**Women’s involvement in economic opportunities in water, sanitation and hygiene (WASH) in Indonesia: Examining personal experiences and potential for empowerment**

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Involvement of women in economic activity in water, sanitation, and hygiene (WASH) in Indonesia is increasing, and yet this is the first study to examine empowerment in this context. This qualitative study explored the experiences of 18 women business owners, mobilizers, and public sector employees in WASH-related activities. The women were observed to have strong social motivations, and only those with responsibility for household income expressed economic motivations. Women’s experiences were analysed against four dimensions of empowerment: power within, power to, power over, and power with. Significant evidence of empowerment was found, and in some cases, economic empowerment. Equally, the complexity of the empowerment process as well as challenges, contradictions, and negotiations were observed. Evidence of self-belief and recognition that women had capabilities equal to men was tempered by adherence to gender norms concerning men’s roles in technical matters and decisions. While some women experienced support from close family relations, others were limited by household duties, restricted mobility, and limited financial independence. Based on the results, WASH programs and policies promoting involvement in economic activities need more nuanced consideration of women’s empowerment, and to develop multi-pronged strategies that can support women in negotiating the pathways towards greater gender equality.

Keywords: women’s empowerment, women’s entrepreneurship, water, sanitation and hygiene sector, Indonesia

# Introduction

This paper investigates the extent to which women taking part in economic activities in the water, sanitation, and hygiene (WASH) sector in Indonesia experience empowerment. The aim was to prompt a nuanced discussion amongst practitioners and researchers on the complexity of empowerment processes, to question the assumption that women’s involvement in such activities automatically leads to empowerment, and in doing so, to provide insight into how empowerment can be supported.

There is a significant scope of economic activity within the water, sanitation and hygiene (WASH) sector in Indonesia across the private and public sectors. In rural areas, community based organizations (CBOs) manage the village water supply, and more recently, some have formalized as either cooperatives, not-for-profit organizations, companies, or village-owned enterprises (BUMDes) (ISF-UTS, 2016). In the rural sanitation sector, expanding access to quality latrines is supported by a combination of public sector staff (local sanitarian staff), volunteers (often posyandu, health cadre), and small-scale enterprises (sanitation entrepreneurs producing, selling, and sometimes constructing latrines) (Murta & Willetts, 2014). In urban areas, enterprises also play roles in sludge removal services (Kohlitz et al., 2017) and are often involved in the production and the distribution of hygiene products (for instance, including menstrual hygiene products, soap, and drinking water filters).

Recent research on small-scale enterprises in Indonesia, Vietnam, Timor-Leste, and Cambodia has indicated that the majority of WASH economic activity has been led by men. While efforts have been made by some non-governmental organizations (NGOs) to ensure the participation of women in entrepreneurship or related training, it has been found that only a small proportion of women trained were either motivated or able to take advantage of this economic opportunity (Murta et al., 2015; Gero et al., 2015). This trend has been questioned by development actors, given the broader imperative to address gender equality and inclusion. As a result, further efforts are underway to understand the dynamics affecting women’s decisions to participate in WASH-related economic activities, including the study reported in this paper.

The imperative to involve women to a greater extent in WASH economic activities is threefold. First, research has shown that there is a need to support women, men, and potentially disadvantaged groups to have full, effective, and equal participation in decision making related to WASH management to ensure that diverse needs are met (Cronin et al., 2015; Fisher et al., 2017; Ivens, 2008; Reed et al., 2007). Second, multiple studies have demonstrated the potential for gender equality outcomes to result from WASH initiatives (Grant et al., 2017; Leder, 2015; Carrard et al., 2013; Kilsby, 2012). However, concerns have been raised regarding the potential for token participation, overburdening women’s lives, or reinforcing patriarchal norms when broader gender dynamics are not addressed (Leder, 2017; Leder, 2015; Carrard et al., 2013; Kevany & Huisingh, 2013; Ivens, 2008; Regmi et al., 1999), and often, the intent was instrumental in terms of achieving more sustainable WASH outcomes rather than genuinely seeking women’s empowerment (Fisher et al., 2017). Third, as described, WASH can offer economic opportunities, which should be open to both women and men. Nevertheless, it cannot be assumed that involvement in WASH economic activities is necessarily beneficial to women. As noted by Batliwala (2007), a focus solely on economic empowerment may not sufficiently address issues of power and gender norms. Hence, the aim of this study was to investigate the experiences of women in Indonesia who have recently become involved in WASH economic activities and to better understand their experiences, the enablers of success, the challenges they face, and the evidence of empowerment.

It is important to note that this study explored the context of Indonesia and women’s roles in small-scale enterprises and economic activities. In this respect, women are increasingly involved in such entrepreneurial activities but are facing significant barriers in the context of existing gender and religious norms (Anggadwita, 2015) and including exclusion from financial institutions (Vong et al., 2014). Across countries, there is evidence to support the claim that gender equality has a positive impact on economic growth, and women’s access to employment and education opportunities reduce household poverty as well as result in a range of positive well-being outcomes in the household (Kabeer, 2012). Evidence that economic growth promotes gender equality is far more mixed because some countries with the highest rates of growth show high levels of inequality and the exclusion of women from the benefits of the growth. It is the terms by which women are incorporated into economic activities that determine the change outcomes in their personal and family lives. According to 2011 estimates of the Indonesian Ministry of Women Empowerment and Child Protection, 60% of micro, small, and medium-sized enterprises are owned by women (The Asia Foundation, 2013). The large majority of these are informal and unregistered businesses (Arsana & Alibhai, 2016). The capacities of these businesses are on a spectrum from ensuring survival and meeting the basic needs of women to delivering a stable income and business growth (Leahy et al., 2017). The positive integration of women into the market is related to whether women entrepreneurs have attained security through their self-employment (Rodgers & Rodgers, 1989) and are able to negotiate a fairer work system.

# Conceptual basis: Women’s empowerment and economic empowerment

The concept of empowerment was used as the theoretical basis for this study, and in this section, the definition and the framing of this term are presented. In line with Cornwall and Rivas (2015, p. 404), “women’s empowerment is viewed as a process of transforming power relations in favor of women’s rights and social justice and the transformation of economic, social, and political structures”. Within this context, “economic empowerment is the capacity of poor women and men to participate in, contribute to and benefit from growth processes on terms which recognize the value of their contributions, respect their dignity and make it possible for them to negotiate a fairer distribution of the benefits of growth” (Eyben, Kabeer, & Cornwall, 2008, p. 9).

Empowerment is therefore not an endpoint but a journey characterized by negotiation and compromise with uncertain outcomes due to its contingent nature. Empowerment must be made sense of amongst the particular context in which women live (Cornwall & Edwards, 2010, p. 2), and based on the context of the relations between people, they may experience disempowerment or come to acquire the ability to make strategic life choices contingent on a prior or future state (Cornwall & Rivas, 2015, 405). Women face common constraints related to social expectations in which women perform the largest share of unpaid care-related activities in their households, and there is a persistent gender segregation of the labor market (Kabeer, 2012). Increasing women’s involvement in economic activities may not reduce subordination based on their gender unless accompanied by a change in men’s self-conceptions and roles as well as those of women (Khader, 2017).

The conceptualization of empowerment used in this research addressed both women’s agency and the structural aspects of transforming gender relations. In line with Rao and Kelleher (2005), a framing of empowerment must address the symbiotic relationship between power and ideology, which gains expression through judicial, economic, social, and political structures. Empowerment involves a transformation in power relations that requires equal access to and control over resources (human, physical, intellectual), control over ideology (beliefs, values attitudes), and changes in the institutions and structures that support unequal power relations (Rao & Kelleher, 2005). The empowerment framework analyses transformations in four types of power (VeneKlasen & Miller, 2002), which is outlined in Table 1.

[Table 1 around here]

# Research Method

##  ***Research design and sampling strategy***

As a qualitative study, this study gave primacy to women’s direct experiences. The study aim was to respond to two key research questions and then to contextualize the findings based on broader literature on women’s involvement in small-scale enterprises in Indonesia. The two research questions are:

1. What motives lead women to take part in economic activities in relation to WASH?
2. To what extent do women participating in WASH economic activities experience empowerment, including economic empowerment?

The identification of participant motives through the first research question was used to inform the interpretation of participant experiences of empowerment addressed by the second research question, such that individual aspirations could be viewed in relation to broader power dynamics and experiences of empowerment.

 This study included 18 participants, who were purposively sampled based on their active participation in WASH-related economic activities. The research sites were rural locations with low-quality water, sanitation, and hygiene infrastructures, facilities, and services as well as with risks in hygiene behaviors. The sample frame was identified through three NGOs actively supporting female entrepreneurs (Plan Indonesia, SNV Development Organisation, and Water.org) and a national association working in sanitation, also supporting small-scale entrepreneurs (APPSANI- Asosiasi Pengelola dan Pemberdayaan Sanitasi Indonesia). Across these four organizations, a database of 41 women was created, of which 18 women were able to participate in the study. The final sample achieved geographical spread, with participants located in 12 districts in Indonesia: across Sumatera Island, Java Island, and in Nusa Tenggara Barat (NTB) and Nusa Tenggara Timur (NTT). The participants differed in age, marital status, educational background, and relevant work experience. The details for each participant are summarized in Table 2 and were used to inform the analysis from an intersectional perspective.

[Table 2 around here]

The participants formed a set of individual cases (McCollom, 1990), which were each examined independently and also compared in reference to differences in location, marital status, work experience, and current job or position (Yin, 2009).

This research focused on the experiences of people who self-identify as women, as the study drew on existing literature that focused on women (rather than people of all genders) and was conducted to improve the effectiveness of women-focused development programs. This scope boundary was not intended to devalue the importance of the experiences of non-binary and third-gender people. Further research is needed to explore the experiences of people with diverse gender identities and expressions because they will likely experience different enablers and challenges in entering specific economic sectors, including WASH, in the Indonesian context.

##  ***Data collection and analysis process***

Data were collected through in-depth interviews conducted either face-to-face or by phone. The interview guide focused on participants’ personal and family situations, motivations, key enablers and barriers, and their overall experiences. The participants were also required to describe the settings in which they were connected to the study problem as well as to respond to the specific questions of interest (Cresswell, 2010). In addition, where possible, the researchers interacted with the research participants, observing and recording their respective behaviors (Dana & Dana, 2005) and including participant observations and physical artefacts (Yin, 2009), such as observations of toilet pans, molds, and sanitation installations.

A pilot study to refine an initial interview guide was conducted in November 2017. The main study was undertaken from December 2017 to January 2018. Each interview generally had a duration of 30-90 minutes. The interview process was recorded, noted, and fully transcribed for further analysis.

The data was manually coded according to variables of interest, which were identified based on the relevant literature and the conceptual framework for empowerment. Transcripts were read and reread multiple times (on average approximately 15 times). Following this deductive approach against the framework, an inductive analytical approach was used to develop further in-depth insights within the framework’s four components, both for individual cases and across the set of cases. In reporting the findings of this paper, two common qualitative approaches were utilized. First, to provide rich descriptions and quotes from individual cases (Creswell, 2010), including for additional depth and for key cases that provide insight. Second, to include the prevalence of responses relevant to particular findings, which is in line with several authors (Black, 1994; Hannah & Lautsch, 2011; Neale et al., 2014; Sandelowski, 2001) who maintain that this approach enhances qualitative data and improves transparency and validity.

##  ***Profile of participants***

Participant profiles are shown in Table 2 and demonstrate diversity across age, marital status, and level of education. The majority of women participating in this study were of a productive age (25-55 years old [72%]), married (89%), and had university-level education (61%), and this should be considered carefully in interpreting the study findings because the sample is not representative of the country as a whole, particularly with regards to the high level of education. Many of the participants in this study played multiple roles in relation to WASH economic activities. These roles include cadre, sanitarian, business owner, midwife, part-time teacher, and others. Cadre refers to those who mobilize communities in areas such as sanitation, tuberculosis, family planning and fostering family welfare, and *Posyandu* (monthly small clinic for children and pregnant women). Sanitarians are environmental health sub-district government staff holding a relevant university degree who are assigned to the local community health center (*Puskesmas*). Business owners run profit-oriented activities, such as selling toilet pans, selling menstrual pads, reselling water filters, and removing sludge from septic tanks. Water-related roles include leadership of community-level organizations managing water systems and services.

# Findings

##  ***Women’s motivations to take part in economic activities in relation to WASH***

Various motivations to undertake WASH-related activities were identified, and they were categorized into two main categories, namely economic- and non-economic motivations. Economic motivations are profit-oriented and involve a focus on the business context, such as opportunities, risks, and development. Non-economic motivations comprised three types: social motivations related to the need to interact with and to help others, environmental motivations related to ensuring clean water and a healthy living environment, and religious motivations related to personal values and religion.

Examining motivations was important in providing context to understand the notion of empowerment, which is discussed in the subsequent section, because empowerment (and particularly “power to”) should be viewed in the context of women’s expressed drivers and aspirations that shape their situations and broader society. Examining motivations is also useful in bringing development actors’ attention to the diversity of reasons that people may (or may not) participate in development-related activities. It should be noted that motives were found to be manifold because many women demonstrated more than one motivation.

### *Economic motivations*

In this study, only some participants (seven participants) demonstrated economic motivations. This may reflect the nature of the sample frame in that all participants were reasonably successful in terms of their levels of education, and hence all participants may not have faced a major imperative to earn, particularly given that men in Indonesia are viewed as the main person responsible for household income (Utomo, 2004). Those exhibiting an economic motivation held responsibility for family income due to a loss of their spouse, a spouse’s disability, or a single marital status. There were also women who specifically did not exhibit interest or motivation in economic aspects for complex reasons.

Three participants had family circumstances that rendered them responsible for household income and were therefore motivated from an economic perspective. One owner of a sanitation business, JEA (49 years old, married) from NTT, both a business owner and cadre, was particularly driven to provide income for her household because her husband was decapacitated due to illness. She reported that “this business has stabilized our financial condition.” The second participant, ABD (55 years old, widow) from East Java was a business owner who took over the management of a sludge-removal business from her relatives and had lost her husband. She also expressed an imperative to earn income through her business: “The [sludge-removal] business is more profitable than other businesses in this region. This business was actually initiated by my father and continued by my husband until he passed away. Since then, it has become our main source of income.” Lastly, ANI (31 years old, single) from NTB diversified her income sources by running a water filter business (NAVAZA-reseller) in addition to her handicraft business and informal teaching work. With this income, she reported herself to be “the backbone of the family.” ANI is an example of a single woman who lived with her single mother and two younger siblings. Due to the low household income and the absence of male income earners, she was motivated to engage in WASH business activities.

Two other women placed value on additional income from WASH activities to support their family’s needs, supplementing other economic activities. SUM (47 years old, married) from East Java, who was working as a sanitarian and business owner, complemented her fixed monthly salary from the local government with her own WASH business, which she expressed was “very profitable, about 25% [profit margin].” A part-time teacher who was running a business related to menstrual pads, MUL (40 years old, married) from NTB, also used WASH economic activities to supplement her family income. She asserted that “this menstrual pad business is a side-business because I am currently an honorary teacher in Lombok. It is not bad to increase the family income.” Both of these women represented married, university-educated women from more elite classes, and they were able to use their status and connections to their advantage through WASH-related economic activities.

While the research showed the potential for women to operate WASH activities as businesses and to earn profits, 11 participants did not initiate a profit-seeking WASH business. This finding was somewhat surprising, given that all interviewees had such opportunities available to them; however, it appeared that in these cases, different motivation predominated, and as such, the available opportunities were not utilized.

For example, some participants lacked motivation in business because they perceived it to be in conflict with other social motivations. A cadre AIN (55 years old, married) from Lampung stated: “I don’t want to make it into a serious business because my passion is about serving my community. I like to meet and socialize with others.” Similarly, SRI (37 years old, married) from NTB, who was working as a sanitarian, prioritized her relationships with others: “I decided not to run [a business] because my close friend already started the business. I don’t want to break our relationship.” Other reasons for not engaging in WASH activities for economic benefits included an unsupportive family or community conditions, which are described further in the section discussing women’s experiences of empowerment.

### *Non-economic motivations*

Many participants described non-economic motivations for involvement in WASH activities. These included the need to socialize, an interest and willingness to help others, the need to improve health conditions, and religious motives.

 Interestingly, several participants (12 participants) identified their WASH activities to be motivated by their need to socialize. Two participants who were proactive cadres illustrate this finding, for whom socializing was a form of stress relief and a means to overcome boredom. AIN from Lampung emphasized, “[I am] glad to meet other women [in WASH program]. [We can] share stories and activities as well as do the monitoring of the program. Then, we laugh together, and the stress is gone.” Similarly, SEH from Lampung, who was acting as Head of Women’s Cooperative and a cadre, also stated, “Sometimes, [I am] bored of staying at home. When out with friends [attending the WASH program], [we] can laugh together. [The boredom] disappears.”

Several women were motivated by a spirit of service in undertaking WASH activities for their communities. WASH, which represents issues that feature prominently in the daily lives of women, is commonly found to be associated with the intrinsic motivations of women (Carrard et al., 2013), and the findings from this study concur with regards both to participants’ contributions to water services as well as to sanitation and hygiene activities. SUS (55 years old, married) from Java, who was working as a civil servant (Librarian) and Head of Rural Water Supply Community-Based Organisation, stated, “Working in [this organisation] is a manifestation of real action [for me]. This work is directed to community service activities, which I love more. [My] life must be useful for others.” Similarly, MAR (34 years old, married), as a cadre and former Head of Rural Water Supply Community-Based Organisation, stated that she even contributed her own money to the cause: “Working [here] did not earn money. If the budget for operations was not enough, I sometimes used my money. What I have done, it is service. I just want to help my society to be aware of clean water and sanitation.”

Interestingly, it was also found that social motivations were present among business owners and sanitarians. JEA, a business owner and a cadre from NTT, in addition to demonstrating economic motivations (as described), she was also driven by her empathy towards her community, which was still practicing open defecation, as she viewed this as more important than her economic motivations: “My first motivation to run this [sanitation] business, before profits, is that I see many people in my community do not have latrines. I felt, there is a call for me to do something [starting this business].” RAM, a sanitarian from NTB, expressed her empathy for her community and stated, “At first, I felt sorry for many elderly people going to the river [to defecate]. I’m sorry to see it... I was from a family with no latrines and a lack of clean water. Well, I do not want people to experience the same thing. They deserve sanitation facilities.” These social motivations exhibit a strong sense of duty on the part of women in relation to WASH and are also an expression of women’s “power to” shape their community and society, which is discussed in detail in subsequent sections.

Some women were working as sanitarians (six participants) and stated that their WASH-related economic activities were in line with their job responsibilities to improve health conditions. SUM from Java, who was a sanitarian and business owner, stated, “In 2013, I started a sanitation business because it is in line with my job at the Public Health Facilities (*Puskesmas*).” Similarly, another sanitarian, NEN (42 years, married) from NTB, who was also a business owner, expressed, “My motive to run the business [toilet-pan] is to make this village [Mulyohulu] Open Defecation Free (ODF). It is my passion as well as my responsibility [as a sanitarian].”

In addition to social and environmental concerns, religious motivations were found to inspire some women to take part in WASH activities, which is highlighted by three participants’ experiences. SUS from Java stated, “For me, life is meaningful when we help others [providing clean water]. I’m doing this as a part of my dignity for fulfilling God’s will. My life is actually devoted to God.” Similarly, AIN emphasized that “according to my religion (Islam), cleanliness is a part of faith. That is why I’m doing this activity.” Finally, MAR, a cadre and former Head of Rural Water Supply Community-Based Organisation, also demonstrated similar motivations (noted previously for her contribution of her own money if funds were insufficient): “For me, this is devotion—my kind of worship.”

Based on these findings, it was concluded that women have a range of both economic and non-economic motivations for being involved in WASH activities and businesses and that more than one motivation may exist simultaneously. Several women were strongly driven by the need to socialize. Women were also motivated by empathy and strong values related to contributing to society, including religious values. The findings indicate that social motivations were mainly found among the cadre, while the intention to earn additional income was stronger amongst local government sanitarians and women with specific personal situations that rendered them responsible for household income.

##  ***Women’s experiences of empowerment, including economic empowerment***

In the following four sections, evidence from across the 18 cases is outlined regarding empowerment in relation to participants’ engagement in WASH activities. These findings build from the presentation of motivations, which can be considered the context within which the processes of empowerment can be viewed, particularly with respect to “power to” realize participants’ purposes. The 18 cases are presented according to the conceptual framework described—namely against four types of power: “power within,” “power over,” “power to,” and “power with”—with a focus on consciousness and ideology, control over resources and decision making, and changes in the institutions and structures that support gender equality.

Overall, the study showed a strong experience of women’s self-belief (power within), while experiences related to decision making, leadership, and confronting gender norms were divided between those who felt support from their close relationships or exhibited agency to address existing power dynamics (power to) and those who felt constrained by discriminatory gender norms and structures. Women’s experiences related to access to and control of resources (power over) was stronger with regards to access to knowledge and networks, particularly for more elite women, than for access to financial resources. Another finding was that women did not have safety or control over (power over) their mobility in relation to men. Concerning women working collectively to realize women’s rights (power with), there was evidence of women’s actions that challenged traditional gender norms and structures by working together in a cooperative.

### *Power within: self-understanding and self-esteem*

“Power within” suggests that women experience empowerment within themselves when they have self-understanding, self-esteem, a sense of entitlement to the fulfillment of their rights, and self-belief to make changes in their lives (Taylor & Pereznieto, 2014, p. iv). This indicates that empowerment takes place when a woman has the critical consciousness to recognize inequalities in power and the confidence to assert the right to have her rights fulfilled (Cornwall & Rivas, 2015, p. 405). The majority of women in this study (14 participants) expressed positive self-esteem and a belief that they possessed the necessary skills to perform WASH activities. This is significant in terms of steps towards women’s empowerment and greater critical consciousness, given that in the past, the WASH sector has been perceived as requiring masculine skills due to its technical nature (IWA, 2016).

Some participants believed that women have equal capabilities to men, including some noting that they perceived women to have equal or superior skills than men in terms of care, discipline, and communication skills. Three examples are presented here. SRI from NTB was working as a sanitarian and expressed the essential characteristics of women that might contribute to their success. Individual values, such as patience, discipline, responsibility, conscientiousness, and persistence, were mentioned as specific values possessed by women engaged in WASH activities: “Women seem to be more disciplined—more responsible for their work. If women are given a target, it will be done.” A similar view was put forward by NUR, who was able to manage her three work roles professionally. NUR emphasized that “women are usually more skilled. Indeed, care should be taken in making toilet pans because there are many aspects that require the touch of a woman’s hand. Usually, men are somewhat less skilled and want to finish quickly.” Better communication and managerial skills were also mentioned as advantages of women, as stated by JEA from NTT, the business owner and cadre (described previously regarding her dual economic and social motivations): “Based on my experience, it is easier for me [woman] to understand the market [selling the products]. When we talk, women talk more clearly and more fluently.” On one hand, women’s perceptions of their positive work qualities were marketable advantages that can be experienced as empowering. On the other hand, these perceptions of inherent feminine and masculine characteristics that determine success may constrain women into particular roles and lead them to surrender other roles or work domains to men. This constitutes another reminder that empowerment processes are complex and non-linear.

Nonetheless, women showed independence in making choices regarding what they wanted to achieve and to contribute to society, a key sign of “power within” and increasing levels of agency. Participants tended to feel empowered when their WASH-related activities were aligned with their personal values, including altruism and devotion, which, as described under motivations, are easy to achieve through WASH-related activities because they align with women’s personal motivations and interests. SUM, as a sanitarian and a business owner from Java, clarified this alignment between her vision and her pursuits: “My dream is to make the five pillars of community-led total sanitation understood by the community. I fell in love [with public health].”

### *Power to: decision-making and leadership*

“Power to” suggests that women are empowered to hold decision-making roles in the household, community, and economy, such as leadership roles (Eyben et al., 2008, p. 8). This involves interactions between the agency of women to form, pursue, and realize their own aspirations and the transformation of gender norms and structures to create opportunities and an acceptance of women’s leadership. There is negotiation around societal positions that discriminate against women and the public/private divide that contains women primarily within the private sphere as well as unequal power formed on the basis of class, caste, ethnicity, and other intersecting identities (Rao & Kelleher, 2005).

Several women (eight participants) clearly stated that their spouses had positive attitudes towards and were supportive of their WASH activities, providing fertile ground for these women to overcome broader societal gender norms that may have otherwise prevented them from engaging in such activities. RAM, a sanitarian from NTB, stated, “My husband is always supporting me. When guests come to the house, he always welcomes them.” In addition, RAM’s husband was sharing household duties in support of RAM’s role: “There is someone helping me on a daily basis to take care of the baby.” JEA from NTT also shared her experience of empowerment, which has enabled her to excel both in her cadre role and her business. Her experience should be considered in the context that her husband is incapacitated, and hence it reflects a situation in which gender roles have potentially been inadvertently reversed: “My family is liberal. From the beginning, I never had a division of household tasks [that is unequal]. There is an agreement with my husband, [there is] nothing that cannot be done by the husband or that cannot be done by the wife. We help each other. That is the deal [since before we got married].” Because her family exemplified principles of gender equality and did not limit the role of women in the household, she was free to undertake WASH activities and received full support from the family.

In contrast, other women received negative responses to working in what can sometimes be a male-oriented, technical sector. SUM from Java, who was working as a sanitarian as well as a business owner, found that her attempts to challenge traditional gender roles sparked confusion:

“[The first comment I got is] strange. For example, the Head of Village was shocked and commented: ‘Wow, how come? Why do women do this [WASH] activity?’ As another example, when I first shopped for materials at the store, community members [commented], ‘Wow, women do it?’ [shocked]. Because this job is a man’s job, why can women do this?”

These discriminatory remarks demonstrate the segregation of the labor market between masculine and feminine work as well as misogynistic views that women are less capable than men.

Despite these types of reactions, women were still continuing their activities and were willing to challenge traditional gender roles. This was described by MAR, a cadre and former Head of Rural Water Supply Community-Based Organisation from Java (noted earlier for her religious motivations and commitment to contributing her own money if needed): “Yes, there are pros and cons about this job [clean water]. Generally, men have the view that it is unlikely that a woman can lead, especially in the water sector. This sector is suitable for men. Women cannot do it. But I prove that I can.” Her statement reveals evidence of agency and “power to” in confronting the status quo.

MAR’s strong leadership was ultimately overthrown by active resistance based on current gender norms. She reported that those who resented her appointment began to instigate issues and to blame her, especially related to her work. For example, during drought season, clean water became unavailable, and the villagers blamed her for the situation. The situation escalated to the extent that she received threatening messages, and villagers threw rocks at her house, causing her to feel unsafe. The water authority then appointed a man in the village to the role of Head of the Rural Water Supply Community-Based Organisation, while MAR took up a new role in an NGO for clean water in another village, where she receives more respect for her work. Although in this case the participant succeeded in challenging gender roles, there were strong cultural barriers to changing the acceptance of women’s leadership.

Being able to allocate household tasks equitably between men and women was demonstrated to be an important factor in women’s empowerment processes because it was commonly accepted that women’s primary role was in the home, as per broader societal gender norms. Several participants (eight participants) responded that they were limited by the unequal division of roles. In these cases, women carefully considered how to balance their reproductive work and their economic activities to negotiate their dual roles. SUS, who held three roles, emphasized,

“My principle is that if I want to be active in any organisation [for example WASH sector] or whatever, the important thing is that the husband’s needs have to be met first. For example, when I have a Rural Water Supply Community-Based Organisation meeting, at least I have to prepare a meal or something before I attend the meeting. There is freedom and being responsible as well. It must be balanced [between work and family]. If there is a conflict, it is not possible that one person is in two places at the same time, is it? Well, family is the choice.”

These comments indicate that performing three job-related roles, including providing community leadership, had not shifted the gendered expectation of women’s primary reproductive role and submission to her husband and her adherence to it. This illustrates the ongoing oppression within a patriarchal social structure and a women’s concurrent experience of both empowerment and disempowerment co-existing in relation to different social relationships. In addition, some women followed current cultural norms of gender roles and engaged in economic activities without reducing their household tasks. NUR from NTB, who had triple roles, explained, “[In the division of household tasks] for washing and cooking, I find it uncomfortable to ask my husband to do it. He is already tired from working [outside]. Why would I still give him household tasks?” This shows that women can internalize unequal gender roles and can refrain from sharing household tasks with men, again displaying the complexity of the empowerment process.

In other cases, women experienced empowerment through collaborating with their husbands in operating WASH-related businesses. In these cases, their husbands usually had a more substantial role in the technical aspects and work supervision, while the wives would have more responsibility in the area of administration, negotiation, marketing, and finances. This reflects the supposedly masculine and feminine characteristics and the adherence to traditional views in this realm. For example, JEA from NTT described that “in managing the business, I am the manager. I am in charge of marketing and dealing with others, including contracts and cooperation. But for technical matters, it is done by my husband.” Similarly, TAN (44 years old, married) from East Java, who was a sanitarian and a business owner, stated that “in managing the [WASH] program, I collaborate with my husband. My husband becomes the supervisor of the technical aspects”; however, the role differences did not limit women’s involvement in making decisions regarding business growth, as evidenced by ABD, a sludge-removal business owner from Kediri (noted previously regarding her economic motivations): “Currently, the business [sludge removal] is managed by my son after my husband died. Although I am just involved in the administration and financial aspects, the decision maker in this business is still me due to my experience, I guess.” These examples illustrate that women may be able to develop and to maintain agency and leadership in managing a business despite the delegation of roles.

In summary, across the cases, there were mixed experiences of “power to” address current gender norms. The contradictions described are illustrated nicely by the following quote from JEA from NTT, who also expressed that roles in her family were interchangeable and yet made a conflicting statement that technical matters lay with her husband: “Success does not only belong to men. Working outside is not just for men but for women as well. So, there is no limitation for women. The important thing is to keep the family in harmony, to keep the balance; however, still, the husband is the decision maker.” On one hand, she believes women are capable of being successful in work outside the home, and she exercises the right to do so. On the other hand, she internalizes the limitations of the patriarchal system, and this context constrains her from taking on an equal decision-making role, leaving gendered, inequitable structures largely intact.

### *“Power over”: access to and control of resources*

The third type of women’s empowerment relates to women being empowered through access to and control over knowledge, physical, and financial resources (Taylor & Pereznieto, 2014, p. iv). The research participants reflected on three types of resources, namely knowledge, networks, and financial resources. Knowledge and networks were shown to be conducive sources of support for empowerment processes for some women (those in elite positions in the government) or constraining effects of restricted mobility for some women, and there was only one example concerning empowerment in the form of financial independence.

This study showed that market-based knowledge in the form of data regarding numbers and locations of households without proper sanitation supported the empowerment of some WASH entrepreneurs; however, this type of knowledge was limited to women who were sanitarians and therefore members of the more elite group in their communities and was not revealed across other individual cases in the sample. SUM from Java, who was a sanitarian and a business owner (noted earlier for her strength in withstanding patriarchal norms), described her easy access to such knowledge: “My position as a sanitarian provides incredible capital for running a WASH business. We have data. We know the market very well along with the mechanisms and the competition.”

The study also showed that women with a low level of formal education were able to develop significant new knowledge and experiences through their engagement in WASH activities. In South Lampung, AIN and SEHA are two prominent examples of women who reached a maximum education level of elementary school and who actively participated in WASH activities in their community. AIN and SEHA were first exposed to WASH during gatherings with close friends who already engaged in such activities. These friends would share informal and practical knowledge regarding WASH, including basic technical information, mechanisms for behavior change, and assessments of the impact of WASH activities. Together with other women, AIN and SEHA regularly shared skills and information as well as the challenges they faced and how to overcome them. Consequently, although they had no prior knowledge about WASH, AIN and SEHA developed valuable skills that they were able to use, as described further in the “power with” section concerning SEHA’s leadership of a women’s cooperative.

Networks that were significant to empowerment included both formal and informal relationships between women and external parties supporting their WASH activities, such as the local Department of Health, property agents, business forums, religious groups, and friends. NUR from NTB, who was a cadre, part-time teacher, and employee at the Rural Water Supply Village-Owned Enterprise, used a formal sanitation forum that cooperated with the Department of Health to develop her toilet business. She borrowed a toilet mold from the forum to finish her products. Another example of support from a formal network is the case of ANI, who received extensive support for her business development through *Karang Taruna*, a youth organization where she became the treasurer. *Karang Taruna* provides financial support to buyers of water filters, who may pay in installments. TAN, a sanitarian and a business owner from East Java, reported her sanitation business was strengthened through informal networks. She bought materials from her neighbor’s store at a less expensive rate than other stores, produced latrines and toilet pans herself, and cooperated with a property agent who supplied the products. Networks were identified by most women participating in a variety of WASH activities as a factor of their empowerment, including those who were not a sanitarian or a government employee. These women stated that without the help from these networks, they would never be able to take advantage of new opportunities or to expand their WASH activities.

Participants showed a range of experiences with access to and control of financial resources to support business development, an important dimension when considering economic empowerment. Several participants (seven participants) in this study owned their own businesses either individually or jointly with their husbands. Business ownership is an indicator of economic empowerment (Taylor & Pereznieto, 2014) as it gives women power over financial resources; however, women must negotiate their roles within patriarchal structures that promote women’s financial dependence on male family members. This negotiation is illustrated by the case of JEA from NTT, who decided to change the business account to her husband’s name to respect his status as financial provider in their extended family: “Initially, this company was indeed (registered) on my behalf. But then I changed it to be in the name of my husband after getting his permission, even though he had once refused. Now, all financial aspects, including money, go into my husband’s account.” This case points to the multidimensional nature of empowerment in which change in “power over” resources will be more likely to be sustained if “power to” take opportunities is fulfilled and women’s leadership is accepted.

A more empowering scenario was suggested by another case in which women have control over financial resources through membership in a cooperative. The cooperative pays producers directly for their products and later arranges sales to consumers. By sharing a financial base as members of a cooperative, women may have a more stable income and can reduce individual risk. SAN, a midwife and a business owner from NTB, reported that this cooperative model sustained her business and that she also performed the role of treasurer in the cooperative. Cooperatives can be more supportive of the growth of women’s business activities due to barriers to access credit through formal banks. TAN, who had been working with banks to help consumers finance their latrines, had experienced challenges: “I was cooperating with banks for loans but not anymore. There are too many barriers because of the many consumers who do not or cannot pay the loans to banks.”

Restrictions in freedom of movement required to feel empowered and to conduct WASH activities were reported by some women in this study. On one hand, women with full support from their partners experienced complete freedom of movement, such as for monitoring and evaluating sanitation activities. NEN from NTB reported that her husband accompanied her if she needed to travel far from home, which might be interpreted as positive support for her activities. On the other hand, women without such support usually negotiated to reduce their overtime work and limited their mobility to avoid complaints from family members. SUM from Probolinggo stated, “Men have a more unlimited reach. They can go home at midnight, regardless of the time. I cannot do that. There’s [time] allocated for my children. I’m aware of myself. I do not want my children to complain to me.” In SUM’s case, discriminatory norms that precluded women from activities outside the home at night (whether the basis be concern for women’s morality and family reputation or expectation of the feminine primary caregiving role) limited her capacity to conduct some aspects of WASH activities.

A significant finding from this study is that WASH-related economic activities can contribute to women’s experiences of economic empowerment. As discussed regarding women’s economic motivations, business owners found they were able to provide a primary source of income or to supplement their income. In particular, SEHA from Lampung described her experience of empowerment by gaining financial independence: “[By doing this activity], I do not really depend on my husband [for income]. My goal is to determine how I can help my husband by having financial independence.” In cases of women gaining profits through their economic activities, they gained a more secure livelihood; however, in other cases, women were socially motivated, and economic empowerment was not their aim.

### *“Power with”: working with other women for women’s rights*

The fourth type of empowerment relates to how women mobilize their resources to influence others and to work collectively to transform structures to achieve conditions of greater gender equality (Eyben et al., 2008, p. 8).

The study included a case in which women successfully mobilized in a network to establish a cooperative and to improve their conditions. Despite experiencing some challenges, SEHA, a cadre from Lampung, founded this women’s cooperative. SEHA’s motivation to take action began when she was a member of a women’s group (cadre of *Posyandu* and *PKK*), and she observed that most families experienced difficulties fulfilling daily needs and in cases of need would go to illegal lenders (loan sharks) to borrow money at a high interest rate. In 2005, she founded this savings cooperative and used her former background as a bookkeeper at a local government savings-and-loans institution to educate women in saving money. SEHA reported it was difficult to convince husbands to allow their wives to join the cooperative in its early formation stages: “Some men said, ‘You know, men’s cooperatives have failed and now women want to form one?’ They were really doubting us. Some men said to me that a women’s role cannot surpass her husband’s*.*” In these cases, SEHA confidently took the initiative to talk to the husbands and convinced them the cooperative would succeed.

One year after the formation of the cooperative, SNV visited the local village and talked to local government officers to identify types of needs for training programs that would benefit women. At that time, SEHA was the only woman who wrote a proposal for soap production training, while other women proposed cooperatives on food production. SEHA’s reasons for pursuing soap production were that soap is not perishable, it is easy to handle and to distribute, and it is needed by the community. SNV provided soap production training, and since then, SEHA has incorporated soap production into the cooperative.

Despite the initial lack of trust from men that the cooperative would succeed, the women persevered and currently have a cooperative of around 100 members who are well-connected with one another. Savings from the cooperative were used as capital for production, and cooperative members have the opportunity to produce soap as a business and also to conduct training in soap production for others. In addition, the members receive a significant financial gain each year from their activities, with total profits in the range of 300,000 to 2.5 Million Rupiah (USD22 to USD178) depending on the amount of their savings. This amount can easily be borrowed by cooperative members with a very low interest rate through a simple system. This example demonstrates how empowerment (power with) can be experienced by building a trustful network with women in the local area who collectively benefit from and support each other in economic activities, and in doing so, are reframing gendered roles and structures.

# Discussion

The study findings on women’s motivations and their varied experiences of empowerment provide a rich expression of the complexity of the empowerment process and the many negotiations that occur within it. In this section, the finding that many women were not necessarily motivated to derive economic benefits from their involvement in WASH activities is discussed, and then the overall findings are contextualized in relation to literature on women’s involvement in small-scale enterprise activities in other sectors in Indonesia. In particular, common enablers and barriers identified in this literature are examined as they both impact and are impacted by women’s experiences of empowerment.

In terms of economic empowerment, the finding that many of the research participants did not express motivation or interest in benefitting economically from their involvement in WASH activities is interesting and worth reflecting on, particularly because development practitioners commonly assume such motivation. Some participants demonstrated economic motivations. Meanwhile, more than two-thirds of participants demonstrated social and environmental motivations and concerns. In some cases, the latter concerns worked in a contradictory manner against potential economic motivation because women viewed their WASH activities as an important service to the community rather than a source of personal benefits; however, based on the findings against experiences of empowerment, it would appear that there were other external factors that also likely impacted women’s reticence to focus on WASH activities as a source of income. While not voiced as specific barriers to undertaking economic activities, the following challenges identified across the findings are likely to have affected women’s responses: perceptions of husbands as decision makers and wives as primary caregivers without questioning whether the roles could potentially be changed or be shared; complexities in accessing financial options as a woman; mobility challenges to connect with customers; and challenging societal norms concerning women’s roles. These types of issues should be considered by development agencies to support the economic empowerment of women in WASH programs. Equally, development agencies could consider the positive benefits expressed by those who did engage in WASH businesses, including the flexible work hours that allow women to undertake more than one role and the flow-on benefits to their families arising from financial benefits. It is possible that social entrepreneurship training that bridges and supports a combined focus on social and economic activities could also be beneficial to supporting women’s engagement and to informing their decisions about the nature of their participation in WASH activities.

Regarding the literature, commonly reported enablers of women establishing and managing enterprises for women in small-scale enterprises in Indonesia include: the effectiveness of experiential learning and women’s aptitude and access to networking opportunities. Common barriers to women’s enterprise development identified in the literature are: socio-cultural and religious norms and a lack of access to finance and tailored services (Leahy et al., 2017). These enablers of and barriers to women’s entrepreneurship have generally been supported by this study on WASH-related economic activities with the exception that religion may also be an enabler (rather than just a barrier) when it motivates women to take part in WASH activities due to a sense of devotion to improving community welfare.

While a lack of education is stated as a barrier to women starting and managing a business in general in the entrepreneurship literature, several studies focusing on Indonesia downgrade the importance of formal education because female entrepreneurs have been found to acquire skills through experiential learning (Arsana & Alibhai, 2016; Loh et al., 2013; ESCAP, 2013). The participants in this study developed financial literacy through experience rather than through formal qualifications, supporting Arsana and Alibhai’s research (2016), which showed that the financial literacy levels of female entrepreneurs were not an indication of their levels of (formal) education. Few women interviewed (seven participants) did not possess tertiary education, yet they demonstrated they had acquired the required knowledge and skills to carry out their WASH activities through informal learning. For example, three female cadre in Sumatra only had a junior high school education but successfully developed skills experientially in monitoring and evaluating water and sanitation infrastructures. This suggests that women can experience empowerment through self-directed learning and experiences with economic activities. In addition, experiential learning is an enabler of WASH-related economic activities.

This study supports the finding in the literature that networking is an enabler of enterprise development (Leahy et al., 2017). As reported by The Asia Foundation (2013), women tend to be more connected than men through both formal and informal networking, and networks also contribute to women’s success in industries that are male-dominated. While data on men’s participation in WASH networks are not available, the perceptions of women in this study were that women were stronger than men in forming networks and in communicating with customers. These networks among women engaged in WASH-related economic activities supported them both in managing daily stresses and challenges and marketing their products. As highlighted, women also gained “power over” information through networking. Considering the evidence that networks are an enabler for women to be empowered in WASH activities, it may be worthwhile for NGOs to consider pathways to enhance networks, such as through business forums, community-based associations, or women’s groups. In addition to externally supported efforts, women are likely to build their own informal networks in their communities.

Socio-cultural norms were found to be a common barrier both in the literature and for women in this study participating in WASH-related activities. Sociocultural expectations that women take most responsibility for domestic maintenance and childcare is a widely reported barrier, mirroring evidence in the literature that noted this to be an issue for female entrepreneurs in general (Arsana & Alibhai, 2016). As Indonesia has become absorbed into the modern global capitalist economy, norms have shifted to accommodate women taking on productive roles in addition to their reproductive roles, but cultural norms still dictate that women prioritize their roles as wives and mothers and are at home with their families at night (Ford & Parker, 2008). Several women in this study expressed the considerable challenge in balancing their reproductive and productive workloads and the strategic negotiations they have undertaken in trying to satisfy others’ expectations with self-fulfillment through their family role and role in WASH activities. As evident by these women’s’ experiences, household responsibilities leave women with fewer hours to dedicate to managing and developing their businesses (Loh et al., 2013). Moreover, three participants reported concerns regarding mobility, such as receiving negative moral judgements if they stay overnight at another location for training activities and feeling unsafe working outside their homes at night. In some cases, this limited the types of WASH activities women were performing in comparison to men.

While the literature mostly pointed to religious norms as a barrier, this study demonstrated the role of organized religion, Islam and Christianity, as both a barrier to and an enabler of women’s participation in WASH-related economic activities. Eight participants in the study cited gendered norms of the division of labor as a barrier for their economic activities. On one hand, religion can be considered to influence Indonesian social norms (Tambunan, 2011), which restrict the extent to which women in this study were empowered to make decisions and to allocate their time to business activities. For instance, the Islamic construction of “kodrat wanita,” or the biological destiny of women, emphasizes a woman’s role in nurturing and providing emotionally and materially for her family, whereas men are the decision makers and primary breadwinners in the public sphere (Suryakusuma, 1988). In some cases, women chose not to seek access to financial credit from banks due to Islamic law, which prohibits interest paid on loans of money. This is potentially a barrier to growing their businesses if they cannot source credit through other means. On the other hand, this study found that religion can also be an enabler, as reported by three women who were motivated by a sense of service and religious duty to improve community welfare by undertaking WASH activities.

Related to the finding discussed earlier that access to and control of financial resources contributes to women experiencing empowerment, in this study, a lack of access to finances was identified as a barrier to developing WASH activities, which is in line with similar challenges reported in the literature. Participants in this study did not access formal business development services with the exception of training from non-government organizations, mirroring the evidence in the literature that many business development service providers do not make their services known to women or consider the specific needs of women entrepreneurs (Arsana & Alibhai, 2016).

In one case, establishing an independent women’s cooperative alleviated this challenge by developing a savings and loan scheme. Some women used the names of male relatives for the registration of their businesses, as the rights of women to legally control capital are not well-respected (Arsana & Alibhai, 2016; Tambunan, 2011). Some of these constraints to business development could possibly be alleviated by targeted financial services for women that consider their economic profiles and needs.

# Conclusions

WASH lies in the traditional domain of women in terms of water management and household hygiene. It has therefore been recognized as a sector that can offer an entry point for gender equality and women’s empowerment (Carrard et al., 2013), with most recent efforts of development partners focused on involving women in WASH economic activities.

This study has provided insight into women’s motivations to participate in WASH sector economic activities in Indonesia and the extent to which they experienced empowerment in relation to such activities, including in relation to tackling structural change. Women in this study were dominantly driven by social or environmental motivations. Few participants had economic motivations unless they were responsible for household income. Most were motivated by non-economic motives, such as developing social interactions, helping others, supporting their community’s well-being, and religious dedication.

The findings have indicated that several participants, although provided with similar opportunities and initial knowledge through training from the government and NGOs, were interested in participating in and contributing to WASH activities, though not necessarily in return for income, as an economic activity, and that if women are to be economically empowered through WASH, new and different strategies may be required. Identifying and addressing structural challenges faces by women must be a starting point as well as sharing experiences between the women achieving economic empowerment through WASH activities with those who are reticent to try. Another starting point is to provide access to social entrepreneurship training, which combines a focus on social and economic benefits.

In terms of empowerment, this study revealed a mixed picture typical of women’s empowerment processes more generally. While there was significant evidence of an experience of self-belief and a perception that women had an equal or greater capability to undertake WASH activities compared to men, such as due to communication, negotiation, and managerial skills, only some participants experienced support from close relationships that enabled decision making, leadership, and increased financial independence. Others faced challenges due to prevailing gender norms and structures, particularly in relation to the negotiation of household duties, mobility, and access to financial resources. Multi-pronged strategies to address these gender inequalities are required for WASH policies and programs to move beyond simplistic understandings of empowerment and to more readily anticipate and to address how patriarchal norms and values are likely to influence both opportunities and outcomes. This involves addressing women’s family and community contexts (including potentially direct engagement with other family members), being prepared with strategies that can address resistance and backlash, and monitoring empowerment outcomes—not just WASH outcomes. The rich stories and experiences presented in this paper provide insight into and inspiration for development practitioners and researchers alike to consider how women’s empowerment processes can better be enabled and supported in Indonesia and elsewhere.

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**Table 1.** Framework of empowerment processes

| Types of power | Explanation | Examples of empowerment[[1]](#footnote-2)  | Examples of economic empowerment[[2]](#footnote-3)  |
| --- | --- | --- | --- |
| **‘power within’** | Self-understanding, self-esteem, sense of entitlement to fulfilment of their rights, self-belief to make changes in their lives, which are related to agency. This involves individuals developing critical consciousness to recognize systems of oppression and act to advance their interests (Friere, 1970, Cornwall and Rivas, 2015) | Perception that women have capabilities equal to men and are entitled to pursue their own aspirations  | Learning business skills or financial literacy to feel prepared to start an enterprise |
| **‘power to’** | Capabilities and potential to make decisions and to pursue opportunities (Hillenbrand, 2015) in terms of the unique potential of every person to shape their lives and worlds in line with their interests Alsop et al., (2006), (extending to areas traditionally considered as men’s occupations or domains  | Decision making in households, leadership of women in village-level committees and government agencies  | Managing decisions within own enterprises  |
| **‘power over’** | Access and control over financial, physical, and knowledge resources and services (Rao and Kelleher, 2005)  | Women's ownership and control over land, housing, safety, and freedom of movement | Access to credit, paid employment, and income-generating activities |
| **‘power with’** | Relationships of solidarity and collective struggle to agitate for rights and to change the labor and market conditions (Cornwall and Rivas, 2015), contributing to structural transformation of laws, policies, and institutions towards equity and inclusion (Hillenbrand, 2015)  | Process of group conscientization and mobilization, opportunities for voice through group membership and activism  | Forming cooperatives, unions, and group-based financial services |

**Table 2.** Roles of participants

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **No.** | **Participants** | **Location** | **Education** | **Age** | **Status** | **Role(s)** |
| 1 | SAN | NTB | University | 23 | Single | Midwife, Business owner, Cooperative members |
| 2 | TAN | East Java | University | 44 | Married | Sanitarian, Business Owner |
| 3 | AIN | South Lampung | Senior High School | 55 | Married | Cadre, Part-Time Teacher |
| 4 | TIT | South Lampung | Junior High School | 49 | Married | Cadre |
| 5 | RAM | NTB | University | 43 | Married | Santarian |
| 6 | JEA | NTT | University | 49 | Married | Cadre, Business Owner |
| 7 | SUM | East Java | University | 47 | Married | Sanitarian, Business Owner |
| 8 | NUR | NTB | Senior High School | 39 | Married | Cadre, Part-Time Teacher, Rural Water Supply Village Owned Enterprise (BUMDES) |
| 9 | ANI | NTB | University | 31 | Single | Cadre, Teacher |
| 10 | MUL | NTB | University | 40 | Married | Business Owner, Part-time Teacher |
| 11 | SRI | NTB | University | 37 | Married | Sanitarian |
| 12 | NEN | NTB | University | 42 | Married | Sanitarian, Business Owner |
| 13 | SUS | Central Java | University | 55 | Married | Cadre, Civil Cervant, Head of Rural Water Supply Community-Based Organizations  |
| 14 | SUT | Central Java | Elementary School | 51 | Married | Cadre, Head of Rural Water Supply Community-Based Organizations  |
| 15 | ABD | East Java | Senior High School | 61 | Widow | Business Owner |
| 16 | MAR | Central Java | Junior High School | 34 | Married | Cadre, Former Head of Rural Water Supply Community-Based Organizations  |
| 17 | TRI | NTT | University | 34 | Married | Sanitarian |
| 18 | SEHA | South Lampung | Junior High School | 45 | Married | Cadre, Head of Women's Cooperative |

1. Adapted from Eyben, Kabeer and Cornwall, 2008 [↑](#footnote-ref-2)
2. Adapted from Taylor and Pereznieto, 2014 [↑](#footnote-ref-3)