified for demand generation, supply improvement, enabling environment building, knowledge generation, and learning, reflecting a similar theory of change. And institutional roles and responsibilities for planning, implementing, and monitoring were redefined accordingly, with stakeholder consensus building during 2012 and 2013.

Indonesia was in fact the first East Asian country to translate such a theory of change into practice through the TSSM project in East Java in 2007, and scale it up to other provinces starting in 2011. This is the framework upon which its *Sanitasi Total Berbasis Masyarakat Programme Operational Guideline*[10] is modelled for districts and provinces. The programme identified the sequence of preparatory and implementation activities at these levels, synchronizing supply improvement activities with activities for demand creation and strengthening the enabling environment. The original TSSM project's methodology was refined, based on a market research study by Nielsen Indonesia in 2009 and a participatory action research evaluation of TSSM in 2010 by 80 communities in East Java (Mukherjee et al., 2012). The Nielsen study led to the development of an appropriate marketing strategy to reach poorer consumers with affordable sanitation options of their choice. By 2015, the market development effort was unfolding across multiple provinces, with training and support to sanitation entrepreneurs

(Pedi and Kamasan, forthcoming); with 150 sanitation entrepreneurs, including 24 female entrepreneurs, already active in five provinces after being trained in promoting and delivering a range of affordable improved sanitation options. Following the 2010 action research recommendations, new provinces starting districtwide ODF programmes are first building local sanitation suppliers' capacity to do this, before starting to raise consumer demand using CLTS.

Once a common sector language has been developed among stakeholders, a meaningful dialogue begins. A logical and feasible sequence of activities can then be identified, along with responsibilities for carrying them out at each administrative level. In all three countries, the end result has been national operational guidelines for their rural sanitation programmes. The guidelines are now serving as powerful instruments for ensuring consistency in planning, funding, implementing, and monitoring of rural sanitation programmes across the country. They also provide the structural framework for building institutional capacity. This is a process that has taken between 12 and 18 months in each of the countries.

Box 3.3 Key learning 3: adoption of a new sector theory of change needs to be a collective learning process

Translating the theory of change into a country-specific programme implementation process is a strategic opportunity for sector reform. When carried out using participatory analysis and consensus building with stakeholder groups, this activity becomes a transformational collective learning experience. It begins by developing a shared understanding of basic concepts and definitions in country-specific context and terminology, such as 'OD', 'ODF', 'improved and unimproved sanitation', 'demand' and 'demand creation', 'supply improvement', 'enabling environment building', 'progress and outcome indicators', etc.

Lever 4: Building institutional capacity to facilitate collective behaviour change at scale

Before the spread of CLTS, institutional capacity for rural sanitation typically meant the capacity for the distribution of subsidy packages to selected households, delivering health education messages to all, providing construction advice, and reporting the number of the subsidy recipients. Skills training for using behaviour change interventions such as CLTS, other participatory methods, and behaviour change communication (BCC) was typically provided only to specially recruited animators and community volunteers by NGOs in donor-funded projects on a small and pilot scale. When projects ended, the trained personnel dispersed and were often lost to the sector.

Now that sector goals and monitoring indicators have begun to be set in terms of population behaviour change, demand is growing for re-skilling members of sector institutions. CLTS trainers are in great demand across

countries and continents because staff training is seen as the easiest and most obvious solution when desired programme results are not achieved. However, training without contextualization can be wasteful and the skills built easily lost from the system. For example, those trained in CLTS methods may never apply them because they lack budgets to implement triggering or follow-up activities. Those who received training may not have institutional roles and functions for community outreach activities. Or they have competing responsibilities more important for their careers or salaries, and so they lack incentives to apply CLTS skills.

A critically important issue that is often overlooked is that institutional capacity building for sustainable outcomes needs to cover facilitation of the entire collective change process. Triggering is now widely recognized as only the first step. Sector outreach staff need to have both training and incentives for seeing the change process through, with a clearly structured and fully resourced follow-up support process, including the provision of reliable technical advice on sanitation improvement options and facilitation of access to supplies if necessary.

Sector capacity building at country scale is not at all a one-off exercise. For sustained support to the sector, capacity building services need to be institutionalized by national governments, with cost recovery mechanisms, and they should be provided in response to demand from local governments.

Figure 3.3 shows the capacity development framework identified for Lao PDR, based on the 2013 Operational Guidelines and a capacity needs assessment. This framework guides the country's sector Capacity Building Strategy and Action plan, which were adopted by the government for implementation at the national, provincial, and local levels in 2014.

Implementation of the plan has begun in two provinces, with World Bank support. As part of the plan to create skilled rural sanitation workers of the future, training modules on CLTS and sanitation marketing are now being integrated into Vientiane's University of Health and Sciences diploma course in environmental health, which is essential for technical staff of Nam Saat (the MoH department responsible for rural water and sanitation). In addition, the MoH has decided to update and align university curricula of public health degrees and diploma courses with current rural sanitation sector realities. Topics like CLTS, sanitation marketing, and operational guidelines for rural sanitation are being included in the curriculum for students of environmental hygiene and Associate Degree on Public Health.

Vietnam has developed a sector Capacity Building Strategy and Plan (MoH, 2015) based on a needs assessment in eight provinces during 2014. This strategy, along with advocacy and financing strategies, addresses a number of key issues: a definition of goals in behavioural terms; formulation of indicators to measure the desired behaviour changes; recommendations for adopting a

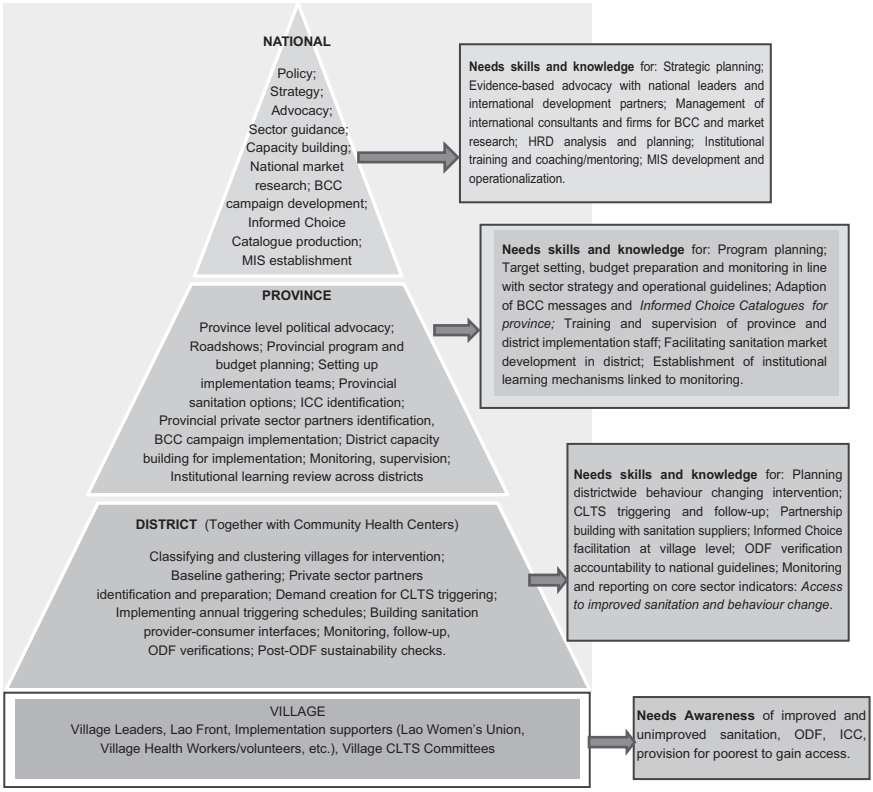

Figure 3.3 Capacity Development Framework and Action Plan for Rural Sanitation in Lao PDR
Source: Vongkhamsao and Weitz, 2015

commune-wide approach for sanitation improvement and collective behaviour change; preparation of advocacy packages directed at funding decision-makers in provinces; and preparation of capacity building programmes to be delivered through the MoH's four regional resource institutes.

Indonesia has advanced furthest in this direction among East Asian countries. As reported by WSP Indonesia in early 2015:

> Formal curricula focusing on sanitation have been introduced at 30 government health schools (which train health outreach staff) as part of a plan to substantially ramp up human resources to implement the national sanitation strategy. Five training modules (about demand creation, supply improvement, and enabling programme environment building), and distance learning courses, have been developed and accredited by the government. Once someone completes training they receive a certificate that is recorded with the MoH's Human Resource Office's database for career advancement. (Setiawan and Weitz, 2015)

Strategic choices were made in Indonesia during 2011–15 to fully integrate sector capacity building into MoH systems and institutions for human resource development. As described in a recent WSP report (World Bank, 2015) technical collaboration was established with the existing MoH unit mandated for delivering institutional capacity building, the Agency for Development and Empowerment of Human Resources. Separate capacity building streams were developed to target sector professionals with accredited and certified STBM training programmes that could be delivered through in-service channels. Simultaneously, career advancement-related incentives were built into career development pathways for sector staff, so that they would actively seek, qualify for, and successfully complete the STBM training curricula. Pre-service training programmes have integrated STBM modules into 24 government run, and four privately run, health polytechnics. In addition, interactive e-learning STBM modules reach out to a wider group of professionals and academics, both within and outside health service institutions.

Box 3.4 Key learning 4: building sector capacity at scale is a matter of building systems to equip present and future staff to deliver selected programme approaches with quality

For institutional capacity to be sustained, capacity building must be synchronized with the programme methodology embedded in sector operational guidelines, which clarify staff roles and responsibilities at each level of the programme process, delineating the skills required at each level.

In addition, staff capacity development needs to be linked to incentives such as career advancement and salary increments, through human resource management systems.

Lever 5: Securing sustained funding for programme processes and human resources

Sustained programme funding is the kind that comes from annual budgets, of both national and local governments. In many developing countries rural sanitation has traditionally been a neglected issue, with little political priority, and therefore little or no budget support. External funding partners have tended to cover costs of rural sanitation programme activities, while governments provided a limited number of staff salaries. Under such conditions, programme sustainability is not feasible. Change influencers are thus forced to focus on political advocacy to raise the sector's profile with funding decision-makers. In this regard, the research linking poor sanitation with stunting of children is proving to be a powerful advocacy message, one that makes politicians not only uncomfortable but also accountable.

Systematic scale-up in each country invariably began with strategic advocacy with national and local leaders and funding decision-makers, who are often politicians. Advocacy efforts combined: a) quantified research evidence about the impact of poor sanitation on the country's economic and human development; b) the country's sanitation challenge described

in terms of high-profile targets like MDGs, SDGs or SWA commitments, and its implications for national economic and human development goals; and c) exposure to in-country rural sanitation innovations at a scale relevant for the country's size. Mass media were found to be powerful allies in this effort. Once rural sanitation was accepted as a government priority local and national leaderships found novel ways to gather and sustain support for scaling up.

In Lao PDR, the national government-led process that produced the national Operational Guidelines for Scaling-Up Rural Sanitation in 2013 set an important precedent. It was the first time that various donor agencies had collaborated technically and financially to support the same final product owned by the national government. The issue-based stakeholder collaboration was extended to joint funding by several donor partners of two country-wide formative and market research studies commissioned by the government during 2013–14, to build an evidence-based foundation for designing rural sanitation interventions in Laos. This was in complete contrast to the limited focus of many different project-specific approaches of the past.

Since Lao PDR's current National Plan of Action for WASH ends in 2015, and no large-scale sector programme is yet in sight, alternative means of harnessing funding and human resources for rural sanitation for 2015–20 have been identified in other countrywide programmes. Evidence-based advocacy with decision-makers and exposure visits for them to already piloted in-country innovations (CLTS and sanitation marketing) made this possible. CLTS is now being integrated with the community-driven development approach of the World Bank-supported Poverty Reduction Fund (PRF), which has a strong presence in remote rural areas where sanitation access is typically very low. The new high profile multi-sectoral nutrition programme for 2016–20 has recognized WASH improvements and CLTS approaches as priorities for addressing child malnutrition. The programme has capacities to take community-based sanitation interventions to scale. The MoH plans to equip staff and facilitators of PRF and nutrition programmes with the tools and skills to support community sanitation behaviour change. All donor agencies that will help build capacity for rural sanitation interventions within the nutrition programme are committed to do so in line with the 2013 Operational Guidelines and MoH-approved standards of CLTS facilitator training.

In Vietnam, fund sources are being identified for operationalizing the new sector Capacity Building Plan, subsequent to Vietnam's SWA commitment to be an ODF nation by 2025. The plan's recommendations have been built into the US$200 million World Bank credit (approved in November 2015) covering 21 provinces in the northern mountains and central highland regions, the Results-based Scaling up Rural Sanitation and Water Supply Program (abbreviated as P4R). It is expected to improve access to water supply and hygienic sanitation for over 5 million people living in the poorest rural and mountainous areas of Vietnam, where 75 per cent of the ethnic minorities live. These population groups represent 75 per cent of the country's poorest, with a high prevalence of stunting among children under five and some of the lowest

levels of access to hygienic sanitation. The MoH is mandated to manage fully the sanitation and hygiene components of the programme. These include: creating demand for improved sanitation at-scale; intensive behaviour change communication from national to commune-level; developing local sanitation supply chains in the covered provinces; and capacity building of frontline workers in villages.

In Indonesia, the field-tested STBM approach and the national goal of 'universal access by 2019' have catalysed dedicated fund flows for redoubling programme efforts. STBM approaches are mandatory in all projects for rural WASH. These include the World Bank-supported PAMSIMAS[11] 1 and 2 during 2011–16, which are covering 32 of the 34 Indonesian provinces. Apart from large-scale national projects, it is the operational budgets of the 9,600 community health centres that are driving rural sanitation interventions in Indonesia. To accelerate ODF achievements, in 2013 the MoH officially instructed all community health centres to support at least one CLTS-triggered village in their command areas with interventions to help them become ODF (without external assistance to households – STBM explicitly disallows sanitation subsidies to households).

Box 3.5 Key learning 5: sustained budget support for rural sanitation can be elicited through strategically crafted and targeted political advocacy

Eliciting adequate national and local fund flows for rural sanitation is highly possible once it can be demonstrated that supporting rural sanitation can be politically advantageous.

To accomplish this it is necessary to invest in strategic advocacy campaigns which are designed professionally and delivered through well-planned media mixes, targeting funding decision-makers.

Lever 6: Establishing efficient institutional learning and sharing mechanisms

No country has yet discovered fail-proof ways of scaling-up rural sanitation rapidly and sustainably, reaching the poorest populations effectively, and ensuring sustainable impact on public health and well-being. Every country's dynamic socio-economic, cultural, and political contexts create incredibly complex environments, where what works and what makes for sustainable outcomes must continually be learned afresh and improved upon. When sustainable outcomes at scale is the goal, rural sanitation programmes cannot afford to be designed without a learning strategy, integrated with programme implementation. Paradoxically, while large-scale institutional systems are most in need of continual learning, they are also typical bureaucracies that are rarely open to learning. Unfortunately, the larger the scale and cultural diversity, the greater the need for rapid institutional learning and, typically, the lower the institutional propensity to adjust approaches.

Building capacity for scaling-up is largely a matter of building an enabling policy for the sector. As argued above, and as illustrated in Figure 3.4, it is

possible to identify a logical starting point and a sequence in which such policies should be developed. But sector situations vary greatly, and pathways are not uniform, as illustrated by the three country case studies. Arguably, the only common principle is that there should at least be an identified institutional arrangement with responsibility and authority for managing the country's rural sanitation sector. Without this basic foundation, sustainable scaling up cannot be envisaged.

In Lao PDR, two early innovator provinces that demonstrated successful CLTS pilots, are serving as learning laboratories for scaling up. Champasak and Sekong provinces have the best CLTS trainers, who assist the MoH's national training efforts. With World Bank assistance, both provinces have engaged the private sector in the development and marketing of affordable sanitation options. Action research on the efficacy of different outcome-based incentives for ODF achievements is also under way in these provinces, which will inform the much-awaited sector financing strategy.

In Vietnam, to support the scaling up of new approaches, the northern, mountainous province of Hoa Binh is serving as a learning laboratory. It has a high concentration of ethnic minorities and poorest population groups where many children are vulnerable to stunting. Supply chain assessments, operational research, and piloting carried out in Hoa Binh in 2014 has resulted in the development of an evidence-based *Provincial Strategy for Rural Sanitation Behaviour Change and Market Strengthening*, to be implemented during 2015–2020. Its execution will help assess the effectiveness and feasibility of cost-efficient BCC campaigns targeting ethnic minority pockets to address their practices of disposal and use of human excreta for livelihood-related purposes. This will be the core BCC strategy to be rolled out through the new $200 million P4R programme in 21 provinces of the Northern Mountains and Central Highlands. Another similar strategy is under preparation for the Mekong region.

Also in Indonesia, the starting point for scaling up was a learning initiative launched in 2007 covering a province of 37 million people, the TSSM project in East Java. TSSM was explicitly designed as a learning laboratory large enough in scale to be able to influence the country of a population of 230 million. Twenty-eight out of East Java's 29 district governments chose to participate in TSSM, using their own funds and human resources. By the end of TSSM, all local governments in East Java were implementing multi-year strategic sanitation plans using the new approaches, with their own funding and with personnel trained through TSSM. Household access to improved sanitation in East Java grew at rates several times the national average during the years 2007–11 and the trend continues. By early 2015, four of East Java's districts had been certified as ODF without any government subsidy. That the learning laboratory in East Java has demonstrated adequate 'proof of concept' is evident in the national STBM strategy's holistic adoption of its programming tools, monitoring innovations, and capacity building interventions.

The TSSM project introduced non-fiscal incentives to make the analysis and sharing of learning attractive to local government personnel. Individuals who

contributed valuable lessons, about failures as well as successes, were voted for and received annual Learning Champion awards. Innovators were recognized publicly and supported in sharing their 'know-how' across districts. Annual inter-district Stakeholder Learning Reviews were introduced to bring together district teams for comparing progress, analysing implementation experiences, and sharing lessons learned. The provincial Health Department added rural sanitation performance benchmarking to an existing annual evaluation of district governance quality, conducted by East Java's biggest media network, the Java Post. The annual Jawa Pos Institut Pro-Otonomi (JPIP) award, given to 1 district out of 29, is coveted by district heads (*Bupatis*), who are elected politicians.

When TSSM closed in 2010, provincial and district governments in East Java identified a number of institutional funding sources (not utilized until then) to support learning and sharing. From 2011 onwards, these mechanisms are being sustained by a range of local government budgets in East Java. Four new provinces that have adopted the STBM methodology have begun to institute similar mechanisms with government funding.

At the national level, learning and knowledge-sharing is managed through the STBM Secretariat, set up in 2012 and staffed by MoH personnel. All donor agencies now channel their support for sector information and knowledge-sharing through the Secretariat. It maintains the web-based monitoring system, updated through registered cell phones of Sanitarians (health personnel) in nearly 9,600 community health centres across the country. The Secretariat also maintains the STBM website for knowledge-sharing with local governments and the public at large. Access to sector information is public on the website.

This key learning is summarized in Figure 3.4, which shows a logical sequence for strengthening enabling policy and institutional environments for rural sanitation in any country. However, as explained earlier, pathways to change do not always follow this sequence.

The box at the base of Figure 3.4 traces the country-specific variations that unfolded in the process to illustrate that pathways to building enabling environments vary greatly with country contexts, and depend on the Change Lever/s available to work with at the start of the scaling up process.

Box 3.6 Key learning 6: efficient institutional learning mechanisms and a learning-focused implementation culture are essential to achieving and sustaining desired outcomes at scale

Opportunities to strengthen a country's enabling policy and institutional environment (EE) rarely arise in the desired logical order. Sector change influencers have to enter where opportunities arise in the process and work simultaneously forward and backward from the entry point, to help build a stable foundation for sector transformation.

The key is to build simultaneously institutional mechanisms to harvest the learning generated by the process of strengthening the EE, in ways that ensure ownership and internalization of the learning by sector institutions and policy-makers.

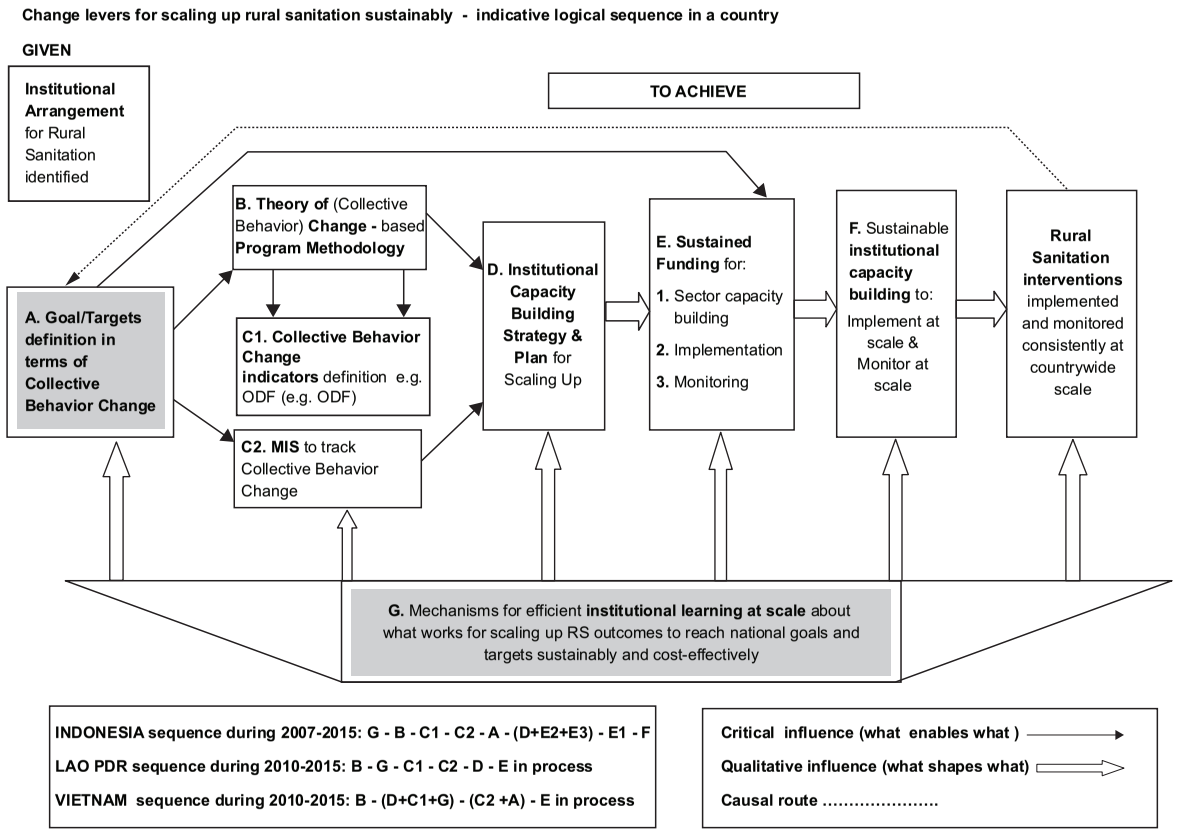

Figure 3.4 Logical sequence of change levers to engage for sector reform

Source: Author's own

Box 3.7 Summary of key learnings

1. Defining programme goals in collective behaviour change terms is the logical place to start since it can set the remaining levers in motion. However, opportunities to strengthen a country's enabling environment rarely arise in the desired logical order.
2. The quality and sustainability of community-level behaviour change outcomes depend greatly on what conditions are accepted as ODF in a country.
3. Translating the theory of change into a country specific programme implementation process is a strategic opportunity for sector reform.
4. For institutional capacity to be sustained, capacity building must be synchronized with the programme methodology, covering the entire collective change process from triggering change, to structured follow-up support to ODF achievement and sustainability checks thereafter.
5. Eliciting adequate national and local fund flows for rural sanitation is highly possible once it can be demonstrated that supporting rural sanitation can be politically advantageous.
6. While strengthening enabling environments, a key requirement is to simultaneously build institutional learning mechanisms that can capture learning generated by the process, in ways that ensure ownership and internalization of the learning by policymakers and sector institutions.

An agenda for SDG-era learning

The rural sanitation sector has progressed rapidly and changed extensively in all three countries in the few years before 2015. While the sequence of changes has been similar in all of them, Indonesia began the process several years before Laos and Vietnam. The results are evident in its national scale systems for monitoring, capacity building, and sector learning, and in the fund flows from both national and local governments earmarked for rural sanitation. These features are indicative of sustainable changes in institutional practice, and they provide reason to hope that similar progress will soon be visible in Vietnam and Lao PDR, where the process is taking less time because the Indonesian experience has provided rich learning about what has worked and what has not. However, much remains to be learned, and learned afresh, in each country, due to socio-cultural, economic, and geo-physical variations in the contexts of rural sanitation.

In all countries scaling-up rural sanitation, research and institutional learning could now focus on the following issues and questions.

Equity and inclusion: How effective are the current operational strategies for equity and inclusion? Are the poorest being reached with services of their choice? Are they able to find affordable options in sanitation products and services and in financing them?

Integration with programmes for impact on human resource potential: What are effective approaches to integrate sanitation and hygiene in programmes to improve maternal and child health and development, education, sustainable livelihoods, and environmental protection?

Scaling-up supply capacity for equity in outcomes: What strategies are viable at scale for building private sector capacity and interest in delivering products and services for the poorest population quintiles?

Financing rural sanitation interventions: What methods work best with influencing decision-makers in local governments who allocate funding for development programmes? How effective are current advocacy campaigns and strategies in eliciting their support for rural sanitation?

Building and sustaining capacity for performance: How to best incentivize rural sanitation performance by individuals and implementing units? How can talent from academic streams relevant for rural sanitation – technology, social development, communication, environmental management, marketing and business development, and public health – be attracted and retained?

Institutionalization of monitoring-linked programme improvement: How can institutional analysis of monitoring data by implementers for improving programme effectiveness be inculcated?

About the author

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Endnotes

1. Or 'living environments free of faecal contamination', as emphasized in Vietnam where OD is negligible.
2,3. The experiences reported in this paper relate to work carried out as part of the World Bank Water and Sanitation Program's (WSP's) global Scaling Up Rural Sanitation and Hygiene (SURSH) project, by WSP country teams and consultants working with national and local governments, as well as external sector funding partners in the respective countries.
4. Now called the National Plan of Action on Rural Water Supply, Sanitation and Hygiene for Lao PDR 2012–15.
5. The ODF verification process is spelt out in the *Handbook on CLTS in Lao PDR and Trainers' Guide on CLTS in Lao PDR* issued by the Ministry of Health, Government of Lao PDR, 2013. The process is included in the Ministry of Health's *Operational Program Guidelines for Scaling Up Rural Sanitation, 2013*.

6. Subsequently most countries have revised their ODF protocols, and now have much more elaborate criteria, and even several steps to become ODF. For details see Thomas and Bevan (2013).
7. For the monitoring system development and operationalization story see Mukherjee et al. (2011) and WSP (2014b).
8. See examples in a multi-study review by O'Connell (2014).
9. By 2015 this theory of change for rural sanitation has spread to 18 Asian, African, and Latin American countries through WSP's global SURSH initiative.
10. Regulation No. 3 of 2014 of the Ministry of Health of the Republic of Indonesia, concerning Community Based Total Sanitation.Ministry of Health of the Republic of Indonesia, 2014.
11. Penyediaan Air Minum dan Sanitasi berbasis Masyarakat (Safe Water Supply and Community-based Sanitation) project, Indonesia.

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