



**PRIVATE AND SOCIAL ENTERPRISE ENGAGEMENT
IN WATER AND SANITATION FOR THE POOR**
WATER AND SANITATION
ENTREPRENEURS IN
INDONESIA, VIETNAM AND
TIMOR-LESTE: TRAITS,
DRIVERS AND CHALLENGES

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ENTERPRISE IN WASH

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ABOUT THE AUTHORS

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SUMMARY

This paper explores the entrepreneurial and pro-social traits, motivations and challenges of different types of water and sanitation entrepreneurs in Indonesia, Vietnam and Timor-Leste. The paper also explores the socio-cultural dynamics that affect women's involvement in leading water and sanitation enterprises.

The research analysed the presence of five entrepreneurial traits (need for achievement, proactiveness, risk-taking, innovativeness and need for independence) amongst the entrepreneurs and the relationship between the presence of these traits and business success. Most entrepreneurs demonstrated one to five traits and that need for achievement and proactiveness were the most commonly demonstrated traits. A positive relationship between the number of traits and business success was also found. Proactiveness and risk-taking were the key traits differentiating successful entrepreneurs from unsuccessful entrepreneurs across the majority of the sample.

The research also analysed the presence of pro-social traits amongst the entrepreneurs and what types of motivations underpinned the presence of this trait. Most entrepreneurs demonstrated medium to strong pro-social traits, however they were less present amongst sludge removal entrepreneurs as opposed to water enterprise leaders or sanitation entrepreneurs. Motivations underpinning pro-social behaviour included self-satisfaction, religious beliefs, empathy for the poor and extrinsic factors associated with other positions or roles held by the entrepreneur.

The research identified a diverse range of motivations for entrepreneurs to engage in the provision of water and sanitation services beyond pro-social motivations. These included extended social networks, new skills, knowledge and experience, status and acknowledgment, pride, and lifestyle and time flexibility offered by the job.

Membership of associations of water and sanitation enterprises was found to provide benefits to entrepreneurs. Involvement in associations was found to enhance motivation for existing entrepreneurs to continue their engagement in water and sanitation service provision, and

associations also encouraged the involvement of new entrepreneurs. The most reported benefits from association membership included peer-to-peer learning and capacity building opportunities, sense of camaraderie, friendship, and sense of group mission. Other less pronounced benefits included access to information, networking, opportunity for new experiences, fair competition, access to cheaper materials, access to credit, and capacity for advocacy concerning common issues shared by the association members.

Concerning challenges faced by the entrepreneurs, the research analysed the presence of five broad categories of challenges: 'access to market' challenges, financial challenges, human resource challenges, operational challenges, and government and regulatory related challenges. Dominant challenges amongst water enterprises in Indonesia and Vietnam were operational challenges as well as difficulties accessing finance in terms of obtaining bank loans or excessively high interest rates. The dominant challenge amongst sanitation enterprises concerned adequate consumer demand. Human resource challenges for both water and sanitation enterprises revolved around access to staff with relevant skills. Government and regulatory challenges were more pronounced in Indonesia than Vietnam, reflecting the stronger enabling environment for private sector development in Vietnam.

Lastly, concerning gender equality aspects, findings from this study confirmed that entrepreneurial activity in water and sanitation in each of the countries covered in this study was male-dominated. The research sought to understand the dynamics that may bring about these gender imbalances by analysing the relationship between gender and business success and gender and pro-social traits in the context of Indonesia and Vietnam. Open-ended questions concerning how easy or difficult it was for women to become entrepreneurs were also used to explore this issue. The level of success amongst female entrepreneurs in Indonesia was lower than male entrepreneurs,

indicating that particular forms of support are required to support female-led enterprises. Female entrepreneurs in Vietnam demonstrated a stronger presence of pro-social traits than male entrepreneurs, a finding which could be capitalised upon in efforts to serve the poor. Amongst entrepreneurs in Indonesia and Vietnam, the perception that it was easy for a woman to become an entrepreneur was predominant. However, the reasons provided for answers to this question pointed to the complexity of the issue, and the slowly changing gender norms in the relevant countries.

The findings of this research are relevant to both Civil Society Organisations (CSOs) applying market-based approaches as well as governments interested to support private

sector roles in water and sanitation. Understanding the drivers for individuals to engage in water or sanitation entrepreneurship can help capitalise on those motivations. Awareness of the characteristics of successful water or sanitation entrepreneurs as well as an understanding of typical challenges faced can be used to devise targeted strategies to support such enterprises. Supporting associations and membership of associations is likely to facilitate greater business success. Finally, addressing the gender gap in women's involvement in water and sanitation enterprises is needed, and facilitating specific support to female entrepreneurs should be an area of focus going forward.

1. INTRODUCTION

This paper explores findings across three country-level studies into the motivations, drivers and barriers experienced by water and sanitation enterprises in Indonesia, Vietnam and Timor-Leste. Empirical research for these three studies was conducted between November 2014 and March 2015. A total of 172 water and sanitation enterprises were interviewed altogether, using a semi-structured format.

In this research we focus on the leading edge developments in each country; this is not a comprehensive study of all possible enterprise roles. This means that in Indonesia, the research was undertaken in five provinces (West Java, Central Java, Yogyakarta, East Java and East Nusa Tenggara), where international agencies have focused their efforts to support water and sanitation enterprises. In Vietnam, the research focused on five provinces in the Mekong area (Tien Giang, Dong Thap, Long An, An Giang, and Ben Tre) for water enterprises, and the district of Muong Ang in the Dien Bien province, north west Vietnam, for sanitation enterprises. In Timor-Leste, where private sector involvement is in its early stages, interviews were conducted in Dili and four districts (Liquiçá, Baucau, Manatuto and Maliana).

A diverse range of motivations for entrepreneurs to engage in the provision of water and sanitation services beyond pro-social motivations were identified. In Indonesia these included University Gadjah Mada (UGM) and Plan Indonesia. In Vietnam these were the Centre for Natural Resources and Environmental Studies (CRES) of Vietnam National University, East Meets West Foundation, and the SNV Development Organisation. In Timor-Leste our partners were the National University of Timor Lorosa'e (UNTL) and WaterAid Timor-Leste. In Indonesia, the research also involved cooperation with the World Bank Water and Sanitation Program.

In this paper we provide background information on the emergence and roles of water and sanitation enterprises in each country (Section 2) and a characterisation of the different types of water and sanitation enterprises covered in this research in each country (Section 3). This is followed by a discussion of the presence of entrepreneurial and pro-social traits and motivations amongst water and sanitation entrepreneurs in each country, as well as other types of motivations beyond pro-social motivations (Section 4). We also discuss the relationship between success and these traits, and analyse common contextual factors influencing the success of entrepreneurs and the enterprises they led (Section 5). Lastly, we discuss contextual, cultural and gender dimensions of entrepreneurship and their influence on the success of the relevant enterprises (Section 6).

Further details of the country-level findings and methodology are contained in relevant research reports (Murta et al. 2015a; Murta et al. 2015b; Gero et al. 2015; Willetts and Murta 2015). Further details of the methodology are provided in Appendix 1.

2. BACKGROUND

In Indonesia, Vietnam and Timor-Leste, various types of enterprises play roles in the provision of water and sanitation products and services (Willetts et al. 2015; Murta and Willetts 2014; Gero and Willetts 2014; Murta and Willetts 2014b). These range from fully for-profit enterprises, to hybrid organisations with a commitment to a social purpose whilst operating with a business model, to collective social enterprises. Table 1 provides an overview of these different types of organisations in each of the countries in this research. A total of 172 enterprises were interviewed.

The emergence and stages of development of these enterprises are shaped by each country's history and the dynamics of its political economy, and to some extent, they reflect the status of each country's private sector development (Willetts et al. 2015).

In Indonesia, for example, although there are a large number of small and medium-sized enterprises, there are significant shortcomings in business skills and capacity, particularly in rural areas

(Willetts et al. 2015). Further, government private sector support agencies tended to focus on sectors with higher visible connections to socio-economic outcomes such as food, construction and craft businesses (Murta and Willetts 2014a). Therefore, enterprises providing water and sanitation services such as sanitation entrepreneurs and formalised community-based organisations managing water supplies have relied largely on the support of external agencies for capacity building support (Willetts et al. 2015; Murta and Willetts 2014a). For example, the formation of sanitation enterprises has been largely supported by development agencies such as the Water and Sanitation Program (WSP) and Plan International who have trained local masons and artisans to become entrepreneurs. In East Java and Grobogan, sanitation entrepreneurs have formed associations which provide a range of support services and functions to entrepreneurs such as access to cheaper materials, networking and cross-learning opportunities, training and

TABLE 1: TYPES OF PRIVATE AND SOCIAL ENTERPRISES PLAYING ROLES IN THE PROVISION OF WATER AND SANITATION PRODUCTS AND SERVICES IN RURAL INDONESIA, VIETNAM AND TIMOR-LESTE (WILLETTS ET AL. 2015)

SUBSECTOR	INDONESIA	VIETNAM	TIMOR-LESTE
Water	<ul style="list-style-type: none"> Formalised community-based organisations (CBOs), village- owned enterprises or cooperatives managing rural water supply District associations of water CBOs offering loans and technical support Distributors of household water treatment products 	<ul style="list-style-type: none"> Small-scale private water service providers Cooperatives managing rural water supply and other services Social enterprises for localised bottled water production Distributors of household water treatment products 	<ul style="list-style-type: none"> Private companies and not-for-profit enterprises providing support to service provision Kiosks retailing water spare parts in addition to other small household products Association of community-based water committees offering support to water CBOs
Sanitation	<ul style="list-style-type: none"> Sanitation entrepreneurs and masons providing sanitation products and services Retail shops with sanitation products Associations of sanitation entrepreneurs offering training, loans and technical support Small private de-sludging service providers 	<ul style="list-style-type: none"> Masons building toilets, usually as a side business to building houses Retail shops selling sanitation products Small private de-sludging service providers 	<ul style="list-style-type: none"> Sanitation entrepreneurs providing sanitation products and services Retail shops selling construction materials in district capitals

advocacy (Murta and Willetts 2014a). In response to a lack of institutions and functions which support service delivery, water community-based organisations (CBOs), water and sanitation enterprises have also started to form associations at the district, provincial and national levels. These associations provide a range of support functions to the water CBOs such as access to technical support and access to credit (Murta and Willetts 2014a).

Of the three countries studied, Vietnam is the one with the highest level of private sector development and innate business activity (Willetts et al. 2015). The government is becoming increasingly interested in the role the private sector can play in various sectors, including the WASH sector (Gero and Willetts 2014). As a result, in the rural areas of the Mekong region in particular, there is a growing number of private enterprises providing water supply services. However, there are few enterprises specifically focused in the provision of sanitation products and services in rural areas, particularly in remote mountainous regions where business activity tends to be lower than in the more densely populated plains due to high supply-chain and transportation costs (Willetts et al. 2015; Gero and Willetts 2014).

In contrast, the private sector of Timor-Leste is nascent, with little economic activity beyond the capital, Dili. Therefore, many of the factors necessary to support enterprise development, such as transport infrastructure, financing mechanisms and capacity building opportunities, are not yet present. While the government has made some efforts in this direction, these have been largely focused on the construction sector (Willetts et al. 2015; Murta and Willetts 2014b). Therefore, the engagement of enterprises in the provision of water and sanitation products in Timor-Leste is less visible than in Indonesia and Vietnam. The enterprise roles that are found in Timor-Leste have been largely initiated through development agencies and are highly dependent on external support from these agencies, and thus remain fragile (Murta and Willetts 2014b).

3. ENTERPRISE CHARACTERISTICS

This study focused on a sub-set of the different types of water and sanitation enterprises in each country. In the following sections we describe the typical characteristics of these enterprises.

INDONESIA

In Indonesia, this study focused on three types of water and sanitation enterprises: formalised CBOs managing a rural water supply (water enterprises), sanitation entrepreneurs and sludge removal enterprises. The following is a characterisation of these enterprises.

Water enterprises (n = 21): Each of these was a CBO managing a rural water supply scheme. Most of the schemes were initiated with financial support from development agencies and government (86%). The water enterprise leaders interviewed were all male and predominantly aged between 36 and 55 (81%). Almost half had a university degree (48%). Most had previous work experience (71%), mainly in the public sector (73%). Most enterprises were small, with six to ten people (81%), and part of an association of water CBOs (76%). Most were located in rural areas (95%) and more than half had been in operation for more than ten years (62%). The vast majority (95%) were formal enterprises, and 52% were village-owned enterprises. The number of households served by these enterprises ranged from 186 to 2,800 households, with the majority (71%) serving less than 1,000 households. The majority (86%) served up to four villages.

Sanitation enterprises (n = 56): These were mostly small businesses with one to ten people (89%), predominantly informal (89%), producing and selling toilet pans (61%) and offering toilet installation services (78%). More than half (52%) operated in rural areas. Of the sanitation entrepreneurs interviewed, the majority (87%) were males aged between 36 and 55 (79%), with qualifications above senior high school (59%), and with previous work experience (88%) in a variety of sectors, including a significant proportion (37%) concurrently working for the government (e.g. as sanitarians). Most enterprises (71%) were recent, with up to five years of operation, and belonged to an association of sanitation entrepreneurs (75%).

Sludge removal enterprises (n = 24):

These were all small businesses with one to ten people, predominantly informal (63%), providing faecal sludge collection services to both households and institutions (88%) in urban and suburban areas (96%). Most of the leaders of these enterprises were male (96%) aged between 36 and 55 (63%), with qualifications equal to or above senior high school (75%), and with previous work experience (67%) mainly in the private sector (94%). More than half these enterprises had been in operation for more than ten years (51%) and a smaller proportion were members of a sanitation-related association (25%).

VIETNAM

In Vietnam, this study examined two types of enterprises engaged in water and sanitation services: water enterprises and masons. The following provides a characterisation of these enterprises.

Water enterprises (n = 20): These were small-scale private water service providers who were able to buy a water system or cooperate with the government through a lease contract to manage a water system. The enterprise leaders interviewed were predominantly male (80%), aged between 46 and 65 (74%), with high school qualifications or above (90%). Most also had previous work experience (95%), the majority of which was in the public sector (65%). All enterprises were formal and most were located in rural areas (90%). More than half had a workforce of one to ten employees (55%), and had been in operation for more than ten years (60%). The number of households served by these enterprises ranged from 148 to 13,500 households, with most (60%) serving more than 1,000 households. Almost all enterprises (65%) served five or less communes.

Masons (n = 20): These were predominantly informal businesses (70%), and provided a range of masonry services, including toilet installation services (85%) and the production of toilet pans (40%). Masons worked alone or in teams including a master mason, skilled masons, and assistants, with the master mason playing a business leadership role. The masons interviewed were predominantly

male (60%), under 36 years old (75%), with secondary school education or lower levels of qualification (65%), and no previous work experience (80%). Most had been active as masons for less than ten years (60%) and devoted part of their time to other jobs concurrently to their masonry business (90%). Only a small proportion (15%) was fully dedicated to building toilets, whereas the rest offered other types of construction services, such as building houses.

TIMOR-LESTE

In Timor-Leste, this study examined three types of enterprises: water contractors, district retailers of construction materials, and local NGO-led sanitation enterprises. The following is a characterisation of these enterprises.

Water contractors (n = 14): These construction companies play an important role in the development of the country's rural water services. In recent years, government contracts for water system construction have been tendered to such registered companies, as have systems built under the Australian aid-funded Rural Water Supply and Sanitation program 'Bee, Saneamentu no ljiene iha Komunidade (BESIK)'. The owners of water contractor businesses interviewed were predominantly male (78%), and half were between 35 and 45 years old. Almost half (43%) were university educated, a few had graduated from technical schools (14%) and the remainder had completed high school (43%). Their diverse work experience was in the private sector (45%), self-employment (21%), NGOs (1%), banks (1%), agriculture (1%) and the public sector (14%). The ages of the companies varied, depending on whether they were district-based or national. Almost all national-based companies were between 12 and 18 years old (93%), whereas all district-based companies were between three and 12 years old. In general, all the companies were relatively small, with no company employing more than 10 people, and most staff only working on a project-by-project basis.

District retailers of construction materials (n = 12): These were materials supply shops located in district centres. They play a major role in the supply chain of sanitation products as they provide the majority of toilet building materials available in the market, including imported toilet

pans, cement and other related construction materials. The retailers of construction materials interviewed were predominantly male (67%), half were 35–45 years old (50%) and half were 46–55 years old (50%), and most had high school qualifications or higher (67%). The majority had previous working experience (67%), mainly as employees for others or in self-employed occupations or in business (83%). Most sold toilet pans (75%), although these were not the core focus of their business, which included a broad range of other products such as basic food and household items. All businesses were formally registered and 67% had more than ten years of operation. The majority had ten or less staff (75%), although a small percentage operated a larger set of business activities associated to their retail business and had more staff (25%). These additional business activities included concrete and brick production, welding, maintenance services within the warranty period of some products, and construction contracting.

Local NGOs (n = 5): Locally made sanitation products are provided by local NGO-led small enterprises supported by international development agencies. These represent only a small percentage of the sanitation products in the country, but they are expected to play a role in developing locally appropriate solutions for rural community sanitation needs. The leaders of local NGOs interviewed were all male, predominantly in the 35–45 age bracket (four leaders), and university educated (four leaders). Most leaders had previous working experience within the NGO sector (three leaders) and only one had previous business experience. All NGOs had been trained in how to produce toilet pans through their international NGO partners, although only three had proactively engaged in selling these products as a business activity. All NGOs had been operating for nine to 15 years. Three of the NGOs had a fixed number staff (five to six) with permanent salaries, whereas the other two assembled teams depending on the availability of contracting services to international NGOs. Three NGOs had established businesses selling sanitation products which were separate to the NGO. However due to insufficient sales, two of these businesses had stopped operating.

4. TRAITS AND MOTIVATIONS

How entrepreneurs behave is determined by their personality traits such as entrepreneurial and pro-social traits, and their motivations. Understanding these traits and motivations can help us further understand the drivers for individuals to engage in water or sanitation product and service entrepreneurship, the characteristics of potentially successful water or sanitation entrepreneurs, and strategies to interest them in water and/or sanitation entrepreneurship.

4.1 ENTREPRENEURIAL TRAITS

Research in the field of entrepreneurship has shown that individuals who are entrepreneurial are more likely to have certain personality traits than those that are not. These traits include: a proactive approach, need for independence, need for achievement, innovativeness, and risk taking propensity (Baum et al. 2007; Ernst 2012; Douglas, E. 2009 in Carsrud and Brannback 2009).

Studies have found evidence of small to moderate positive correlations between these traits and business success (Baum et al. 2007). Of all entrepreneurial traits, “need for achievement stands out consistently as a principal motive for entrepreneurial success” (Wu et al. 2007, p.930). Wu et al. (2007) found that the effect of risk-taking propensity on entrepreneurship and business success, although positive and significant, was small when compared with other personality traits (Baum et al. 2007). Concerning need for independence, although studies have shown that it is positively correlated to entrepreneurship and business success (Baum et al. 2007; Douglas 2009), there is little evidence on whether this trait hampers business growth (Baum et al. 2007).

Personality traits cannot be assumed to be predictors of individual actions (Baum et al. 2007) and it cannot be assumed that they are “necessary or sufficient for entrepreneurial activity”. Rather, they should be regarded as “facilitators of entrepreneurial activity” (Ernst 2012, p. 55).

The following sections analyse the presence of entrepreneurial traits amongst the respondents in this research. We first examine the prevalence and

patterns of the types of traits most commonly demonstrated, and we then outline the ways in which each of the five traits manifested.

Prevalence of entrepreneurial traits

In general, most entrepreneurs exhibited several of the traits, and amongst all traits, need for achievement and proactiveness were the most commonly demonstrated. Further detail of these findings is presented below.

Total number of traits demonstrated:

Leaders of enterprises in the water sector in all three countries demonstrated one to five entrepreneurial traits.

Amongst sanitation-related enterprises, those in Indonesia also exhibited multiple traits (one to five). However, sanitation-related enterprises in Vietnam and Timor-Leste demonstrated only one to two of the traits (Table 2). The smaller number of traits observed in the sanitation sector in Vietnam can be explained by the fact that most masons did not consider themselves to be entrepreneurs. Rather their vocation was one of necessity in that they felt they had no other choices for income generation. In the case of NGO-led sanitation enterprises in Timor-Leste, the low number of entrepreneurial traits is consistent with the fact that the leaders of these enterprises did not have experience in running a business, as their history of employment experience was predominantly within the NGO sector. In the case of the retailers of construction materials in Timor-Leste, evidence supporting the presence or absence of traits other than need for achievement and proactiveness was insufficient to draw strong conclusions. However, the smaller number of entrepreneurial traits found amongst this type of respondent was consistent with evidence of their limited business expertise and predominantly ad hoc and rudimentary approaches to business management. Further, it reflects the context of Timor-Leste’s nascent private sector development, with a shortage of general business skills, and the absence of many of the customary business support functions (Murta and Willetts 2014b).

Types of traits: Across different types of enterprises, need for achievement

TABLE 2: PROPORTION OF ENTERPRISES EXHIBITING PARTICULAR ENTREPRENEURIAL TRAITS EVIDENT ACROSS DIFFERENT TYPES OF ENTERPRISES AND COUNTRIES

SECTOR	INDONESIA	VIETNAM	TIMOR-LESTE
Water	<p><i>Water enterprises (n=21)</i></p> <ul style="list-style-type: none"> • Up to 5 traits present • Dominant traits: <ul style="list-style-type: none"> – Proactiveness (86%) – Risk taking (71%) – Need for achievement (48%) 	<p><i>Water enterprises (n=20)</i></p> <ul style="list-style-type: none"> • Up to 4 traits present • Dominant traits: <ul style="list-style-type: none"> – Proactiveness (53%) – Need for achievement (47%) – innovativeness (47%) • No evidence of need for independence found. 	<p><i>Water contractors (n=14)</i></p> <ul style="list-style-type: none"> • Up to 4 traits present: <ul style="list-style-type: none"> – Proactiveness (100%), – Need for achievement (100%), – innovativeness (71%)
Sanitation	<p><i>Sanitation enterprises (n=56)</i></p> <ul style="list-style-type: none"> • Up to 5 traits present. • Dominant traits: <ul style="list-style-type: none"> – Proactiveness (75%) – Need for achievement (63%), – innovativeness (48%) 	<p><i>Masons (n=20)</i></p> <ul style="list-style-type: none"> • Up to 1 trait present: <ul style="list-style-type: none"> – Need for achievement (50%) – Presence of other traits weak. 	<p><i>Retailers (n=12)</i></p> <p>Up to 2 traits present: need for achievement (100%), proactiveness (33%)</p>
	<p><i>Sludge removal enterprises (n=24)</i></p> <ul style="list-style-type: none"> • Up to 5 traits present • Dominant traits: <ul style="list-style-type: none"> – Risk taking (88%) – Proactiveness (79%) – Need for achievement (71%) 	–	<p><i>NGO led sanitation enterprises (n=5)</i></p> <ul style="list-style-type: none"> • Up to 2 traits present: <ul style="list-style-type: none"> – Need for achievement (40%) – Proactiveness (40%)

and proactiveness stood out as the ones most commonly present. Need for achievement was evident across all types of enterprises, and proactiveness was present across entrepreneurs of all types of enterprises except masons in Vietnam. For some enterprises, in addition to looking for the presence of traits, we sought to identify which ones predominated. These enterprises included water- and sanitation-related enterprises in Indonesia and water enterprises in Vietnam (Table 2). In these cases, need for achievement and proactiveness stood out as the dominant traits.

Risk-taking, need for independence, and innovativeness were the traits less commonly present across the whole sample. Although risk taking was present at some level amongst all types of entrepreneurs in Indonesia and in water enterprises in Vietnam, risk taking was only strongly pronounced amongst Indonesian sludge removal entrepreneurs and water enterprise leaders in Indonesia. Regarding need for independence and innovativeness, these traits were only evident amongst water contractors in Timor-Leste.

In the following sections the presence of each entrepreneurial trait amongst the respondents of this study is analysed.

Need for achievement

Need for achievement is considered to be at core of entrepreneurial activity. This trait is associated to an individual's relentless ambition and determination to pursue new opportunities and/or achieve success (Ernst 2012). Individuals with high levels of this trait tend to enjoy moderately challenging tasks, overcome obstacles, excel themselves, and rival and surpass others. Further, they take responsibility for their own performance by seeking feedback about their performance and exploring ways to improve it (Baum et al. 2007; Douglas 2009).

Need for achievement was present amongst 64% of the overall sample (n=172). Entrepreneurs demonstrated a need for achievement by, for example, articulating clear future goals for the future of the business, explaining how the further development of their businesses was important for their own self-actualisation and success, and/or noting how they enjoyed challenges. For

example, one water entrepreneur from Timor-Leste noted: *“you need to want to do it...you need to be adventurous, to like a challenge, it is very challenging.”* The finding regarding this trait is consistent with literature on entrepreneurship (Wu et al. 2007), which considers this at the core of entrepreneurial activity.

Proactiveness

Proactiveness is understood as individuals' willingness to shape things and make the most out of opportunities available to them (Ernst 2012). This trait is associated with the entrepreneurs' internal locus of control and belief that they can control their reality and environment, and beat the odds (Monsen and Urbig 2009; Baum et al. 2007). In contrast, individuals with an external locus of control believe that they are controlled by their surroundings and therefore tend to be more passive and act in reaction to their environment (Baum et al. 2007).

Proactiveness was present amongst 67% of the overall sample (n=172). Entrepreneurs demonstrated proactiveness by, for example, noting a positive, practical attitude when faced with problems, for instance by seeking help from their social networks and approaching relevant institutions. One sanitation entrepreneur from Indonesia demonstrated this trait by noting that he was *‘not shy in asking questions and seeking for help’*.

Risk taking propensity

In the context of entrepreneurship, different authors consider risk taking differently, and a nuanced definition of risk-taking propensity and its drivers is needed. One perspective is that because entrepreneurship concerns decision-making under conditions of uncertainty, entrepreneurs are inherently risk-tolerant people (Baum et al. 2007). Entrepreneurs are often considered to have the ability to act boldly in the face of challenges or high uncertainty, and not let the fear of failure stop them from starting a venture (Ernst 2012). However, empirical evidence has demonstrated that entrepreneurs are not necessarily willing to take more risks than other individuals.

An alternative proposition focuses on risk perceptions rather than risk preferences. This view focuses on the perception of

risk rather than risk per se. It suggests that entrepreneurs may have similar risk preferences to non-entrepreneurs, but perceive risks differently, by overestimating their likelihood of success (Elfving et al. 2009; Douglas 2009). As Monsen and Urbig (2009) note, entrepreneurs may not actually perceive themselves as taking risks. Varied but interrelated factors are at play in influencing how entrepreneurs may perceive risk differently. These include, for example, self-serving biases such as overconfidence, and decision-making approaches, greater entrepreneurial knowledge and experience, greater personal investments in searching for information to support decision-making, search activities, and access to information through social networks (Douglas 2009; Monsen and Urbig 2009). On the other hand, Douglas (2009) argued that individuals with higher levels of self-confidence tend to devote less effort to searching for information and make decisions with less information than other individuals. As a result they bear greater risk, due to the limitations in their understanding of the risks at play.

Risk taking propensity was present amongst 38% of the overall sample (n=172). Although risk-taking was present in sanitation and water-related enterprises in Indonesia and in water enterprises in Vietnam, no evidence of this trait was found amongst enterprises of any type in Timor-Leste. Entrepreneurs in Indonesia and Vietnam demonstrated this trait in their perceptions of the risks involved in taking a bank loan, and their risk perceptions of their business ventures. In contrast with entrepreneurs from these two countries, entrepreneurs from Timor-Leste demonstrated a greater aversion to taking bank loans. Although this suggests low levels of risk-taking propensity, it may also be a reflection of limited access to capital for small businesses in Timor-Leste and the high interest rates demanded by banks.

Need for independence

Need for independence relates to an individual's preference for decision-making autonomy and for avoiding rules and potential limitations of organisations. Typically, entrepreneurs have decision-

making autonomy. Unlike employees, they make decisions independently about their business goals and plans of action, and they control how they go about pursuing them (Baum et al. 2007; Ernst 2012).

Need for independence was present amongst 23% of the overall sample (n= 172). Entrepreneurs were considered to have this trait if they had initiated the business by themselves or if they noted the advantages of running a business independently of relatives. For example, one sludge removal entrepreneur demonstrated this trait by explaining that he first started in the sludge removal sector working for a friend but later decided to run his own business. The general low presence of this trait across the whole sample may be a reflection of the more collectivist cultures commonly found in Asian countries compared to Western countries. In general, in the sample, many enterprises were family, community or cooperative businesses. In particular, family involvement was common in enterprises across all three countries. In Indonesia, family involvement in the business was evident amongst 46% of the sanitation entrepreneurs and 73% of the sludge removal entrepreneurs. Further, more than half of these entrepreneurs cited benefits of such family involvement including trust and reliability, lower wages, easier access to assistance and financial support, and easier communication. In addition, need for independence was higher amongst sanitation enterprises in Indonesia than water enterprises. This may be explained by the collective nature of the water enterprises included within our sample in Indonesia, as opposed to the more individually-based orientations of most sanitation enterprises.

Innovativeness

Innovativeness is defined as an individual's willingness and interest to pursue new and different ways of doing things, outside of conventional patterns (Marcati et al. 2008; Baum et al. 2007). In an entrepreneurial context, innovation can be framed in terms of its content and its intensity (Massa and Tessa 2008).

In terms of content, innovation can relate to the development of new products, new

technologies, new services, new processes of production, new markets, new business models or organisational management approaches, or new research into the business organisation (Baum et al. 2007; Massa and Tessa 2008).

In terms of intensity, innovativeness can be radical or incremental, discontinuous or continuous, revolutionary or evolutionary, and major or minor (Massa and Tessa 2008). Innovative behaviour is also framed with relation to its association with other personality traits and the cognitive styles of individuals. In this respect, it can be classified as either general innovativeness or specific innovativeness. General innovativeness is related to an individual's degree of openness towards new ideas, creativity in solving problems, and predisposition to make original decisions autonomously. Specific innovativeness relates to an individual's degree of readiness to adopt innovations in a specific field earlier than others (Marcati et al. 2008).

Innovativeness was present amongst 38% of the overall sample (n= 172). However, reported innovations were largely minor incremental improvements to existing products or services, or they were related to the adoption of existing technological innovations. Further, these were considered as relative innovations compared to a baseline of typical products, services and operational and management approaches observed within these enterprises' sector. For example, one sanitation entrepreneur from Indonesia demonstrated innovativeness by offering toilet pans in different colours with the aim of attracting customers. One water entrepreneur from Vietnam and another from Indonesia demonstrated a degree of innovativeness by starting to sell new products and services in addition to water service provision to their customers. Additional products and services included pipes and taps and drinking water refilling and pipeline installation services. The overall low level of innovativeness in our sample is surprising as regards sanitation, where there is perhaps greater opportunity for innovation in terms of technology, product design and business models than is the case for water enterprises.

Entrepreneurial traits and success

We tested the relationship between the presence of entrepreneurial traits and respondents' levels of business success. However, as explained earlier, we did not test this relationship for masons in Vietnam and water and sanitation enterprises in Timor-Leste, given the stronger qualitative approach in these studies.

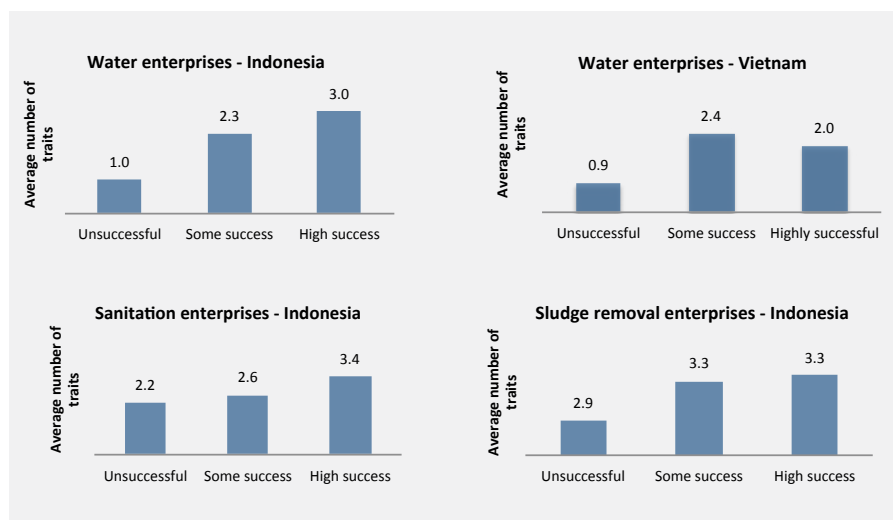
The level of success was assessed by analysing the enterprises' profit growth after establishment and over recent years, monthly revenue in the past year, amount of accumulated assets per year, and clarity of vision about the future of the business.

We found a positive relationship between business success and the total number of entrepreneurial traits amongst water enterprises in both Indonesia and Vietnam and enterprises in the sanitation

sector Indonesia. As Figure 1 below shows, a higher number of traits was found amongst successful enterprises than amongst those that had lower levels of success or were unsuccessful.

We observed similarities in the dominant traits evident amongst leaders of successful enterprises across different sectors and countries. Proactiveness and risk taking were strongly present amongst leaders of successful water enterprises in both Indonesia and Vietnam, as well as sanitation enterprises in Indonesia. In the case of sludge removal enterprises in Indonesia, the main differentiating factor in terms of traits of high success and low success enterprises was 'need for independence'. This suggests that in this context, sludge removal businesses functioned best when the entrepreneur was able to operate with a high level of autonomy.

FIGURE 1: NUMBER OF ENTREPRENEURIAL TRAITS VERSUS LEVEL OF SUCCESS



4.2 PRO-SOCIAL TRAITS AND MOTIVATIONS

The term 'pro-social' is often used to explain the tendency of a person to behave in a way that benefits others and promotes wellbeing in the society (Brief & Motowidlo, 1996). Ernst (2012) explain that pro-social behaviour is motivated by feelings of empathy and compassion for people affected by social issues, and a sense of obligation to help those in need. In this sense, in addition to the commitment and determination that a traditional business entrepreneur has, social entrepreneurs also have an interest contributing to a social cause and they have lower expectations of obtaining significant financial gains (Guclu and Dees, 2002; as cited in Ernst 2012).

For example, tolerating low profit margins due to a desire to offer water tariffs that are tailored to the customer's financial capacity to pay is indicative of pro-social behaviour. Such pro-social behaviour can occur as a result of the intrinsic motivations of the entrepreneur, or it could be the result of external pressure from the enterprise's customer base. For instance Gero and Willetts (2014, p.11) found that some water enterprises in Vietnam were regarded by community members as social enterprises and hence they were expected to offer low water tariffs and tolerate low profit margins: *"It [water supply service delivery] is like a social enterprise, so we are not able to increase the tariff. With the current tariff the enterprise still has profit, even if not so much."*

Similarly, offering customers the option to pay by instalments is indicative of pro-social behaviour, as it acknowledges a customer's financial situation, which may not permit for full payment upfront. Murta and Willetts (2014a, p.11) report that in Indonesia some sanitation entrepreneurs demonstrated pro-social traits by offering lenient instalment payment terms and conditions, and by being flexible about late repayments from their poorer customers: *"[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."*

“
[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.”

Presence of pro-social traits

Medium and strong pro-social traits were present amongst the majority of the respondents across different sectors and countries. Medium and strong pro-social traits were evident amongst 67% of the respondents from Indonesia and Vietnam. In Timor-Leste pro-social traits were evident amongst 52% of respondents. As Table 3 shows, these traits were predominant amongst five out of the eight different types of respondents. These five groups included water and sanitation enterprises in Indonesia, water enterprises in Vietnam, and water contractors and sanitation enterprises in Timor-Leste. Weak pro-social traits were predominant in sludge removal entrepreneurs in Indonesia and masons in Vietnam (Table 3, next page).

Water and sanitation enterprises in Indonesia and Vietnam were considered to have demonstrated medium to strong pro-social traits if, for example, they showed pro-social concerns when articulating the goals of their enterprises, what led to their creation and personal benefits gained from it, and/or offered flexible payment options for customers who faced financial difficulties. For example one water enterprise leader from Vietnam demonstrated medium pro-social traits by noting the goal of his enterprise was *"to bring benefits to society, lessen burden for the poor, and help them have the chance to use fresh water"* and adding that if people didn't *"have enough money to pay for a new connection, they can pay in instalments."*

Sludge removal entrepreneurs in Indonesia demonstrated mostly weak pro-social traits, which may be associated with the less personal nature of a sludge removal business as opposed to, for instance, water services in terms of relationships with customers. Another explanation is that many of the water and sanitation enterprises included in the sample for this research had some connection with the initiatives of external development agencies who were likely to have nurtured a focus on inclusive services, whereas the sludge removal businesses within this sample arose purely from business opportunities.

TABLE 3: PRO-SOCIAL TRAITS EVIDENT ACROSS DIFFERENT TYPES OF ENTERPRISES AND COUNTRIES¹

SECTOR	INDONESIA	VIETNAM	TIMOR-LESTE
Water	<i>Water enterprises (n=21)</i> • 76% demonstrated medium or strong pro-social traits	<i>Water enterprises (n=20)</i> • 85% demonstrated medium or strong pro-social traits	<i>Water contractors (n=14)</i> • Demonstrated by the majority (86%)
Sanitation	<i>Sanitation enterprises (n=56)</i> • 86% demonstrated medium or strong pro-social traits	<i>Masons (n=20)</i> • 75% demonstrated weak pro-social traits	<i>Retailers (n=12)</i> Not strongly evident, although 33% expressed a sense of care for their communities and for fairness which indicates a degree of pro-social awareness
	<i>Sludge removal enterprises (n=24)</i> • 67% demonstrated weak pro-social traits	–	<i>NGO led sanitation enterprises (n=5)</i> • Demonstrated by the majority (80%)

Masons in Vietnam considered their roles to be providing services at a certain price. Many of the masons were very small-scale businesses unlikely to have significant scope for offering discounts or payment by instalments, and this may at least partially explain the presence of only weak pro-social traits.

Amongst enterprises in Timor-Leste, pro-social traits were prevalent amongst **water contractors and sanitation enterprises** but were not evident amongst **retailers of construction materials**, although a proportion of these demonstrated a degree of pro-social awareness. It is important to note, however, that the presence of pro-social traits amongst Timor-Leste's enterprises was assessed using a more qualitative approach than in the study of enterprises in Indonesia and Vietnam. The research in Timor-Leste focused in assessing the presence or absence of pro-social traits rather than on rating the presence of such trait (e.g. weak, medium, strong) as it was done in the other studies.

A common motivation amongst **water contractors in Timor-Leste** who demonstrated pro-social traits was a desire to support the development of their country, which is emerging after many years of conflict: *"[our business objective] is to take part in the development process with government... after the conflict everything was*

destroyed, that is why we focused on establishing a construction business and building new schools, clinics."

The presence of pro-social traits amongst **sanitation enterprises in Timor-Leste** is not surprising as these were NGO-led and the nature of the work of these organisations in general is pro-social. Further, the history of employment of almost all NGO leaders interviewed was predominantly within the NGO sector, and therefore their working experience had been largely underpinned by such types of motivations.

In the case of **retailers of construction materials in Timor-Leste**, although there was also limited evidence of this trait a small proportion of respondents (33%) expressed a sense of care for their communities and for fairness, which indicates some degree of pro-social awareness. Two of these respondents demonstrated this by noting that their retail businesses provided something beneficial to their local communities and by expressing a sense of service to others. For example, one of these two respondents noted: *"I don't want people to have to go to Dili to buy anything. I want them to have everything here. People spend a lot of money on transport going around buying things. So it's better and easier for them to come to one place"*. Another respondent also demonstrated a degree of pro-social awareness by

1. It is important to note that in the case of water and sanitation-related enterprises in Timor-Leste, the presence of pro-social traits was assessed using a qualitative approach. This approach focused in assessing the presence or absence of pro-social traits rather than on rating the presence of such traits (e.g. weak, medium, strong) as done in the other studies.

expressing a sense of fairness and care for equal distribution of business opportunities within his community: *“I don’t like to sell new products because I should leave the business opportunity for other people. I may be killing other people’s business if I do that”.*

Motivations underpinning pro-social behaviour

Various motivations were found to be driving the pro-social behaviour of water enterprise leaders in Indonesia and Vietnam, and sanitation and sludge removal entrepreneurs in Indonesia. In some cases respondents were intrinsically motivated by a sense of empathy and compassion for the poor, in line with the literature on pro-social traits (Ernst, 2012). Some respondents were also intrinsically motivated by self-satisfaction in helping the poor or contributing positively to societal development. In other cases however, pro-social behaviour appeared to be extrinsically driven through the entrepreneur’s past or concurrent job, particularly if this aligned with the objectives of the enterprise.

For example, a sense of empathy and compassion for the poor was expressed by a large proportion of water enterprise leaders in Vietnam (80%) (Figure 2), and appeared to underpin service provision to the poor. For example, a water enterprise leader in Vietnam noted: *“I have*

compassion for local people who haven’t got enough clean water to use.” Another one responded: *“I can’t stand seeing them [the poor] suffer too much.”*

As noted earlier, a proportion of sludge removal entrepreneurs in Indonesia (67%) demonstrated a degree of pro-social traits (Table 3). Although weaker than the pro-social traits predominant amongst other types of enterprises, these respondents demonstrated this trait by expressing a sense of empathy for the poor.

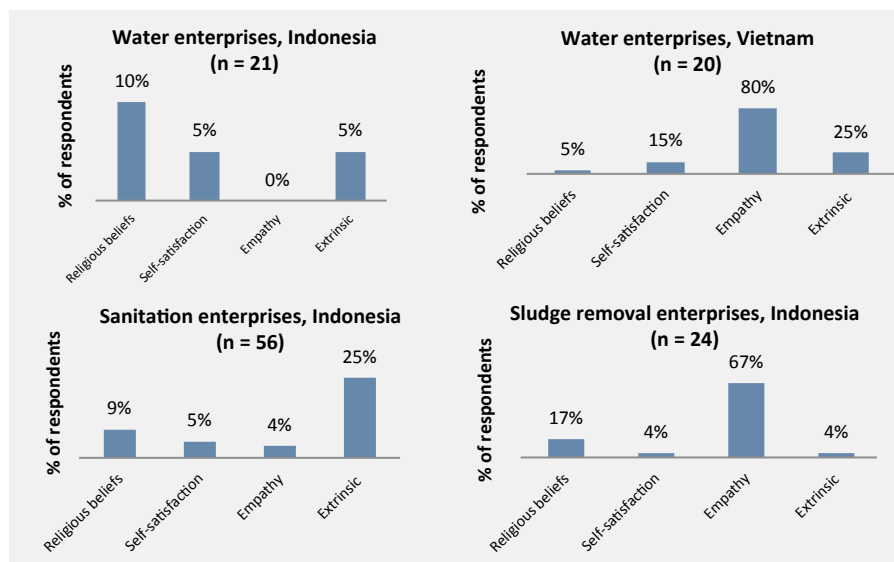
Self-satisfaction from helping others was evident in a smaller proportion of respondents, but it was evident amongst all four types of respondents (Figure 2). For example, in explaining his pro-social orientation one water enterprise leader in Vietnam noted: *“I feel satisfied because I can do something useful for the society.”*

In some cases, these intrinsic motivations were linked to religious beliefs. This was the case for 10% of water enterprise leaders in Indonesia, 5% of water enterprise leaders in Vietnam, 9% of sanitation entrepreneurs in Indonesia, and 17% of sludge removal entrepreneurs in Indonesia (Figure 2). For example, one sanitation entrepreneur from Indonesia noted: *“It is a good deed. If we don’t get any profit, just be sure that God will give us rewards.”* A sludge removal entrepreneur also revealed religious

“
I feel satisfied because I can do something useful for the society.
”

“
It is a good deed. If we don’t get any profit, just be sure that God will give us rewards.
”

FIGURE 2: MOTIVATIONS UNDERPINNING PRO-SOCIAL BEHAVIOUR



“
It works not
only for profit
but also
to help others
and expecting
reward
from God.
”

beliefs were linked to his pro-social behaviour by noting: *“It works not only for profit but also to help others and expecting reward from God”.*

Cases of respondents whose pro-social behaviour appeared to be extrinsically influenced (to some degree) through their past or concurrent jobs were also evident for some entrepreneurs. Water and sanitation product and service provision often aligns with government agencies’ roles of addressing community needs and promoting healthy communities. Therefore, entrepreneurs who worked, or whose work was for such agencies, could have been encouraged to behave pro-socially in their enterprises by their experience in these agencies. Amongst the water enterprise leaders interviewed in Vietnam, 25% had worked for agencies with a role in water service provision, such as the Provincial Centre for Rural Water Supply and Environmental Sanitation (PCERWASS), the District People’s Committee (DPC) and the Commune People’s Committee (CPC). Similarly, amongst water enterprise leaders in Indonesia, 5% worked at the village office, which has a role in addressing community needs and promoting healthy communities. Amongst sanitation entrepreneurs in Indonesia, 25% worked as sanitarians at the local health centre (*Puskesmas*) (Figure 2).

It is important to note, however, that although there can be social advantages in recruiting and training sanitarians to become sanitation entrepreneurs, Murta and Willetts (2014a, p. 9) note that there are differing views within the country’s WASH sector as to *“whether this is unethical and represents a conflict of interest.”* Due to vested interests in certain outcomes, there is a risk of sanitarians being unable to check the quality of sanitation products and/or monitor changes in sanitation coverage (Murta and Willetts 2014a).

4.3 OTHER MOTIVATIONS BEYOND PRO-SOCIAL MOTIVATIONS

Adding to the entrepreneurial and pro-social traits described earlier, Clark and Wilson (1961) and Wilson (1989) describe other motivations that can

also affect the decisions and behaviour of individuals in organisations. These can be linked to material and tangible rewards such as profit, but also intangible rewards or benefits such as sense of social responsibility and group mission, socialising and camaraderie, and prestige, pride and recognition (Clark and Wilson 1961; Wilson 1989). Understanding these motivations can increase our understanding of what drives entrepreneurs to engage in water or sanitation product and service provision.

In Indonesia and Vietnam, intangible rewards that acted as incentives for entrepreneurs to engage in the provision of water and sanitation services were evident amongst enterprises of different types. As Figure 3 shows, in addition to pro-social motivations, these included:

- extended social networks
- new skills, knowledge and experience
- status and acknowledgment
- pride
- lifestyle and time flexibility.

We found differences between entrepreneurs from Indonesia and entrepreneurs from Vietnam regarding the most commonly reported benefits, as described below.

In Indonesia, the most commonly reported benefits across water, sanitation and sludge removal entrepreneurs were ‘extend social networks’ and new skills, knowledge and experience, whereas status and acknowledgment and pride were the least commonly reported (Figure 3). In reporting ‘extend social networks’ as a benefit, one water enterprise leader commented that his involvement in the water enterprise had enabled him to meet *“lots of friends and brothers and sisters”*. Regarding new skills, knowledge and experience, one sanitation entrepreneur noted how his enterprise had provided him with the opportunity of developing *“experience in entrepreneurship, acquiring new knowledge”*, as well as *“implementing this knowledge”*.

In contrast, in Vietnam, the benefit most commonly reported by water enterprise leaders and masons was status and acknowledgment. For example, a water enterprise leader from Vietnam noted: *“I get the respect from my local*

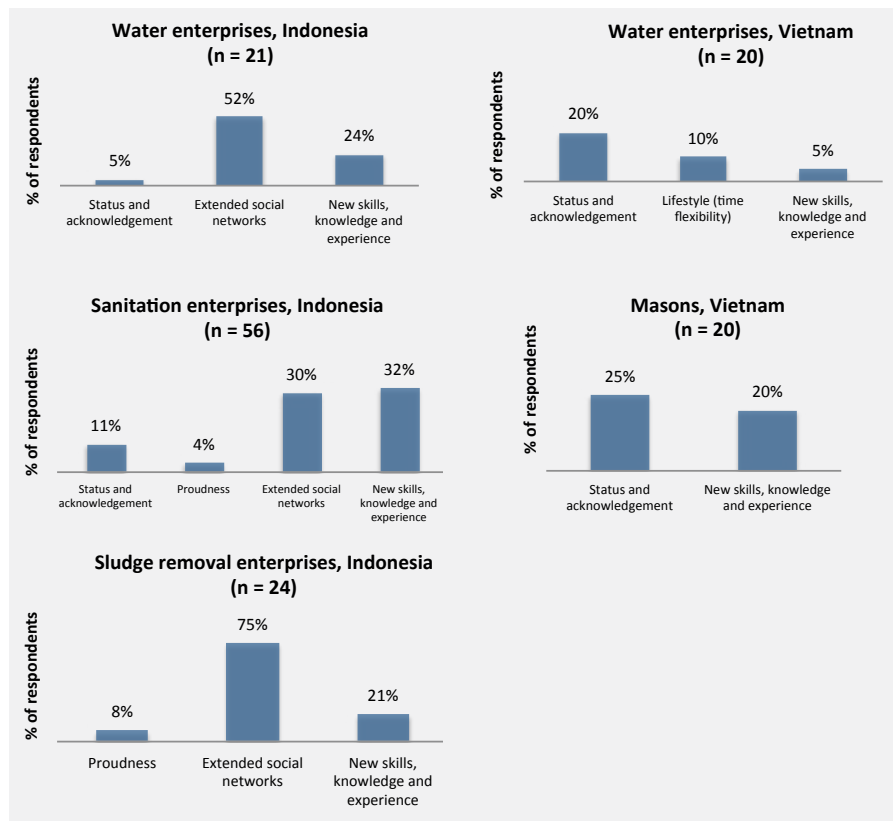
community”. However, although a small proportion of water enterprise leaders (5%) reported new skills, knowledge and experience as a benefit, a higher proportion of masons reported this benefit (20%) (Figure 3).

It is interesting to note that pride was only mentioned by Indonesian entrepreneurs, namely sanitation and sludge removal entrepreneurs (Figure 3). For example, one sanitation entrepreneur noted: *“I feel proud to change people’s behaviour to become healthier.”*

Likewise, lifestyle and flexibility was only mentioned by water enterprise leaders in Vietnam (Figure 3). For example, one entrepreneur noted: *“I have flexible time and feel free in my mind because I manage the business by myself.”*

In Indonesia, however, opposing pulls concerning pride as well as status and recognition as benefits from sanitation-related enterprises might be at play. Although these were reported as benefits by water, sanitation and sludge removal entrepreneurs, Murta and Willetts (2014a, p. 11) note that “sanitation is not a ‘sexy’ business, and this may serve to discourage involvement of new entrepreneurs”. This was emphasised by one sanitation entrepreneur who noted that *“not everyone wants to run a sanitation business as it is associated with dirt”*.

FIGURE 3: INTANGIBLE BENEFITS BEYOND PRO-SOCIAL PRO-SOCIAL MOTIVATIONS



4.4 ASSOCIATION MEMBERSHIP AND ITS BENEFITS

Membership of associations of water and sanitation enterprises was also found to provide benefits to the entrepreneurs. These benefits can act as incentives or motivations for existing entrepreneurs to continue their engagement in water and sanitation service provision, or they may encourage the involvement of new entrepreneurs in this area.

As Figure 4 shows, association membership was prevalent amongst sanitation and water enterprises in Indonesia (more than 70%). In contrast, smaller rates of association membership were found amongst sludge removal enterprises in Indonesia and water enterprises in Vietnam (less than 25%).

Nevertheless, all of the sanitation and sludge removal enterprises from Indonesia that were members of associations except one reported it as a positive experience. The leaders of the two Vietnamese water enterprises that were members of water related associations also reported this as beneficial. Concerning water enterprises in Vietnam, the study only noted whether enterprises were members of an association and didn't include data on associated benefits. The reported benefits associated with association membership included:

- peer-to-peer learning and capacity building opportunities
- camaraderie, friendship and sense of group mission
- access to information (e.g. information about latest water and sanitation technologies and products, new rules and regulations)
- networking
- opportunities for new experiences (e.g. traveling)
- fair competition
- access to cheaper materials
- access to credit
- advocacy power for common issues shared by the association members (e.g. increase of water tariffs).

The most commonly reported benefits by both sanitation enterprises and sludge removal enterprises in Indonesia were peer-to-peer learning and capacity building opportunities, followed by camaraderie, friendship and sense of group mission, and access to information (Figure 5). The close link between these benefits was evident. For example, one sanitation entrepreneur from Indonesia mentioned that he was able to “draw a lot of information from friends” he had met through the association, and another one mentioned that the association provided easier access to “information about the latest products”. Another one also added that he had access to “innovations [and] new ideas because of meeting friends” through the association. This sense of

FIGURE 4: ASSOCIATION MEMBERSHIP

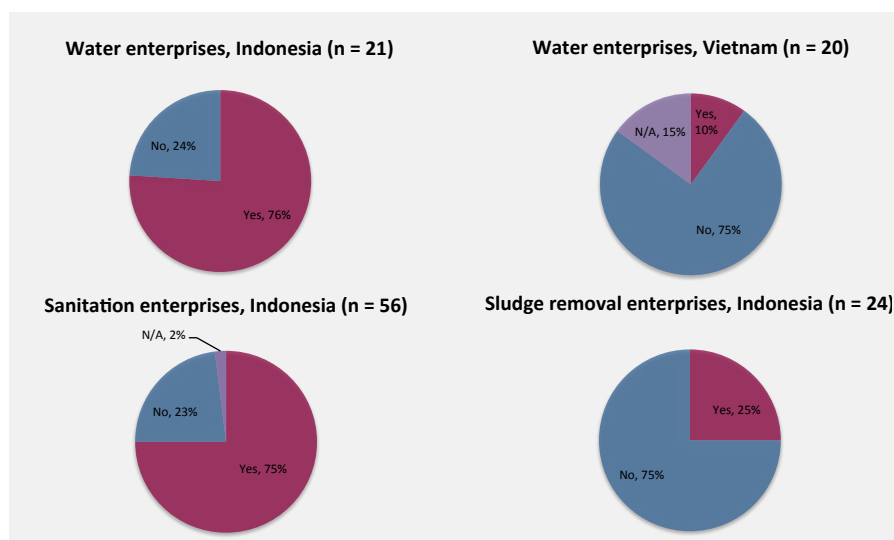
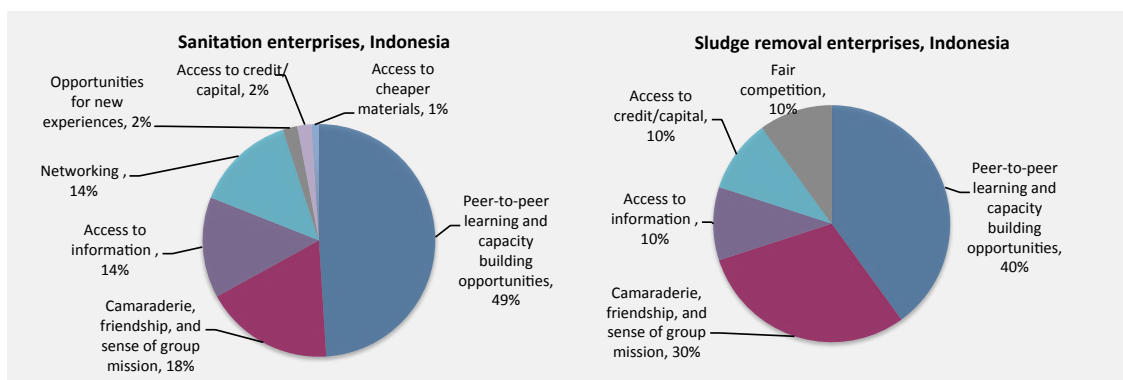


FIGURE 5: REPORTED BENEFITS ARISING FROM ASSOCIATION MEMBERSHIP



“
I’m feeling
united with
friends...
partnering.
”

camaraderie and friendship was well noted by another sanitation entrepreneur: *“I’m feeling united with friends... partnering”*. Peer-to-peer learning and camaraderie/friendship benefits were also emphasised by sludge removal entrepreneurs who explained that through the association *“friendships are established”* and people *“help each other”*, and this facilitates *“experience exchange”*, and *“increased motivation”* to its members.

Although in smaller proportions (less than 10%), access to credit/capital was also mentioned by these two types of enterprise leaders (Figure 5). Murta and Willetts (2014a) report that in East Java, Indonesia, the association of sanitation entrepreneurs APPSANI has been assisting its members in meeting lending requirements concerning the formal legality of the enterprise, and in supplying collateral and evidence of business cashflow. APPSANI provides guarantees to the bank on behalf of the entrepreneurs (Murta and Willetts 2014a).

Other less commonly reported benefits mentioned by sanitation entrepreneurs included networking, opportunities for new experiences, and access to cheap materials. Regarding opportunities for new experiences, for example, one entrepreneur mentioned that through the association he had had the opportunity to travel to

train other entrepreneurs in other parts of the country: *“I can train people [and] travel to NTT by plane.”* As Murta and Willetts (2014a) explain, in Indonesia, some associations of sanitation entrepreneurs have attracted some national and international attention, leading to visits from international organisations, and invitations for some successful entrepreneurs to share their experiences with other entrepreneurs nationally and in other countries. These experiences can appeal to the motivations around prestige, pride and recognition described by Clark and Wilson (1961) and Wilson (1989).

Fair competition was also mentioned as a benefit by one sludge removal entrepreneur (Figure 5). By providing opportunities for peer-to-peer learning and sharing of information such as the latest water and sanitation technologies and products, and rules and regulations, associations promote the creation of a level playing field between its members.

The leaders of the two water enterprises that were members of associations also reported benefits. In addition to peer-to-peer learning, access to information, and networking, they also emphasised the role of the associations in advocating on behalf of its members in regard to issues they shared, such as the need to increase water tariffs.

5. CHALLENGES

A wide range of challenges were evident across the sample of water and sanitation enterprises. These can be classified into five broad categories: ‘access to market’ challenges, financial challenges, human resource challenges, operational challenges, and government and regulation challenges. Table 4 lists the different challenges in each of these categories.

We observed similarities in the commonly reported challenges across water and sanitation enterprises and countries (Table 5). ‘Access to market’ challenges were mentioned by all enterprises in all three countries. Likewise, financial and human resources challenges were reported by all enterprises except NGO-led sanitation enterprises in Timor-Leste (Table 5), although Murta and Willetts (2014b) discuss these as common

challenges faced by these types of enterprises in Timor-Leste. This finding is consistent with evidence from the literature, which indicates that these three types of challenges are present across enterprises in both the water and sanitation sectors (Gero et al. 2013)

The emphasis given to ‘access to market’ challenges amongst enterprises in Indonesia and Vietnam varied across sector however. In these countries, this type of challenge was one of the most commonly reported challenges amongst sanitation enterprises, but was one of the less commonly reported challenges amongst water enterprises. This finding indicates that in Indonesia and Vietnam, access to market challenges may have higher relevance for enterprises within the sanitation sector than within the

TABLE 4: TYPES OF CHALLENGES

‘ACCESS TO MARKET’ CHALLENGES



- low or irregular demand
- market saturation
- high business competition
- lack of information about the market (e.g. customers’ needs and preferences, source and cost of materials)
- unfavourable business location
- lack of business partnerships
- lack of social and business networks²

FINANCIAL CHALLENGES



- lack of financing options for enterprises
- lack of financing options for customers³
- high interest rates
- late payment of customers
- limitations in meeting the bank loan requirements

HUMAN RESOURCE CHALLENGES



- limited technical and business skills
- difficulties in finding staff with the right skills
- limited capacity building opportunities
- time constraints of the enterprise leader

OPERATIONAL CHALLENGES



- high fixed expenses (e.g. electricity, salary, office space rental)
- high cost of materials and equipment

GOVERNMENT AND REGULATION CHALLENGES



- lack of or unfavourable policies and regulations (e.g. unofficial and official taxes)
- lack of clarity of relevant government legislation
- lack government support.

2. Access to social and business networks can be important in obtaining information about the market as well as partnerships with sales agents. Ikeda (2012) reports these partnerships as an important success factor for sanitation entrepreneurs in East Java, Indonesia.

3. The availability of financing options for customers, such as micro loans, reduces the need for enterprises to offer instalment payments and to tolerate late payments, and reduces cashflow management challenges (Murta and Willetts 2014a).

water sector, which is not surprising given the lower demand observed in the sanitation sector in general than in the water sector, and the monopolistic nature of water services.

Differences were also found in the emphasis given to government and regulation challenges across countries. This category of challenge was one of the most commonly reported by all enterprises in Indonesia, yet in Vietnam it was not mentioned at all, or was only mentioned by a very small proportion by water and sanitation enterprises (Table 5). This may reflect the wider context of the enabling environment for private

sector development, which is known to be constraining in Indonesia.

Some differences in the operational challenges reported across sectors and countries were also evident. This was the most commonly reported type of challenge across all enterprises in Indonesia and in water enterprises in Vietnam, but it was not mentioned at all, or it was only mentioned by a very small proportion, of masons in Vietnam and all enterprises in Timor-Leste (Table 5).

The following sections (5.1 and 5.2) discuss these categories of challenges in greater detail.

TABLE 5: TYPES OF CHALLENGES REPORTED ACROSS SECTOR AND COUNTRY

SECTOR	INDONESIA	VIETNAM	TIMOR-LESTE
Water	<p><i>Water enterprises (n=21)</i></p> <ul style="list-style-type: none"> Operational 71% Govt & reg 55% Human resources 46% Financial 43% Access to market 32% 	<p><i>Water enterprises (n=20)</i></p> <ul style="list-style-type: none"> Operational 38% Financial 18% Access to market 14% Human resources 10% Govt & reg 5% 	<p><i>Water contractors (n=14)</i></p> <ul style="list-style-type: none"> Govt & reg 79% Access to market > 50% Financial > 50% Human resources 21%
Sanitation	<p><i>Sanitation enterprises (n=56)</i></p> <ul style="list-style-type: none"> Operational 52% Access to market 46% Human resources 46% Govt & reg 45% Financial 36% 	<p><i>Masons (n=20)</i></p> <ul style="list-style-type: none"> Access to market 100% Human resources 80% Financial 80% 	<p><i>NGO led sanitation enterprises (n = 5)</i></p> <ul style="list-style-type: none"> Access to market
	<p><i>Sludge removal enterprises (n=24)</i></p> <ul style="list-style-type: none"> Operational 73% Govt & reg 60% Access to market 58% Human resources 53% Financial 42% 	–	<p><i>Retailers of construction materials (n=12)</i></p> <ul style="list-style-type: none"> Access to market 60% Human resources 20% Operational 20% Financial 10%

5.1 CHALLENGES REPORTED BY WATER ENTERPRISES

'Access to market' challenges

In Indonesia and Vietnam, water service providers did not report experiencing significant problems in terms of 'access to market' (only 32% of Indonesian enterprises and 14% of Vietnamese enterprises noted it as a challenge). This likely reflects the monopoly status that water service providers have, though in both countries, mention was made by some respondents of low customer demand. In Vietnam this was voiced in terms of 'insufficient sales' (quantity of water sold). In Indonesia one respondent noted that low demand was due to community perceptions that water is for free and reported that previous social programs had contributed to this perception: *"because of the social oriented activity, so people still think it should be free"*. In addition, for some enterprises in Vietnam high levels of competition and unfavourable location were noted, and in Indonesia business networks and partnerships were felt to be a factor limiting access to markets.

In contrast, more than half of the water contractors in Timor-Leste reported access to market challenges. The nature of these enterprises was different, in that they were water contractors who bid for, and competed for, construction work through government and donor tender processes, and hence for them 'access to market' was a significant challenge (according to more than half of respondents). Both inadequate technical skills and lack of transparency in selection processes were cited as key contributing factors.

Financial challenges

Financial challenges include obtaining access to finance for customers and enterprises, and were raised by some water enterprises in Indonesia (43%) and a smaller proportion (18%) in Vietnam. In both Indonesia and Vietnam this was primarily due to high interest rates or insufficient access to bank loans resulting in inadequate access to capital. In Indonesia, unofficial taxes were also noted as problematic, and in Vietnam official taxes were mentioned, as was late payments from customers.

In Timor-Leste, this type of challenge was reported by more than half of the water contractors interviewed. However, again, due to the different nature of these enterprises, they reported slightly different financial challenges. These included: late payments (usually from government contracts) which caused cash-flow issues; inappropriate pricing norms in government contracts; and expectations that the enterprises would make financial contributions to the communities in which they worked. In terms of bank loans, the majority of respondents were not interested in taking loans and preferred to rely on personal savings, as noted by one respondent: *"If we get a loan from the bank and if something goes wrong the risk will be on us. We prefer to only use personal savings"*.

These findings align with those described in the literature (Gero et al., 2013) and with findings from earlier stages of this research (Murta and Willetts 2014a). Murta and Willetts reported that banks and micro-finance institutions lacked familiarity with water enterprises in Indonesia and Timor-Leste, and that enterprises were unable to meet requirements concerning formal legality, collaterals and evidence of cash flows (Murta and Willetts 2014a; Murta and Willetts 2014b).

Human resource challenges

Human resource challenges were reported by a significant proportion of water enterprises in Indonesia (46%) but by a smaller percentage of water enterprises in Vietnam (10%) and Timor-Leste (21%). In all countries these challenges were due to difficulties in accessing staff with appropriate skill sets. In Indonesia and Vietnam both technical and business skills limitations were mentioned, whereas in Timor-Leste the challenges mostly pertained to technical skills, including building on and extending such skills.

According to Murta and Willetts (2014a, p. 21) *"access to business management skills is a major issue"* for water enterprises in Indonesia. Capacity development support tailored for these organisations is limited and has largely been delivered through donor-funded programs. Further, the effectiveness of some of these training initiatives has been



If we get a loan from the bank and if something goes wrong the risk will be on us. We prefer to only use personal savings.



assessed as inappropriate or too short for the educational level of the trainees (Murta and Willetts 2014a).

In the case of Timorese water contractors, human resource challenges concerned not only accessing staff with appropriate skills but also retaining them. Timorese water contractors tended to only employ staff during 'projects' and did not have sufficient throughput of work to employ staff on an ongoing basis. In highlighting this issue, one respondent noted: *"on technical issues we are okay, but [for some staff] to learn something new is difficult – for some people when we talk about BOQ and design – it takes time" and "especially for technical persons is difficult. Currently we have one technical staff, in future he would like to have training, so that our company is more competitive"*.

Operational challenges

Operational challenges relate to the limited availability and high cost of materials, equipment and fixed expenses. These types of challenges were mentioned by water enterprises in both Indonesia and Vietnam (71% and 38% respectively). In both countries, scarcity of water resources, the high cost of electricity, and high maintenance and repair costs were mentioned. For example, concerning maintenance and repair costs, one respondent from Indonesia noted: *"High calcium levels make the water bung up the pipe ... water meters do not operate because they are too old. This makes the calculation inaccurate. Improper water meters need to be replaced, HIPPAM doesn't have enough funds to replace all water meters simultaneously"*. Another respondent from Vietnam also noted: *"the piping system is relatively old, needs high repairing and operating costs, and has huge water losses which means low profit. The pipeline system runs under the roads. Whenever they widen or repair the road, it affects the pipeline system, and causes displacement or breakage, water loss and increases repairing costs."* In Vietnam, some water enterprise leaders also mentioned challenges with of water storage management: *"the big problem is storing water; it's so difficult to manage."*

Government and regulation challenges

Government and regulations were raised as challenges by more than half of the water enterprise leaders in Indonesia (55%) but by a much smaller proportion of water enterprise leaders in Vietnam (5%), which may reflect the different business operating environments in the two countries.

In Indonesia, common challenges reported under this category included lack of or unclear government legislation, and lack of general support from government. For example one respondent noted: *"Village government ruins the management, taking over the organisation but they are not doing the mandates. HIPPAM [water provider organisation] funds are [used] for [personal] reasons for village administrators"*.

This finding is consistent with evidence from earlier stages of this research, which highlighted that there has been very limited attention paid to water in general by local governments (Murta and Willetts 2014a). Further, regulations surrounding different types of organisations remain unclear. This has led to a lack of clarity about what type of organisation is best suited for water enterprises, as well as limitations around accessing bank loans and receiving support from private sector development government agencies (Murta and Willetts 2014a).

In the case of Vietnam, although lack of or unclear government legislation was mentioned by only one water enterprise leader, Gero and Willetts (2014) provide evidence of enterprises facing difficulties in negotiations with provincial governments around tariffs, land ownership and ownership of assets. Gero and Willetts (2014) also report that despite the existence of formal regulations to support government agencies at the provincial level to contribute financially to make up for shortfalls in the revenue of water enterprises, this is often not followed through in practice.

In Timor-Leste, a significant proportion of water contractors (79%) also raised government and regulations as a challenge. However, as with other types of challenges, these were of a different nature than the ones reported by Indonesian and Vietnamese

water enterprise leaders. They were predominantly related to government contract management issues, in particular slow or delayed payments, which caused major cash-flow problems for small companies. For example, one respondent noted: *“it can be a very long time to be paid, four, five or six months, even one year, and nothing paid up front”* and *“a negative of working with government is six month delays in being paid”*.

5.2 CHALLENGES REPORTED BY SANITATION ENTERPRISES

‘Access to market’ challenges

‘Access to market’ challenges were significant across all types of sanitation-related enterprises and across all countries (46%–58% of sanitation enterprises in Indonesia, 100% of sanitation enterprises in Vietnam, and 60% of Timorese retailers of construction materials). Within this category of challenges, low or irregular demand for sanitation products was one of the most commonly reported by almost all of these enterprises.

Perceptions concerning the factors contributing to the low demand for sanitation products or services in each country were also reported. These included low social awareness of hygiene practices in the community, low affordability of the sanitation products and services, and a legacy of subsidies and supply driven-approaches, which had left an expectation of free toilets. For example, in Indonesia one sanitation entrepreneur explained that people in his community *“don’t feel that they need a toilet”* and that *“it’s difficult to persuade them to use proper sanitation”*. Another respondent associated low demand to affordability issues: *“people still don’t want to have latrines due to the high price of the package”*. Yet another presented a nuanced view as he believed that it wasn’t an affordability issue but rather that past supply-driven approaches had created the expectation that toilets should be provided for free: *“The truth is that people here have the money to build latrines. But, since they always rely on help or support, the majority do not want to spend their money”*. In Vietnam, a mason also noted customer affordability issues: *“there are many poor households that don’t have money to pay for such types*

of services and this affects demand.” In Timor-Leste, a legacy of subsidies and a lack of tailor-made sanitation products were also perceived as key factors contributing to low demand. For example, regarding the lack of tailor-made products one sanitation entrepreneur noted: *“people prefer other products to the ones we are offering, so there is a need to do product development to make our products nicer, smoother, more attractive, a finer product”*.

In addition to low demand, sanitation entrepreneurs also mentioned lack of access to information, and sludge removal entrepreneurs mentioned competition and market saturation. Vietnamese masons also mentioned competition as a challenge.

Financial challenges

Many of the sanitation enterprises in Indonesia (more than 45%) and masons in Vietnam (100%) reported financial challenges.

In Indonesia common financial challenges reported by sanitation and sludge removal enterprises included lack of access to finance. Sanitation enterprises also mentioned late customer payments, and sludge removal enterprises mentioned high interest rates for bank loans.

Earlier stages of this research support this finding. Murta and Willetts (2014a) found that lack of access to finance is a common challenge amongst small businesses in Indonesia. Often, small businesses tend to operate informally and have a limited capacity to meet lending eligibility criteria such as legal status, credit and cashflow history, and collateral. Further, as with water enterprises in the water sector, financial institutions lack familiarity with sanitation as a business activity and are therefore hesitant to lend money to these types of enterprises. However, Murta and Willetts (2014a) also found evidence of cases where sanitation entrepreneurs were able to meet banks’ lending requirements but preferred informal forms of lending. This can be explained by the entrepreneurs’ lack of familiarity and experience with bank borrowing and/or risk aversion. It is interesting to note that although risk taking was evident amongst sanitation entrepreneurs, this trait was not predominant (Table 2). Further, a stronger presence of this trait was found amongst successful sanitation entrepreneurs than

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Some households can have some urgency and end up having to use the money they had to pay the mason on other stuff.”
”

unsuccessful ones. For example, one unsuccessful sanitation entrepreneur demonstrated risk aversion relating to bank loans by noting: “[I am] not courageous enough to borrow money from the bank since the business doesn’t give certainty”.

Masons in Vietnam only reported financial challenges related to late payments from customers. For example one mason noted: “Households are poor... [it is] a risk is to not be paid by households. Some households can have some urgency and end up having to use the money they had to pay the mason on other stuff and hence are unable to pay for the construction after this is finished.” This aligns with the findings from Gero and Willetts (2014), which indicate that access to finance did not constrain the enterprise activity of masons, although these tended to use informal forms of credit. However, it found limitations around poor customers’ access to loans and credit for sanitation, which affected the demand for sanitation products.

Human resource challenges

Human resource challenges were reported by a significant proportion of sanitation-related enterprises in Indonesia (more than 45%) and masons in Vietnam (80%). A smaller proportion of retailers in Timor-Leste also raised this type of challenge (20%).

Commonly reported human resource challenges by both sanitation and sludge removal enterprises in Indonesia included lack of technical and business skills, lack of access to capacity development opportunities, and lack of time. In addition to these, sanitation enterprises also emphasised difficulty in finding staff with the right skills. Masons in Vietnam also reported lack of technical and business skills and difficulty in finding staff with the right skills. For example, one mason noted: “Sometimes I hire the wrong mason assistant who doesn’t have the rights skills and I end up having to work double.” Empreza Diak (2014) explores the possibility of sanitation enterprises in Timor-Leste playing a more active role in sanitation marketing and in expanding sanitation services to rural areas. Diak notes human resources challenges such as lack of skills and a lack of experience in promoting and distributing to rural areas.

Operational challenges

Operational challenges were reported by more than half of sanitation and sludge removal enterprises in Indonesia (52% and 73% respectively). Retailers in Timor-Leste also reported this type of challenge, although the proportion was smaller (20%). In Indonesia common operational challenges reported by sanitation and sludge removal enterprises included high cost of materials and equipment and high fixed expenses. Operational challenges reported by retailers in Timor-Leste included “water and electricity cuts” which affected artisans’ operations linked to retail businesses such as brick production and welding. Another respondent also mentioned the challenges associated to using manual systems to control the stock: “Our weakness is the control of the items. At the moment we use manual systems to control the items”.

Government and regulation challenges

Government and regulations were raised as challenges by sanitation enterprises (45%) and sludge removal enterprises (60%) in Indonesia. Common government and regulation challenges reported by both types of enterprises included lack of support from government staff, and unclear or non-existent government legislation. This finding is not surprising as in Indonesia, government attention to sanitation has focused largely in creating demand and not on creating an enabling environment to meet this demand through supporting sanitation enterprises (Murta and Willetts 2014a).

In the case of sludge removal entrepreneurs lack of support from government was mainly to do with a “lack of government attention towards the limited availability of disposal sites”. Further, as explained by one respondent, because of this entrepreneurs were forced to practice illegal activities and as a consequence are subject to levies: “There is a lack of support from the government related to the waste water treatment plant which is only located in Putri Cempo. And if I operate around Klaten, Boyolali and Sukoharjo the distance [to the legal disposal site] is too far. There is a levy if I throw it out in the Bengawan Solo River”.

6. GENDER DIMENSIONS

This section explores the role of women as entrepreneurs, bringing together observations about the gender division in our sample, the presence of pro-social traits, and the perceptions of female entrepreneurs. Fulfilling water, sanitation and hygiene-related roles is often associated with women's work in families and communities. It is women who are traditionally responsible for water collection and the care of household members when they are ill, and it is women who tend to have intrinsic motivation to improve household sanitation. However, there are unfulfilled opportunities for women to play more active roles in the sector and to benefit from the economic opportunities it can offer. Findings from this study confirm this and show that entrepreneurial activity in water and sanitation in each of the counties covered in this study is male dominated. As Table 6 shows, respondents across all types of enterprises and countries were predominantly male, and this was despite the significant efforts we made to include female entrepreneurs in the sample frame.

Further, concerning the relationship between success and gender, it was found that in Indonesia, female sanitation entrepreneurs achieved lower levels of success than male entrepreneurs. However, when drawing conclusions from this finding it is important to note that there were far fewer female entrepreneurs than male entrepreneurs in the study (Table 6). The lower levels of success can be explained by lower levels of monthly revenue found

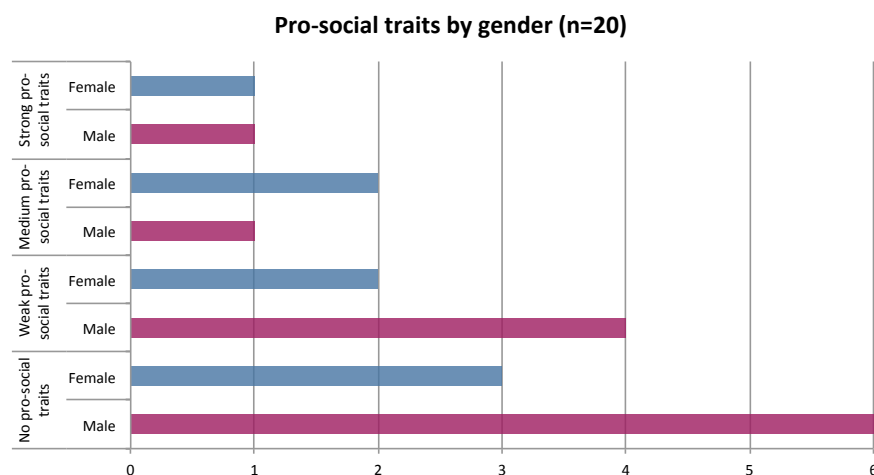
amongst female-led enterprises. It was also found that higher levels of education were evident amongst male entrepreneurs than female entrepreneurs. Further, compared to male entrepreneurs, female entrepreneurs demonstrated more risk-averse attitudes and less inclination to be innovative than male entrepreneurs. They also demonstrated a lower commitment to continuing the business in the future, and less confidence in the future success of the business. These female entrepreneurs had received the same training as male entrepreneurs, however these results demonstrate that differently designed support is needed for female entrepreneurs.

No such relationship between gender and success was evident amongst sludge removal entrepreneurs in Indonesia, or amongst Vietnamese water enterprise leaders. In Indonesia, only one female sludge removal entrepreneur was interviewed, however it's interesting to note that her business was classified as unsuccessful. Similarly, of the four female Vietnamese water enterprise leaders interviewed, two were considered to be unsuccessful.

The relationship between pro-social traits and gender was also analysed for masons in Vietnam and revealed stronger pro-social traits amongst female masons. As Figure 6 shows on the next page, more females than males exhibited medium or strong pro-social traits.

TABLE 6: PROPORTION OF FEMALE ENTREPRENEURS ACROSS SECTORS AND COUNTRIES

SECTOR	INDONESIA	VIETNAM	TIMOR-LESTE
Water	<i>Water enterprises (n=21)</i> • Male: 100% • Female: 0%	<i>Water enterprises (n=20)</i> • Male: 80% • Female: 20%	<i>Water contractors (n=14)</i> • Male: 79% • Female: 21%
Sanitation	<i>Sanitation enterprises (n=54)</i> • Male: 87% • Female: 13%	<i>Masons (n=20)</i> • Male: 60% • Female: 40%	<i>NGO led sanitation enterprises (n = 5)</i> • Male: 100% • Female: 0%
	<i>Sludge removal enterprises (n=24)</i> • Male: 96% • Female: 4%	–	<i>Retailers of construction materials (n=12)</i> • Male: 67% • Female: 33%

FIGURE 6: PRO-SOCIAL TRAITS OF MASONS IN VIETNAM BY GENDER

This study sought to understand the dynamics that may bring about the gender imbalances in water and sanitation enterprises in the context of Indonesia and Vietnam. Open-ended questions concerning how easy or difficult it was for women to become entrepreneurs were used to explore this issue. As Figure 7 shows, in both Indonesia and Vietnam, the belief that it was easy for a woman to become an entrepreneur was predominant amongst almost all types of enterprises except masons in Vietnam.

This perception does not align with the predominance of males in water and sanitation entrepreneurial activity observed in these countries, nor with the levels of success observed amongst female entrepreneurs in this study. However, reasons presented as to 'why it's easy for women to become entrepreneurs' suggest that perceptions about female roles in water and sanitation services in these countries are changing, which helps to explain this difference (Table 7). A common view amongst water enterprise leaders in Indonesia and Vietnam, as well as sanitation and sludge removal enterprises in Indonesia, was that it is becoming increasingly common for women to work in non-traditional gender roles. Further, as society is becoming more accepting of this, the opportunities for women to play entrepreneurial roles and their confidence in their abilities to do so, are increasing. One sanitation entrepreneur from Indonesia explained this point by noting that "*many women in Indonesia are now becoming*

business women, there has been a shift on points of view. The days when women were left behind are now gone. They are now moving ahead and the opportunities offered have grown." Similarly, an Indonesian sludge removal entrepreneur added that "*Indonesia has already opened jobs to anyone; there are no barriers, especially for women entrepreneurs.*"

Another common view amongst water enterprise leaders in Indonesia and Vietnam, as well as sanitation and sludge removal enterprises in Indonesia, was that women's personalities and natural skills were better suited to business management activities than men's. For example, one sanitation entrepreneur from Indonesia noted: "*women who are doing business might have better communication skills than men and are much easier to mingle with compared to men*". A sludge removal entrepreneur from Indonesia also noted: "*Women have a more broad-minded way of thinking; they have more ability to solve problems*".

An opposing view to this was evident amongst some entrepreneurs who believed that women are generally less capable than men: "*women are unlikely to succeed, [they are] difficult to rely on, and being the people who help others... women are difficult to work with. Women prefer to manage the family*" (sanitation entrepreneur from Indonesia). This view was common amongst respondents who believed that it was difficult for women to become entrepreneurs in water

FIGURE 7: PROPORTION OF RESPONDENTS WHO CONSIDERED THAT IT WAS EASY OR DIFFICULT FOR WOMEN TO BECOME ENTREPRENEURS IN THEIR COUNTRIES

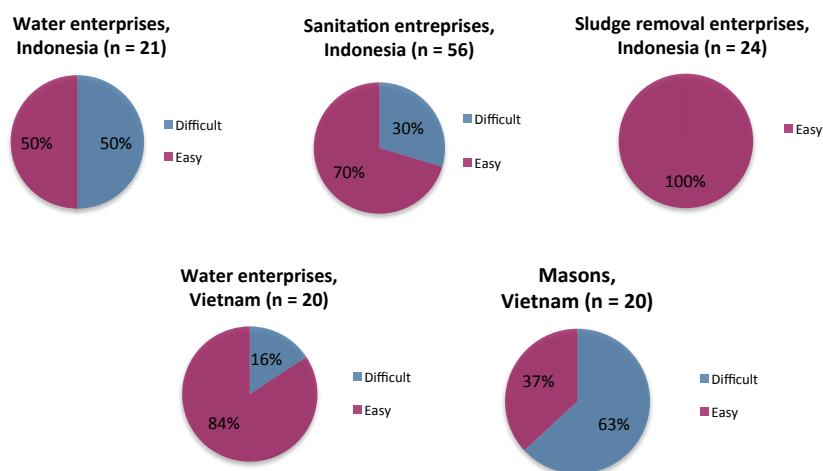


TABLE 7: REASONS PRESENTED AS TO WHY IT IS EASY OR DIFFICULT FOR WOMEN TO BECOME AN ENTREPRENEUR

REASONS FOR WHY IT IS EASY	REASONS FOR WHY IT IS DIFFICULT
<ul style="list-style-type: none"> • Gender equity is not an issue, or as society is becoming more modern, the number of female entrepreneurs is growing. • Women are just as capable as men. • Women have better skills and a more suitable personalities for entrepreneurial activities (e.g. time and financial management skills, more approachable, tolerant and flexible). • Women with an occupation or a job are more respected by society than those who don't. • Sanitation entrepreneurship links well to the role of community health volunteers, and the majority of community health volunteers are women. • Sanitation entrepreneurship is easy enough for it to be carried out by anyone. 	<ul style="list-style-type: none"> • Gender imbalance is still an issue. • Women are generally less capable than men. • Women's personalities are not suited to entrepreneurial activity (e.g. risk averse). • Women have limited skills and time compared to men. • The role of women is to take care of domestic activities. • Self-employed women are not well regarded by society. • Women do not want, or do not have enough courage, to engage in entrepreneurial activity. • Entrepreneurial activity involves higher risk for women. • Women have limited access to capital.

enterprises in Indonesia and Vietnam, as well as sanitation and sludge removal enterprises in Indonesia.

Another common reason given by sanitation and sludge removal entrepreneurs in Indonesia for why it's difficult for women to become entrepreneurs was the belief that women's essential role is to take care of domestic activities and not to lead or engage in business activities. For example, one sanitation entrepreneur from Indonesia noted that if women

engage in business activities, "households will not be taken care of, so better for woman to stay at home".

In contrast with other types of enterprises, the majority of Vietnamese masons (63%) believed that it was difficult for a woman to become an entrepreneur. However, although a large proportion of male masons thought it was not easy for women to play entrepreneurial roles, a large proportion of the female masons interviewed thought it was very easy for women to do so.

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Many women in Indonesia are now becoming business women, there has been a shift on points of view.
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There was also a gendered dimension to perceptions of the roles of men and women more generally. Male interviewees believed women should be at home attending to housework and family commitments, and thus believed it was (or would be) difficult for women to be masons: “[Women are] busier with house work than men. They have more responsibilities at home than men” (male mason). Female masons interviewed were more open to playing a variety of roles, including the role of mason.

Another problem making it difficult for women to be masons (or entrepreneurs more generally), identified by both male and female interviewees, was that women often lacked their own capital, and were in more stressed economic conditions than men, which acted as an obstacle to entrepreneurship, as noted by a male mason: “Not so many women are business owners; there is a lack of money to invest”. A female mason also noted: “It is difficult for women to be business women, due to the economic conditions of women”. Finally, one female mason noted how she was initially ridiculed when first working as a mason and it took time for her to build

her own confidence to overcome these public perceptions: “[a]t first I felt ashamed as a mason. They laughed at me. Now I’m a chief and skilled mason. It is not easy for women to be business owners. Women are neater than men, but business is difficult” (female mason).

The life stories of the three female masons (collected through oral history analysis) also raised relevant gender issues that help to explain gender imbalances in sanitation service provision. These included issues such as family views about educating boys and girls, gender roles in the family and cultural and social expectations of men and women; and family and parental obligations (Box 1). Further, this gender analysis highlighted that perceptions of gender, and the roles men and women play in society, are not static, but are shaped by a number of factors, either explicitly (e.g. socialism encouraging women’s participation in politics) or implicitly (e.g. changes in labour markets meaning fewer paid opportunities for women). Perceptions of women’s roles in society therefore need to be taken into account in terms of political, economic and historical context.

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It is difficult for women to be business women, due to the economic conditions of women.
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BOX 1: KEY THEMES RELATING TO GENDER IDENTIFIED IN THREE VIETNAMESE WOMEN'S LIFE STORIES (MS MINH, MS TOAN, AND MS NGUYET)**Family views towards educating boys and girls**

Support for education, particularly of girls, was not common amongst families in Muong Ang District. A commonality between Ms Minh and Ms Toan was their parents' strong support of education. Although both families were very poor, they made the effort to send the girls in the family to school, even though this was not the norm in their communities. Ms Toan noted that "It was unusual that my parents were so supportive of education ... My family tried their very best to get as good an education as possible". The parental support and encouragement provided to these women for education would have provided a strong grounding for them in later life, as masons and in other roles.

Family and parental obligations

As a third daughter, Ms Toan noted that her two elder sisters had to stop their education to look after the family, as "that was their responsibility as elder sisters." Elder daughters therefore gave up their education for the sake of their parents and family – that was their cultural obligation. Ms Nguyet also experienced parental obligations driven by culture through her parents-in-law. According to her experience females are expected

to give up their freedoms and individual choices to support her husbands and their families. However, her husband similarly gave up his job upon their return to Dien Bien, so these sacrifices can be seen to happen to both sexes.

Gender roles

Ms Nguyet believed that over time, if people observe women's abilities in a non-traditional role (e.g. masons), they can begin to respect them. She noted that "Before they [community members] were not sure if they [female masons] could do the job, they thought it was a little strange. But when people see we can do it, they are okay. They respect me now and I respect other masons also". Ms Toan's feelings on female masons, and her own role, had changed significantly since she began her work as a mason. Her growing experience, skills and resulting confidence in her own abilities enabled her to overcome earlier feelings of shame (demonstrated by covering herself up to disguise she was a woman). Ms Toan's journey to become chief mason had resulted in a changed mindset with regards to traditional occupations for women, as she noted that "men can be masons, women can be masons. My thinking has changed".

7. CONCLUSION

This working paper has brought together findings from a series of similar studies undertaken across three country contexts (Indonesia, Vietnam and Timor-Leste) and across enterprises operating in the water and sanitation sectors. Comparing the results across sectors and across countries yielded useful findings that can point to some of the systemic issues that need to be addressed if enterprise roles in water and sanitation are to reach their full potential.

The enterprises and entrepreneurs included across the studies included those working in for-profit, not-for-profit and collective enterprise models, as a wide variety of business models have evolved in each country context. Enterprises were predominantly small (one to ten employees) and male dominated. Water enterprises in Indonesia and Vietnam were mostly formal organisations (95% - 100%) operating in rural areas (90% - 95%) for ten years or more (60% - 62%). Overall water enterprises in Indonesia were predominantly smaller than water enterprises in Vietnam. The majority of water enterprises in Indonesia (71%) served less than 1,000 households, whereas the majority of the water enterprises in Vietnam (60%) served more than 1,000 households. Water contractors in Timor-Leste consisted of national and district based construction companies of water supply systems, operating from three up to 18 years, and with most staff only working on a project-by-project basis. Sanitation enterprises in Indonesia and masons in Vietnam were predominantly informal businesses (70% - 89%) operating in rural areas (52% - 100%) for less than ten years (60% - 71%). Sludge removal enterprises in Indonesia were also predominantly informal (63%) but most operated in urban or sub-urban areas (96%) and more than half (51%) had been in operation for more than ten years. In Timor-Leste, sanitation related enterprises consisted of formally registered retailers selling sanitation products, operating for more than ten years (67%), and local NGO-led small enterprises supported by international development agencies to produce and sell sanitation products. These NGO-led enterprises were formed in the past five years.

This paper supports studies in existing literature on entrepreneurship that identify five key entrepreneurial traits: need for achievement, proactiveness, risk-taking, innovativeness and need for independence. Across most types of enterprise we found evidence for one to five of these traits. We also found that a greater prevalence of these traits was associated with greater business success. Two key traits dominated our sample: need for achievement and proactiveness. The other three traits were only present in some entrepreneurs. The dominant traits that differentiated successful from unsuccessful entrepreneurs were proactiveness and risk-taking.

We found strong evidence of pro-social traits across the majority of different enterprise types, including amongst water enterprises (76-87% of enterprises demonstrated pro-social traits in all three countries), and sanitation enterprises in Indonesia and Timor-Leste (80-86%). Weak pro-social traits were found amongst masons in Vietnam (75%) and sludge removal companies in Indonesia (67%). Motivations underpinning pro-social behaviour included self-satisfaction, religious beliefs, empathy for the poor and extrinsic factors associated with other positions or roles held by the entrepreneur (e.g. as a government employee).

Our findings on pro-social traits differ somewhat from those found in the literature to date (Gero et al. 2013) demonstrates limited evidence of outcomes for the poor and suggested that enterprises gravitate to customers that can pay. This area requires further research and interrogation, particularly in terms of the links between the pro-social motivations described in this study and actual outcomes for the poor (in terms of discounts, instalments, and equality of access to services). We explore this area further in a later study in relation to water enterprises in Vietnam.

This paper also highlights the importance of a diverse set of business motivations and the value of association membership. Beyond profit and motivations underpinning pro-social behaviour

noted above, diverse other motivations were identified, including extending social networks, access to new skills, knowledge and experience, status and acknowledgement, pride, and lifestyle and time flexibility. Knowledge of these motivations can inform efforts to support and develop entrepreneurs in the water and sanitation sector. Becoming a member of an association is one way is are one way to support such development, and our research has shown that membership of associations provided entrepreneurs with significant benefits. These benefits included peer-to-peer learning and capacity building opportunities and a sense of camaraderie, friendship and sense of group mission. Other, less pronounced benefits included access to information (e.g. information about latest water and sanitation technologies and products, new rules and regulations), networking, opportunities for new experiences (e.g. travelling), fair competition, access to cheaper materials, access to credit, advocacy power for common issues shared by the association members (e.g. increases to water tariffs). Such associations are a key point of leverage and intervention that deserve greater attention from partner country governments and in development agency programming.

Multiple challenges were faced by water and sanitation enterprises, pointing to some key areas for future intervention and support. For water enterprises in Indonesia and Vietnam, the key challenges were operational challenges (relating to high operating costs which enterprises were not able to recover through their charges) and also difficulties accessing finance in terms

of obtaining bank loans or excessively high interest rates. For sanitation enterprises, 'access to market' was the dominant challenge, relating to well-known issues in encouraging consumers to invest in sanitation products and services. Human resource challenges for both water and sanitation enterprises revolved around access to staff with relevant skills. Government and regulatory challenges were more pronounced in Indonesia than Vietnam, reflecting the broader private sector-enabling environment in each country.

Last but not least, our paper demonstrates the need for concerted attention to address gender equality issues in water and sanitation enterprises. Despite strong efforts, the available sample frame for most types of enterprises was dominated by male entrepreneurs. And amongst those female entrepreneurs included in the sample in Indonesia, their level of success was lower, pointing to unique issues and indicating that particular forms of support are required to support female-led enterprises. Female entrepreneurs in Vietnam demonstrated stronger pro-social traits than male entrepreneurs, a finding which could be capitalised upon in efforts to serve the poor. Lastly, perceptions about how easy it was for females to be entrepreneurs suggested that it was relatively easy, however the reasons provided for answers to this question pointed to the complexity of the issue, and the slowly changing gender norms in the relevant countries.

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APPENDIX

RESEARCH QUESTIONS

This research was underpinned by the following questions:

- 1) To what extent do enterprise and entrepreneurs engaging in water and sanitation services exhibit the typical characteristics of entrepreneurs or social entrepreneurs documented in the literature?
- 2) How have traditional or other 'barriers to entry' affected the success of enterprises and of entrepreneurs engaging in water and sanitation services?
- 3) What are the implications for effective forms of support to such enterprises, such that they may further develop and play a role in serving the poor?

RESEARCH FRAMEWORK

This research drew on theories on entrepreneurship and social entrepreneurship, including key characteristics of entrepreneurs described in the literature (Ernst 2012; Freytag and Thurik 2007; Cromie 2000; Light 2011; Nyssens and Defournay 2010; Rauchand and Frese 2007; Robson 2010; Terjesen et al 2011). The study also considered literature on traditional 'barriers to entry' for enterprises (e.g. access to credit, market uncertainty, skill requirements and policy environment) to categorise barriers faced by enterprises (Kelley 2013; Porter 1998; Porter 2008; Reynolds 2000; Robson 2010; Sinha 1996; Indarti and Langenberg 2004; Indarti and Rostiani 2008). This qualitative study involved interviews with female and males involved in existing enterprises. Opportunities for, and constraints on, women's participation in enterprise development were examined.

METHOD OF DATA COLLECTION

The main data collection instrument was a structured questionnaire that examined the following key areas:

- demographics related to the owner/ manager (e.g. age, education), and to the enterprise itself (size, profit, assets, employees etc.)
- motivations, entrepreneurship traits and pro-social traits
- contextual factors (finance, marketing, human resources, operations, government and regulation)

A combination of open-ended questions and closed questions was used to enable triangulation of findings. In-depth responses were sought in certain areas.

DATA ANALYSIS

An analytical framework was developed to guide the analysis process. This framework, which supported the testing of hypotheses, was developed from the literature (Ernst 2012; Freytag and Thurik 2007; Indarti and Langenberg 2004; Kelley 2013; Porter 1998; Porter 2008; Reynolds 2000; Robson 2010; Sinha 1996) and covers the following areas:

- 1) evidence of entrepreneurial traits
- 2) evidence and level of pro-social traits
- 3) level of success of different enterprises
- 4) factors influencing success (including demographic variables; cultural context; entrepreneurial traits, personality and skills; contextual factors; and gender).

Addressing the first three analytical areas described above involved scoring of each enterprise based on their responses to relevant questions. Evidence of entrepreneurial traits was assessed based on a set of quantitative questions and qualitative questions, which tested for the presence of the five characteristics: proactive approach, need for independence, need for achievement, innovativeness, and risk taking propensity. Evidence of pro-social traits was assessed by analysing responses to questions concerning the entrepreneurs' goals, motivations and benefits, future prospects, and existence of strategies to reach the poor. In turn, the level of success was assessed by analysing the enterprises' profit growth after establishment and over recent years, monthly revenue in the past year, amount of accumulated assets per year, and clarity of vision about the future of the business.

A scoring protocol was developed and inter-rater reliability was tested and confirmed for the four researchers undertaking the analysis. Based on this, each enterprise was categorised according to the number and type of entrepreneurial traits demonstrated, the level of pro-social traits (weak, medium and strong pro-social traits) and level of success (unsuccessful, some success, and high success).

LIMITATIONS

This study included a variety of limitations in the methodology. As a mixed method study, the approach included both quantitative and qualitative design. The sample size of the enterprises allowed for some recognition of trends and comparisons, particularly when complemented by the qualitative data, however such findings can only be considered indicative without expanding the study to a larger sample size. Secondly, the interview data was varied in quality, with some data demonstrating depth of interrogation in participant responses, and other data brief and insubstantial. Thirdly, the interviewee responses were translated from the languages of each of the countries where the research was conducted (Bahasa Indonesia, Vietnamese and Tetum) to English by the in-country researchers, and may not always fully represent how participants expressed themselves.