

Sanitation entrepreneurship in rural Indonesia: A closer look

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Enterprises are playing increasing roles in facilitating access to sanitation products and services in Indonesia and other developing economies. This study investigated the factors affecting the sustainability of sanitation enterprises in rural Indonesia. Interviews with 33 organisations representing sanitation enterprises, associations of sanitation enterprises, national and international civil society organisations (CSOs), donor organisations, and national and local government agencies were conducted to explore different stakeholder perceptions about enterprise roles. The research revealed factors specific to the sanitation entrepreneurs themselves, such as their skills, entrepreneurial traits, pro-social motivations, and intrinsic motivations, as well as factors within their enabling environment. Insufficient customer demand, inadequate capacity building opportunities, lack of financing options for entrepreneurs and their customers, and limited government support were observed to undermine sanitation enterprise success. Industry associations were found to be a useful intermediary support mechanism, particularly in the absence of significant government support for enterprises. However such associations could also stifle innovation and their role needs to be carefully developed, including financially sustainable models for such associations.

This study has implications for how governments and CSOs in Indonesia and elsewhere might best support the role of enterprises and entrepreneurship towards improved sanitation outcomes.

1. Introduction

Micro, small and medium private and social enterprises are emerging as important players in enabling or delivering sustainable sanitation services (Mason *et al.* 2015; Sy *et al.* 2014; Gero *et al.* 2013). Governments and development partners including civil society organisations (CSOs) have faced challenges achieving sustained sanitation behaviour change, due in part to a lack of access to appropriate sanitation products and facilities (Tyndale-Biscoe *et al.* 2013; Gero *et al.* 2013). Over recent years, CSOs and others have explored working with private and social enterprises to build viable supply chains and increase access of the poor to services (Sy *et al.* 2014; Gero *et al.* 2013). In Indonesia, this trend has been associated with small private and social enterprises.

However, many challenges remain to be addressed in supporting sanitation enterprises, including demand and profitability, access to finance and capacity building opportunities, competition and innovation and government support (Mason *et al.* 2015; Sy and Warner 2014; Gero *et al.* 2013). In rural areas, the viability of sanitation enterprises is further challenged due to lower population densities, longer distances from main town centres, and poorer distribution networks (Graf *et al.* 2014; Gero *et al.* 2013). Research conducted in Indonesia and Vietnam showed that areas with high poverty coincided with remote, rural locations and often experienced high costs of toilet provision (Willetts and Gero 2015).

This paper examines the involvement of small-scale enterprises in providing sanitation products and services in rural Indonesia. It is part of a three-year research project investigating the role of small private and social enterprises in the water and sanitation sector.

2. Sanitation enterprise in Indonesia: contextual background

In Indonesia, despite significant increases over the past two decades, access to improved sanitation remains limited and particularly low in rural areas (Sy and Warner 2014), with approximately 31 per cent of the rural population still practicing open defecation (World Bank 2015).

In efforts to address challenges in the rural sanitation sector, in 2008 the Government of Indonesia introduced a National Strategy for Community-Based Total Sanitation (Sanitasi Total Berbasis Masyarakat - STBM). The STBM strategy focuses on generating demand for sanitation and hygiene through the Community-Led Total Sanitation (CLTS) approach, improving market supply of sanitation products and services as a response to the generated demand. This strategy marked a shift from previous subsidy-based approaches that provided sanitation hardware to households (World Bank 2015; WSP 2013). Such approaches were ineffective in fostering change of households' attitudes toward sanitation as often latrines offered to households fell into disuse. They were also ineffective in reaching the poorer households, as subsidised latrines tended to be captured by wealthier households (WSP 2013). Further, the government had limited ability to finance the scaling-up of these expensive approaches (Amin *et al.* 2011). Implementing the new STBM strategy required a socialization

campaign. District governments had to be convinced to shift to the new approach (World Bank 2015; WSP 2013).

Driven by this shift in the policy environment, the provision of sanitation products and services by small-scale enterprises has increased dramatically over the last ten years. External development partners such as the World Bank Water and Sanitation Program (WSP), Plan International Indonesia, and some other CSOs (Murta and Willetts, 2014), have played a key role in this. In East Java Province, WSP has trained local masons, artisans, local government employees and businesspersons to become sanitation entrepreneurs. In late 2011 these entrepreneurs started forming an association – Association of Indonesian Business Sanitation and Empowerment (known as APPSANI), which currently has 116 members from East Java (Koen Irianto, Head of APPSANI 2016, pers. comm., 16 August). A similar approach by Plan in Grobogan District also led to the formation of an association in 2011 – Association of Grobogan Sanitation Entrepreneurs (known as PAPSIGRO), which at the time of the research had 19 members. These associations support sanitation entrepreneurs and aim to expand access to sanitation. They provide access to cheaper materials, cross-learning opportunities, and training.

3. Methodology

The research presented in this paper was guided by a political economy analysis framework (Fritz *et al.* 2009; Harris *et al.* 2011; Harris, 2013). Three areas were given attention:

- The macro political economy context of Indonesia (including relevant regional and international dynamics);
- Sanitation sector-level dynamics;

- Organisation-level dynamics, focusing on private and social enterprises and the interface between these and civil society organisations and government agencies.

A review of recent country-based literature (Mukherjee & Shatifan 2009; ISF-UTS 2011; WSP 2011; Garbarino & Holland 2011; Robinson 2011) was used primarily to address the first area, and empirical qualitative research was used primarily to address the second and third areas.

One to two hour semi-structured interviews recorded through detailed notes by two researchers were conducted with representatives from 33 organisations in Jakarta, Central Java (Grobogan District), East Java (Lamongan and Sidoarjo Districts), and Nusa Tenggara Timur (Manggarai Timur district). They included sanitation entrepreneurs (four interviewees representing different enterprises), staff members of associations of sanitation enterprises (four interviewees across two associations), staff from national and international CSOs (17 interviewees across nine CSOs), donor organisations (one group interview with five representatives from one donor organisation), and national and local government agencies relevant to enterprise development in the sanitation sector (21 interviewees across two national level government agencies - the National Planning Agency (BAPPENAS) and Ministry of Health - and 15 local government agencies across a variety of sectors).

Owners of sanitation enterprises were recruited through two development agencies that supported the establishment of associations of sanitation entrepreneurs (Plan International and World Bank Water and Sanitation Program). CSO, donor and government interviewees were recruited based on their experience and/or expertise in the subject matter of this paper, as well as their organisational role and responsibility for

implementing their organisations' sanitation programs or mandates in relation to private sector and/or sanitation development in the country.

Drawing on Ostrom's (2011) institutional analysis and development (IAD) framework, interview questions were tailored to the different types of respondents. Two analytical frameworks guided the analysis. Firstly, detailed interview notes, including direct quotes, were analysed through a 'node' analysis where each node represented a key organisational actor or stakeholder. This promoted systematic interrogation of each formal link between organisations and relevant informal institutions, as well as a focus on the node itself and its internal drivers. Secondly, literature on entrepreneurship (Clark and Wilson 1961; Wilson 1989; Ernst 2012) and on critical aspects of enterprise development in WASH (Gero *et al.* 2013; Fuertes *et al.* 2008; Mulumba *et al.* 2014; Willima *et al.* 2014; Ekane *et al.* 2014) informed the narrative of the paper.

3.1. Research limitations

The sample size of sanitation enterprises was relatively small compared to the number of interviewees from other stakeholder groups. This research followed a qualitative approach and these interviews were aimed at validating and further exploring in more depth findings and common themes that emerged from interviews with other stakeholders. However, a later study focused on the motivators and barriers of sanitation enterprises, verified many of the key findings from these interviews as being more widely experienced and applicable (Murta *et al.* 2015).

Most of the interviews were conducted in Bahasa Indonesia and responses were translated to English by staff of the in-country CSO project research partners. Hence these may have not always fully represented how participants expressed themselves. This limitation was minimised through briefing the interpreters on the research purpose

and interview guides, clarifying the translation of the interview questions, and ensuring shared understanding of their meaning. It was also mitigated by involvement of an Indonesian author in this paper.

4. Findings on factors shaping the sustainability of rural enterprise engagement in sanitation services in Indonesia

Drawing on literature on entrepreneurship (Clark and Wilson 1961; Wilson 1989; Ernst 2012), a systematic review of private enterprise engagement in the sanitation sector (Gero *et al.* 2013), and additional literature on sanitation marketing and entrepreneurship (Fuertes *et al.* 2008; Mulumba *et al.* 2014; Willima *et al.* 2014; Ekane *et al.* 2014), a number of factors that shape enterprise engagement in sanitation services were explored and identified. These factors were: (i) those that concern the characteristics of the entrepreneur themselves (including business and technical skills, entrepreneurial traits, pro-social traits and underlying motivations), and (ii) those that relate to the enabling environment in which they operate (demand creation and access to customers, access to capacity building opportunities, access to finance, financing options for customers, competition and innovation, and government support).

From a theoretical perspective, a key contribution of this research was the investigation of entrepreneurial traits and motivations amongst sanitation entrepreneurs. Although literature on private enterprise engagement in the sanitation sector and sanitation marketing and entrepreneurship mentioned above identified factors concerning both the characteristics of the entrepreneur themselves and the enabling environment, little was mentioned about the entrepreneurial and pro-social traits of sanitation entrepreneurs, and

their underlying motivations. This research drew specifically on literature on entrepreneurship (Clark and Wilson 1961; Wilson 1989; Ernst 2012) as a framework to explore these aspects amongst sanitation enterprises in Indonesia.

4.1. Characteristics of the entrepreneurs

4.1.1. Business and technical skills

Consistent with the literature (Salter 2008; USAID 2009; Mai 2010; Kome 2011; Perez *et al.* 2012; Ikeda 2012; Sy *et al.* 2014), lack of business skills, particularly in financial management, was reported to be an issue by respondents. The head of an association of sanitation entrepreneurs noted: *'our countrymen [...] still have a lot to learn about entrepreneurship and need advisory support and coaching'*. Two government agencies explained this is a common issue in the country's small-scale private sector: *'Sometimes they use the money for their own needs [rather than investing in the business] and there is no cash flow'*.

A study on the challenges faced by APPSANI entrepreneurs (Ikeda 2012), identified the management of instalment payments as a key issue affecting cash flows and profitability. This study found that only 35 per cent of the APPSANI members kept financial records, and most were only basic income statements, inadequate for monitoring business cash flows.

4.1.2. Entrepreneurial traits

Ernst (2012) describes five typical traits of business entrepreneurs: risk-taking propensity, innovativeness, need for achievement, need for independence and

proactiveness. Two of these, proactiveness and risk-taking propensity, were clearly evident amongst some entrepreneurs interviewed, but were absent amongst others. Evidence of the other three traits (innovativeness, need for achievement and need for independence) was not substantial. These traits are explored in a subsequent study and are not reported here.

Entrepreneurs demonstrated proactiveness and risk-taking propensity through outlaying money, making investments, offering favours and tolerating losses. One entrepreneur noted: *'I dared myself to take the risk. But I didn't have money [...] and took loans from the construction shop [...] in that process I had to take a risk'*.

Another entrepreneur mistakenly provided higher quality toilets, but did not demand increased payment for them, thus tolerating a loss. This led to additional orders from others, and ultimately, a profit. As one entrepreneur put it, an entrepreneur requires a *'spirit of courage and endurance, [depends on] how much you can tolerate loss'*.

There also appeared to be an avoidance of risk in some cases. According to Ikeda (2012), most APPSANI entrepreneurs have enough collateral to access loans from banks but avoid doing so. In Grobogan, PAPSIGRO members interviewed tended to rely on local community networks and informal lending instead of banks. This aversion to bank borrowing was emphasised by one CSO stakeholder: *'[entrepreneurs] say "I'm not that confident yet", or, they say, "I don't really need it yet".'* This research suggests that in some cases the reluctance to borrow from banks may be due to the risk-averse character of the entrepreneur or a lack of familiarity with bank borrowing.

Development partners using market-based approaches found it challenging to recruit participants with entrepreneurial traits. Plan International Indonesia noted that whilst initially there was a high interest from a range of individuals to receive training, the

number who had a genuine interest in, and aptitude for, setting up businesses and taking the risks that entrepreneurs must take was much smaller. Similar experiences were reported in East Java. Hence, there is a need to screen potential participants for entrepreneurial traits before training.

4.1.3. Motivations and pro-social traits

According to Ernst (2012), a characteristic typically present in social entrepreneurs is a pro-social personality. Clark and Wilson (1961) and Wilson (1989) describe four main types of motivation that affect the decisions and behaviour of individuals in organisations. These are: (i) material motivations (linked to tangible rewards, such as a salary and fringe benefits); (ii) purposive motivations (linked to intangible rewards such as a sense of group mission), (iii) solidary motivations (linked to intangible rewards, such as socialising and camaraderie); and (iv) status motivations (linked to intangible rewards, such as prestige and recognition).

Although sanitation entrepreneurs were motivated by material rewards, other types of motivations were also evident, as were disincentives that worked against some of these motivations. Further, the strength of these motivators varied for different individuals and according to the extent to which the motives were mutually reinforcing or could undermine each other. For instance, purposive motivations to serve the poor may act in opposition to a desire to make a profit.

In Grobogan, the interviewees' emphasis on serving the poor was evident both in their individual businesses and in the wider association. One entrepreneur said: *'my focus is on how to help the community [...] to become healthy'*. Also, in recognition of the challenging financial situations of their customers, many entrepreneurs did not have stringent instalment payment terms and conditions. One sanitation entrepreneur said:

'[repayments] can take one week, one month, one year, one-and-a half years [...] we're not only about business, it is a social purpose'. The leader of the APPSANI association spoke of his commitment to developing his sanitation business as a model for other businesses.

The associations also supported entrepreneurs in their shared purpose by bringing together people with complementary skills. PAPSIGRO members included masons and marketers (sales agents): *'Some build the toilet, but can't sell. Some are good at selling. If we go one by one it won't work, so we established PAPSIGRO'* (sanitation entrepreneur). Sanitation entrepreneurs, who bear the business risk, typically have a propensity for risk-taking. Marketers don't bear any risk and typically are easily able to access potential customers through community networks and/or have the right skills to access them.

Concerning solidary motivations, it was clear that entrepreneurs in Grobogan, at least initially, enjoyed working together (and in partnership with Plan) to develop their products and businesses. The formation of PAPSIGRO and APPSANI helped to formalise interactions and support social interaction between entrepreneurs. For instance, one entrepreneur noted *'inside the discussion every member agreed that every challenge [...] we will try facing [challenges] together because in [the association] we have the principle of kinship, solidarity, and mutual cooperation'.*

Challenges that can work against solidary motivations were also revealed. It was reported that association membership was diverse in terms of age and profession. This diversity may make it difficult to hold the group together in the long term. For instance, entrepreneurs from different backgrounds may hold different views about the best way to drive their work, leading to arguments, as highlighted by one entrepreneur: *'Sometimes there were conflicts [between members], when we talked about the*

orientation of the business.’ Further, competition between entrepreneurs for customers may also create tensions and undermine solidary motivations.

Status-related motivations, such as prestige and recognition, pulled members in different directions. Various stakeholders said that sanitation is not a ‘sexy’ business, and that this might discourage new entrepreneurs, or cause existing entrepreneurs to lose interest. Nevertheless, for some entrepreneurs the sanitation business did have some prestige associated to it. Associations such as PAPSIGRO and APPSANI have attracted national and international attention, and invitations for some entrepreneurs to make presentations in other parts of Indonesia and in other countries such as Vietnam. During interviews, entrepreneurs were quick to note this recognition.

4.2. Enabling environment

4.2.1. Demand creation and access to customers

Irregular or low demand for sanitation products and services is commonly reported in the literature as affecting business success (Fuertes *et al.* 2008; Salter 2008; USAID 2009; Mai 2010; Kome 2011; Chowdhry & Kone 2012; Desalegn *et al.* 2012; Pouv *et al.* 2012; Sy *et al.* 2014; Mulumba *et al.* 2014). Fuertes *et al.* (2008) highlight the link between demand and consumers' attitudes and behaviour. The authors explain that the mismatch between enterprises' short-term objectives and the time required to change consumers' attitudes and behaviours can make it difficult to keep potential entrepreneurs interested in sanitation as a business.

‘Triggering’ communities through CLTS prior to sanitation marketing often plays a key role in generating demand for sanitation products and services (Pouv *et al.* 2012). However, in some cases the level of demand reached through CLTS is insufficient to sustain the sanitation entrepreneurs in the long term. Although CLTS has been successful

at promoting latrines, it has not led community members to invest in facilities beyond simple pit latrines (Tyndale-Biscoe *et al.* 2013). Further, enterprises often struggle to stay in business as sanitation coverage reaches saturation (Mulumba *et al.* 2014).

Demand can also be affected by a legacy of subsidy-based sanitation interventions. Such approaches create an expectation of free toilets from communities and affect their willingness to pay for sanitation services and products (WSP 2013).

This research found that sanitation entrepreneurs in Indonesia tended to rely on external agencies (local government and CSOs) to implement CLTS to generate demand for their products and services. Further, it revealed that entrepreneurs who had easy access to community social networks through their own concurrent occupations, for example as sanitarians, had a competitive advantage in developing a market.

In Grobogan and East Java, most sanitation entrepreneurs worked primarily in rural communities that had been CLTS-triggered and demand within such communities was generally expected to grow spontaneously once they had been triggered. Yet in East Java, Ikeda (2012) found lack of demand, including in areas where CLTS had been implemented, to be a key concern for sanitation entrepreneurs. This suggests that sanitation entrepreneurs need to be more proactive in creating demand for their services beyond the CLTS triggering. This may involve expanding to new geographic areas and/or providing services beyond first-time access.

Some entrepreneurs were being proactive by establishing partnerships with government staff, such as village heads and sanitarians, who acted as sales agents. According to Ikeda (2012), this type of partnership was one of the most important contributors to the success of high volume sales entrepreneurs.

Cases of entrepreneurs who were also sanitarians were common and have also been reported by Ikeda (2012). As community health and sanitation promoters, sanitarians have knowledge of the sanitation sector and community social networks, which provides them a competitive advantage in accessing potential customers. However, there were mixed views about whether this mutual role helped to improve sanitation coverage, or whether it was unethical and represented a conflict of interest. One CSO stakeholder commented: *‘no, it’s fine, his job is to promote use of latrines [...] He can do it as a marketer, as a religious leader, or as a business. It can be a conflict if [they] use work motorcycle or do [it] in work time’*. On the other hand, a government stakeholder argued that a sanitarian would be unable to *‘perform his real duty’* of checking the quality of products and monitoring changes in sanitation coverage, due to vested interests in certain outcomes. It was also argued that sanitarians who were also sanitation entrepreneurs might neglect their other duties (in other areas of environmental health such as monitoring food and drinks).

4.2.2. Access to capacity building opportunities

Overall, our research revealed limited technical and business training opportunities for sanitation entrepreneurs and found these were largely dependent on international CSOs for this type of support. In East Java and Grobogan, training for entrepreneurs was provided by international development partners (WSP and Plan respectively), which led to the formation of sanitation trade associations intended to provide support services to sanitation providers, including training. However beyond this support, funded training opportunities were limited.

The Department of Health is the main government department responsible for budget allocation for sanitation-related activities, and associations of entrepreneurs partially relied on this budget to deliver training. However, funds from this budget are not always

available in some locations. Districts commonly have vocational education institutions teaching business and management subjects but these require payment (which may render them out of reach for entrepreneurs) and usually focus on trades other than sanitation.

Within local government there are generally one or two agencies with a role in fostering private sector development. Typically, these agencies provide capacity building support to small businesses, supported by local and central government funding. In Grobogan District, funding bodies included the District Department of SMEs and Cooperatives and the District Department of Mining and Industry. In Manggarai Timur district, these agencies were combined into one agency, the District Department of Industry, Trade, Cooperatives, and SMEs.

In general, interaction between government agencies and water and sanitation entrepreneurs has been very limited. Historically, water and sanitation have not been part of the focus of these agencies, and they tend to concentrate on other priorities such as food, construction, and arts and crafts businesses. As one government staff member from the health area noted: *'Each ministry has its own priorities [...] you have to take into account the national budget system. It is performance-based [...] there is no priority for water and sanitation [...] it will take time for them to realise.'*

In Manggarai Timur district however, in 2014, the Department of Industry, Trade, Cooperatives, and SMEs included funding of IDR 250-270 million for training of sanitation entrepreneurs in their yearly budget proposal (Manggarai Timur District Government 2015). This was a result of Plan's efforts to support and facilitate local government implementation of the national STBM strategy. The strong influence of Plan on this outcome was noted by one local government stakeholder: *'Before Plan came*

sanitation wasn't really a priority ... we needed Plan to come to realise the importance of it.'

Nevertheless, budget proposals from local government agencies are subject to approval by the legislature, whose competing priorities may discourage them from providing funding for sanitation: *'each department has their own proposal so it's hard to choose [...] in the legislative they have their own plans and priorities [...] they are also divided in areas'* (government stakeholder).

Our research revealed that accountability around the budget allocation mechanisms used by these agencies may favour businesses with which these agencies have patronage relationships, and this may act as a disincentive for them to branch into new areas, such as sanitation, which may not offer high financial returns. The findings also suggest that these agencies mainly provided support to businesses that are legally recognised as business organisations, and in many cases sanitation entrepreneurs are not legally recognised.

4.2.3. Access to finance

Lack of access to finance for entrepreneurs and their customers is another commonly reported factor constraining sanitation businesses' growth and success (USAID 2009; Mai 2010; Pedi et al. 2011; Chowdhry & Kone 2012; Willima et al. 2014). In Indonesia, 87 per cent of 40 million micro and small entrepreneurs do not have access to banking services (IndII 2011). Our research revealed that sanitation entrepreneurs relied largely on personal savings or informal lending.

A major contributor to the limited availability of finance for entrepreneurs is that banks and micro-finance institutions (MFIs) are not interested in financing sanitation businesses: *'It is difficult. [Micro-finance institutions] don't trust this kind of business'*

(CSO stakeholder). Various stakeholders from CSOs had tried to mobilise the financial sector to provide loans to support sanitation businesses but were met with perceptions that sanitation is not attractive. For instance one stakeholder noted: *'business people, MFIs, are not interested in sanitation [...] sanitation is not sexy to the real business micro-finance man and [there was] no interest, [it is] not sexy, [entrepreneurs have] no collateral. That was our difficulty'*. It may be that the small size of such businesses also reduced interest in them: *'Maybe too small money for them? Admin costs associated to it or just not interested [...] they have other ways to make money'* (CSO stakeholder).

As IDE (2014) explains, sanitation products are not income-generating assets thus tend to be less profitable than MFIs' other products. MFIs may require more proof of the positive business impact of sanitation financing before investing in it (IDE 2014).

Further, a legal entity is often required for formal lending, and often, sanitation businesses are not legally registered business organisations. Local banks were mentioned as having more flexible lending criteria. Some provided loans to non-legally registered businesses, based on evidence of their cash flows. However, cash flow management and book keeping requires a certain level of financial management – an area of major capacity building need amongst entrepreneurs.

Associations of sanitation entrepreneurs may be in a position to assist entrepreneurs in overcoming this issue by providing loan guarantees. In East Java, APPSANI has been providing this kind of support to some of its members: *'[they] don't need to be legalised, they just have to become a member of APPSANI. APPSANI provides joint signature and gives a recommendation'* (member of APPSANI).

Informal lending may also be a viable solution in some situations. For instance, materials stores may support entrepreneurs once trust has been developed. Such was the case with one sanitation entrepreneur. However, findings suggest that such arrangements may involve payback periods which are too short (for example, two weeks) to satisfy the needs of entrepreneurs.

4.2.4. Financing options for customers

Reported financial constraints to sanitation business growth and success include not only the entrepreneurs' access to finance but also their customers' access to financing options (USAID 2009; Mai 2010; Pedi *et al.* 2011; Chowdhry & Kone 2012; Willima *et al.* 2014).

An effective strategy to address customers' financial limitations and attract sales is to offer credit and instalment payment options. However, this increases the risk of cash-flow management issues for providers. Further, managing instalment repayments can be time consuming (Ikeda 2012). The availability of financing options for customers, such as bank loans and traditional informal micro-finance, can help businesses reduce this type of risk.

In East Java, in response to a need to address its members' challenges in managing instalment repayments, APPSANI collaborated with a national bank to provide loans for its members' customers. Once a household ordered a toilet from an APPSANI member, APPSANI informed the bank that an order had been made and the bank provided a loan to the customer to pay for the toilet. The customer then paid back the bank based on the agreed terms (Figure 1).

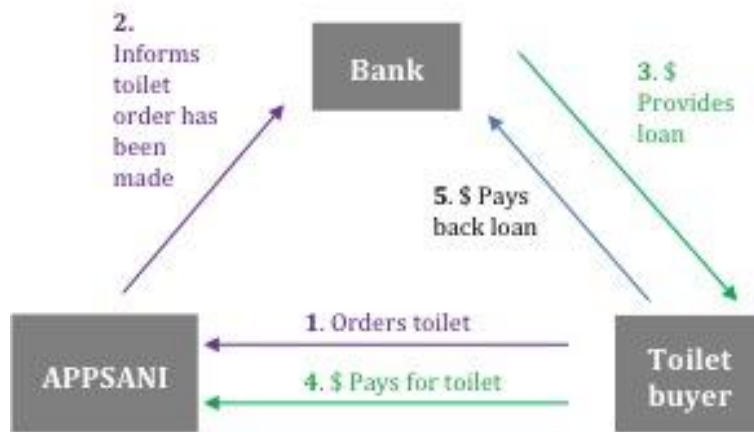


Figure 1: Mechanism to provide bank loans to sanitation enterprise customers in East Java

Traditional lending mechanisms can also shape how entrepreneurs can pursue their businesses by offering support to customers. In Grobogan and East Java, to increase sanitation coverage, local government authorities encouraged the use of *gotong royong*, in which a group of community members contributes financially to purchasing a toilet for a community member who cannot afford it. It was reported that when a village head is pressured by higher levels of government to eliminate open defecation, they may trigger the use of *gotong royong*.

Another traditional mechanism of informal lending used in Java is *arisan*, in which groups of 20 to 40 people meet regularly for a fixed period of time and contribute a fixed amount at each meeting, and a member is paid the total of the money pot on a rotating schedule (Ikeda 2012). The process continues until all members of the group have received the money pot at least once (Ikeda 2012). In East Java, this process has been used by community members to buy toilets and some sanitation entrepreneurs have helped facilitate this process for groups of costumers (Ikeda 2012).

Establishing partnerships with local leaders to facilitate these types of lending mechanisms can be an important business strategy for enabling customers to access finance and for managing the business cash flow. Ikeda (2012) refers to a case in East Java where a sanitation entrepreneur worked with the village head to facilitate an *arisan* for the entire village, an arrangement which helped the entrepreneur to better manage demand and the related cash flow (Ikeda 2012).

However, Ikeda (2012) also reports that this process is generally used by wealthier households, and that households often prioritise investments other than sanitation when using *arisan*. Therefore, to ensure poorer households are reached, it is likely that alternative financing options are needed.

In rural locations, the costs of sanitation can escalate due to longer distances from main town centres and higher transportation costs (Gero *et al.* 2013), hence financing options for customers can be critical to overcome affordability challenges.

4.2.5. Competition and innovation

Competition encourages the improvement of services by sanitation enterprises and stimulates innovation (Pedi 2012b; Cole 2013; Pedi & Jenkins 2013a). For example, businesses may explore competitive advantage by innovating in the design of their products or in the product and service price packages and payment options they offer to their customers.

Some evidence suggests that the associations of entrepreneurs have been the major drivers and ‘controllers’ of sanitation product and service innovations in the market, a situation that has both potential benefits and constraints. Findings from East Java and Grobogan, suggest that it was the sanitation entrepreneur associations rather than the individual businesses that were responsible for innovations in product design and

product services packages. Ikeda (2012) indicates that in East Java, sanitation entrepreneurs may tend to rely on their association to access innovations.

The benefit of associations playing a role in ‘controlling’ innovation is the opportunity to develop products that may be quality certified, and which may create a ‘brand’ and support ease of entry of new players into sanitation businesses, as they may adopt an existing model. This is important since some stakeholders noted the limited ability of existing entrepreneurs to innovate on their own. In addition, associations have greater critical mass, and are more able to invest in product development than single entrepreneurs – APPSANI has a unit devoted to research and product development.

On the other hand, if associations assume such roles, this may discourage individual businesses from experimenting and innovating on their own, either with respect to technologies or product-services packages. This may create a cycle of entrepreneur dependence on the trade associations, and limit opportunities for bottom-up innovations stimulated by competition. An alternative to the current model would entail associations of entrepreneurs supporting bottom-up innovations by mentoring members to explore different product-service and price packages or new technologies. This may be particularly important in the development of products and service options tailored to poor households.

These observations reflect typical political economy tensions between cooperative and competitive dynamics, and the contradictions that exist between different incentives. Such incentives also have the potential to shift over time. For instance there may be a point at which the benefits offered by the current association structure and orientation are no longer sufficient to outweigh the costs for individual entrepreneurs.

4.2.6. Government support

Government support through policy and regulation, targeted capacity building, and financial support, plays an important role in sanitation enterprise growth and success (Mukherjee *et al.* 2012; Mulumba *et al.* 2014).

Several challenges related to government support were evident. These related to localised decision-making, an under-investment in the sanitation sector, and lack of recognition from government of its role in supporting sanitation enterprises.

Decentralisation has meant that district governments now have greater control over planning and budgeting of service delivery. Hence, regardless of the policies developed by national line agencies, the district head and the local parliament have the power to decide which policies to focus on. To receive funding for their activities, district departments must convince their district head and district parliament that the projects they support are worthwhile. Therefore, securing local government commitment to sanitation is crucial for the development of sanitation entrepreneurs, as noted by one CSO: *‘when district governments don’t pay attention to sanitation then you can’t have sanitation entrepreneurs.’*

Historically little attention and few resources have been devoted to sanitation by the different levels of government, and the dominant perception has been that it is a private matter for households (Garbarino & Holland 2011). Local governments tend to focus on high-visibility investments such as roads or new buildings, or on other sectors with ‘a traditionally higher perceived priority’ such as free education and curative health services, which can ‘easily crowd out sanitation and other health promotion issues’ (Garbarino & Holland 2011, p. 23, 24).

On the other hand, whilst resource scarcity can be a limiting factor, in some cases it is not the key issue. There may be insufficient pressure from higher levels of government

on local authorities to allocate resources to sanitation services. There may also be resistance on the part of executives in local organisations. As a result, high-level government buy-in and demand from civil society doesn't necessarily translate to budget disbursement (WSP 2011).

Consequently, CSOs using sanitation market-based approaches face challenges in securing local government support for sanitation enterprise development. In East Java and Grobogan, support for sanitation from local governments has largely focused on creating demand for sanitation products through CLTS triggering, and there is a lack of recognition of the need to go beyond the demand creation phase to address the supply-side: *'Government is in a state of euphoria to achieve ODF but is not focused on sustainability'* (CSO stakeholder). CSO stakeholders also reported that the government response can be that it is not their concern: *'if [you] say this is private sector, then they respond that this is not their domain, [and that] they [enterprises] have to survive and that they don't have the capacity and skills to help. If you ask them to help, then they say they don't know how'* (CSO stakeholder).

Sector fragmentation at both the national and local levels, and limited inter-sector coordination, are also barriers to government support to sanitation enterprises. Ekane *et al.* (2014) note the importance of coordination and coherence across macro-, meso-, and micro-level government institutions. Institutions that are based on different principles are likely to follow different governance styles and therefore view, approach and support the sanitation sector and sanitation businesses in different ways. Strategies to address this challenge include adopting a sector-wide approach with the development of sector working groups and memorandums of understanding between actors (Ekane *et al.* 2014). Willima *et al.* (2014) also emphasise the importance of inter-sector collaboration and

propose the development of district-level cross-sector business incubation centres as platforms for the development of businesses including sanitation businesses.

The establishment of an inter-ministerial water and environmental sanitation working group at the national level in 1999 – the *Pokja Air Minum dan Penyehatan Lingkungan* (Pokja AMPL Nasional) – and later at provincial and local levels of government, has contributed greatly to improvements in the country's water and sanitation sector coordination in recent years (Robinson 2011; World Bank 2013).

Nevertheless, challenges remain in engaging relevant agencies with a role in private sector but no tradition in supporting the sanitation sector such as the District Department of SMEs and Cooperatives, and the District Department of Mining and Industry. As mentioned earlier, in East Java and Grobogan, these agencies have had limited interaction with sanitation enterprises. The district-level POKJA-AMPL water and sanitation coordination group could provide an opportunity for these agencies to support sanitation enterprises. However, agencies active at the district level POKJA (the District of Health Office, District of Public Works and BAPPEDA) may have limited authority to secure such involvement: *'sometimes they send the wrong person [...] we cannot force them [...] we have lots of other duties'* (local government staff).

In fact, although responsibility for sanitation at the national level lies with the Ministry of Public Works, the Ministry of Health and the National Development Planning Agency (BAPPENAS) (ISF-UTS 2011), in practice, only BAPPENAS at the national level, and the Regional Planning Offices (Bappeda) at the district level, can take a lead coordinating role with technical agencies at the same level. Functional agencies like the Ministry of Health do not have authority to coordinate other offices that are at the same level or higher.

Plan's successful efforts to facilitate local government implementation of the national STBM strategy in Manggarai Timur district mentioned earlier, highlight the role that CSOs can play in improving coordination between relevant government agencies and in increasing the attention given to sanitation by government agencies beyond the WASH sector.

Further, in the context of limited government support for sanitation such as the one observed in Indonesia, associations of entrepreneurs such APPSANI and PAPSIGRO can be particularly important to address gaps in key business support functions. These organisations can be a useful point of intervention for CSOs to support an enabling environment for sanitation enterprises as well as to create a bridge between enterprises and government agencies. To remain viable in the long term, however, these organisations need to generate sufficient economic value to sustain themselves. This means their business models and management practices need to ensure financial sustainability. In Indonesia these organisations were initiated with support from international development partners and at the time of this research, they were still refining their business models and scope of services with the aim of building financial independence and sustainability.

5. Conclusions

Over the past decade, as a response to challenges in achieving sustained sanitation behaviour change and lack of access to appropriate sanitation products and facilities, governments, development partners and CSOs globally have begun to explore market-based approaches that engage private and social enterprises to build 'professionalisation' of service delivery and support supply chain development. This trend has been observed in Indonesia, where CSOs have played a driving role in supporting the development of

sanitation entrepreneurs. However, challenges remain around the long-term success and sustainability of sanitation enterprises, as well as their effectiveness in ensuring equitable outcomes, and in ensuring that the poorest of the poor are served, particularly in remote rural areas.

This research revealed that common challenges faced by sanitation enterprises identified in literature relevant to this topic globally were also faced by sanitation enterprises in Indonesia. Further, this research highlighted key factors that governments or CSOs supporting sanitation enterprise roles in Indonesia or other developing economies need to consider to address these challenges. These include: considering the entrepreneurial traits and skills of potential entrepreneurs and their intrinsic motivations, such as their pro-social motivations; and the enabling environment in which entrepreneurs operate, including available private sector development mechanisms. From a theoretical perspective, the investigation of entrepreneurial traits and motivations amongst sanitation enterprises was a key contribution of this research.

In Indonesia, the research demonstrated a clear need for increased business skills amongst sanitation entrepreneurs, in particular financial skills such as cash-flow management and bookkeeping. Difficulties faced by CSOs in recruiting appropriate entrepreneurs also indicated that such processes deserve greater attention to the entrepreneurial aptitude and traits of the recruits. Important traits governments and CSOs need to consider when recruiting sanitation entrepreneurs include pro-activeness, risk-taking behaviour, innovativeness, need for achievement, and need for independence.

Concerning the entrepreneurs' intrinsic motivations the research revealed a broader range of motivations for being involved in a sanitation enterprise beyond profit. These included prestige and recognition, and a pro-social motivation to improve the health of

communities. Governments and CSOs can develop incentives that tap into to these motivations. For example, as serving the poor remains challenging in most contexts, they can tap into pro-social motivations of the entrepreneurs to encourage equitable outcomes.

Challenges within the enabling environment for sanitation enterprise development in rural Indonesia were observed across all of the typical private sector development mechanisms, including: demand creation and access to market, capacity building opportunities, financing options for entrepreneurs and their customers, competition and innovation, and support from government.

Government efforts to support sanitation were largely focused on demand creation through CLTS and underpinned by a lack of recognition of the need to address the supply side of sanitation. Consequently, government-led private sector development initiatives were generally not targeted to include sanitation businesses. Securing local government commitment to supporting sanitation enterprises, including private sector development agencies, is crucial for their development and may require advocacy efforts from CSOs, as well as associations of sanitation entrepreneurs, or changes in national policy directions.

Moreover, although demand creation efforts by government and CSOs through CLTS were effective in opening markets for sanitation entrepreneurs, entrepreneurs were not proactive in generating demand beyond CLTS triggering and expanding to new geographic areas and/or providing services beyond first-time access. This may require CSOs supporting sanitation entrepreneurs in establishing strategic partnerships with sales agents who have easier access to potential customers within communities, such as village heads or sanitarians in the context of Indonesia.

Associations can be a useful point of intervention for government and CSOs to provide intermediary support to sanitation enterprises, as well as a vehicle for tapping into a range of motivations of the entrepreneurs. This can be particularly relevant in cases where government support is limited. However, their role in facilitating sanitation product and service innovations needs to be carefully considered. In Indonesia, these organisations were addressing gaps in key support functions such as capacity building and access to banking services to entrepreneurs and customers. Further, they were reported to offer a sense of mutual cooperation and kinship to their members which acted as motivations for them to continue in the business. Their role in facilitating and stimulating innovation was limited however. Both APSANI and PAPSIGRO played key roles in driving and ‘controlling’ innovations. Although associations are likely to have greater critical mass and capacity to invest in product development than individual entrepreneur, this may limit opportunities for bottom-up innovations through competition and contribute to creating a cycle of entrepreneurs’ dependency on the associations. An alternative may be for associations to play a mentoring role and support members in exploring product and service innovations. This may be particularly important to foster the development of products and service options tailored to poor households.

Nevertheless, without financially sustainable business models associations have limited potential to remain viable and continue performing their role in the long term. Further research is needed to identify the range of possible business models suitable for associations as well as other types of intermediate level support organisations, key principles by which such organisations should function to ensure equitable and sustainable outcomes, and develop guidance for governments and CSOs on how to support such organisations.

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