SMERU Research Report

DRAFT

Gender and Social Inclusion (GESI) Contextual Analysis/Formative Research for the Plan's Water for Women Project in Indonesia

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SMERU RESEARCH REPORT

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I. BACKGROUND AND METHODOLOGY

1.1 Background

The development of the water, sanitation, and hygiene (WASH) sector in Indonesia has increased significantly in the period 2010-2015 in an effort to achieve the Millennium Development Goals (MDGs) of reducing the number of people without access to drinking water and sanitation by half. Post-MDGs, as a global commitment and effort to improve the quality of life of all Indonesians, the government has also taken part in the achievement of a global set of goals, known as the Sustainable Development Goals (SDGs). Goal 6 of the SDGs focuses on Water and Sanitation. This global goal aims to achieve universal and equitable access to safe and affordable drinking water for all by 2030. In terms of sanitation, it aims to *"achieve access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations"* (United Nations, 2015).

In accordance with the SDGs objectives, through the RPJMN documents from 2015-2019, the Government of Indonesia (GoI) established a mandate for achieving universal access to clean water and sanitation by 2019, also known as "100-0-100", referring to 100% access to safe drinking water, 0% slums and 100% access to safe sanitation. The target for achieving this universal access is far closer than the SDGs target because it takes into account the success of previous MDGs achievements. Nevertheless, the GoI still faces significant challenges. In 2017 the achievement of national access to safe drinking water was only 84.00%, while achievement of sanitation was 71.67% (Kementerian Kesehatan, 2018). One of the government's attempts to achieve universal access to drinking water and sanitation is through the implementation of the Community-Based Drinking Water and Sanitation (Pamsimas) and Community-Based Total Sanitation (STBM) programs.

An important aspect of the achievement of access to clean water and sanitation facilities is the involvement of women and marginalised groups, including people with disabilities (PWD). In terms of the involvement of women, the SDGs document also includes Goal 5: Gender Equality, to achieve gender equality and empower all women and girls. RPJMN 2015-2019 also mandates the achievement of gender mainstreaming in various existing policies and programs with a focus or emphasis on the meaningful involvement of women in the development planning process and decision making. In 2015, achievement of the Gender Development Index (IPG) was 92.7, while the Gender Empowerment Index (IDG) was 70.8% (BPS, 2018).

The Gender Equality and Social Inclusion (GESI) framework pays particular attention to gender equality and the involvement of marginalised groups, including PWD. Given the dominant role that women and girls play in the management, care, and use of water and sanitation, the GESI framework is particularly important. Through the implementation of the GESI framework, specifically in the water and sanitation sector, the sustainability of services can be better ensured as well as the expected transformation of gender equality; in which the practical and strategic needs of women are fulfilled.

Women, marginalised groups, and PWD are also the most vulnerable to the impacts of natural disasters. Particular attention needs to be paid to the impacts of natural disasters as a result of climate change, especially given that Indonesia is one of the nations with the highest level of risk to natural disasters, second only to Bangladesh (BNPB, 2013). The impacts of hydro-meteorological disasters related to increasingly frequent climate change such as droughts and floods need to be

anticipated, in order to avoid impacts on the community's daily lives and activities, as well as to avoid disruptions to the sustainability of clean water and sanitation services and facilities.

Plan Indonesia, through the Water for Women (WfW) project funded by the Australian Government Department of Foreign Affairs and Trade (DFAT), initiated the implementation of the GESI framework in efforts to improve access to clean water and sanitation services, especially relating to STBM. Through a GESI-responsive STBM, the project hopes to transform gender equality and social inclusion at the household, community and institutional level, and to shift the power dynamics between women and men.

Plan Indonesia and Plan Australia is currently in the inception phase in the preparation of a Project Design Document (PDD) prior to program implementation. To complete the PDD, strong evidence is needed regarding the application of the GESI framework, obtained through a GESI contextual study or analysis. This study is a formative study which aims to deepen the understanding of current conditions relating to GESI in water and sanitation services, which will be used to ensure that the Theory of Change for the Water for Women Project is relevant to local needs, as well as to provide suggestions for the preparation of the project strategy. This GESI formative study focuses on gathering evidence on (i) current extent, (ii) underlying core reasons, (iii) barriers, and (iv) opportunities in the household and local public domains, and lightly on the broader public domain in terms of practice, access and use of clean water and sanitation.

1.2 Approach and Methodology

1.2.1 Sites Selection

This research was conducted in two *kabupaten* (district) as determined by Plan Indonesia: Kabupaten Sumbawa Barat (in NTB Province) and Kabupaten Manggarai (in NTT Province) using purposive sampling to identify sample villages for data collection. The sample villages are located in three different *kecamatan* (sub-district) in both *kabupaten*. The villages were selected based on certain criteria that represent: the various (good and bad) condition of access to WASH and the (high and low) poverty rate at the kabupaten level based on the data from the Ministry of Health[1] and 2014 potential village data (Podes 2014). Good and bad access to WASH defined as the relative condition of WASH in the villages compared to which in the other villages in each *kabupaten*[2]. Meanwhile, the high and low poverty rate is defined by comparing the villages' poverty rate with the average poverty rate in *kabupaten* level[3]. The basic information then were consulted with Regional Development Planning Agencies (*Badan Perencanaan Pembangunan Daerah – Bappeda*) in each *kabupaten* to be matched and verified by the local context of poverty, livelihood, and access from the city centre.

The selected sample villages in Kabupaten Sumbawa Barat are: (1) Kiantar Village, Kecamatan Poto Tano which represented bad access to WASH since it still has 10.78% of the households sharing the latrines, and limited access to safe water for drinking, washing, and bathing; (2) Mura Village, Kecamatan Brang Ene which represented good access to WASH and low poverty rate due to its

[1]Information is derived from http://monev.stbm.kemkes.go.id/ managed by the Ministry of Health.

[2]The STBM Data (2017) shows that Kabupaten Sumbawa Barat has good access to sanitation (100% access to improved latrine), while Kabupaten Manggarai has relatively worse access to WASH (87.3% access to improved latrine).

[3]Based on the Podes 2014 data, in Kabupaten Sumbawa Barat, the village which has highest poverty rate is Ai Kangkung Village with P0 0.261, while the lowest poverty rate owned by Goa Village with P0 0.033. In Kabupaten Manggarai, the village with lowest poverty rate is Mata Air Village with P0 0.07, while the village with highest poverty rate is Urang Village with P0 0.40.

100% households with access to permanent latrine, safe water for drinking, washing, and bathing, and relatively low poverty rate, with P0 0.066, and; (3) Moteng Village, Kecamatan Brang Rea representing good access to WASH and high poverty rate with its 98.33% households with access to permanent latrine, good access to safe water, and P0 0.140.

Meanwhile, the selected sample villages for Kabupaten Manggarai are: (1) Golo Wua Village, Kecamatan Wae Rii representing bad access to WASH, with only 5.68% households have access to permanent latrine, and limited access to safe water for drinking, washing, and bathing; (2) Bangka Lelak Village, Kecamatan Lelak which represented bad access to WASH since it still has limited access to safe water and 22.56% households doing open defecation and; (3) Wae Belang Village, Kecamatan Ruteng representing good access to WASH and low poverty rate with good access to safe water, 40.22% households with access to permanent latrine, and P0 0.130

Table 1. List of Sample Villages

Kabupaten	Criteria	Village, *Kecamatan*	Permanent latrine distribution*	Semi-permanent latrine distribution*	Sharing latrine*	Open defecation*	Poverty rate**	Access to safe water for drinking; safe washing & bathing**	Geographical condition
Kabupaten Sumbawa Barat: At *kabupaten* level, the access to sanitation is **good** (100%)	**Bad access** to sanitation, **bad access** safe water	Kiantar, Poto Tano	89.22%	0.00%	**10.78%**	0.00%	0.18	0;0	coastal area
	Good access to sanitation, **low poverty** rate	Mura, Brang Ene	**100%**	0.00%	0.00%	0.00%	**0.06**	1;1	semi-urban area
	Good access to sanitation, **high poverty** rate	Moteng, Brang Rea	**98.33%**	0.00%	1.67%	0.00%	**0.14**	1;1	inner area
Kabupaten Manggarai: At *kabupaten* level, the access to sanitation is **worse** (87.3%)	**Bad access** to sanitation	Golo Wua, Wae Rii	5.68%	39.74%	33.62%	**20.96%**	0.19	**0;0**	urban area
	Bad access to sanitation	Bangka Lelak, Lelak	13.59%	57.18%	6.67%	**22.56%**	0.31	**0;0**	inner area
	Good access to sanitation, **low poverty** rate	Wae Belang, Ruteng	**40.22%**	48.43%	11.35%	0.00%	**0.13**	**1;1**	inner area

Sources:

* STBM website (http://monev.stbm.kemkes.go.id/)

** 2014 potential village data (Podes 2014)

1.2.2 Data Collection and Analytical Method

To be able to provide an in-depth understanding of the current extent, underlying/core reasons, barriers, and opportunities, this formative research adopts a qualitative and participatory approach to data collection and analysis. Data was collected through: *in-depth interviews; transect walks; mini focus group discussions (mini FGDs) and final focus group discussions (final FGDs)* at the household, community, and village levels, and; *key informant interviews* at *kecamatan* and *kabupaten* levels. The focus of this research is at the household and community domain, and only lightly at the broader public domain. The framework of data collection and analysis is described in Figure 1 below.

In each *kabupaten*, the research team that consisted of six researchers –four SMERU researchers and two local researchers– spent around 9 days to collect data and do preliminary analysis with the community. The team first conducted field research in Kabupaten Sumbawa Barat from 25th March to 2nd April 2018 and subsequently moved to Kabupaten Manggarai from 3rd April to 12th April 2018.

The data collection started with interviewing relevant stakeholders at the *kabupaten* and *kecamatan* levels and followed with data collection at the village and household levels. The data collection at the *kabupaten* and *kecamatan* levels were done through interviews with key informants, which included: *regional development planning agency, public work office, community health office, community health centre (Puskesmas), regional disaster management agency, CSOs/NGOs working on WASH and other relevant agencies.* The research team collected relevant secondary data, which include data on relevant WASH, disability inclusion policies and projects, and gender disaggregated data on the civil servant and key officials in WASH-related sectors, including adaptation and mitigation policies in response to the vulnerability to and impacts of climate change.

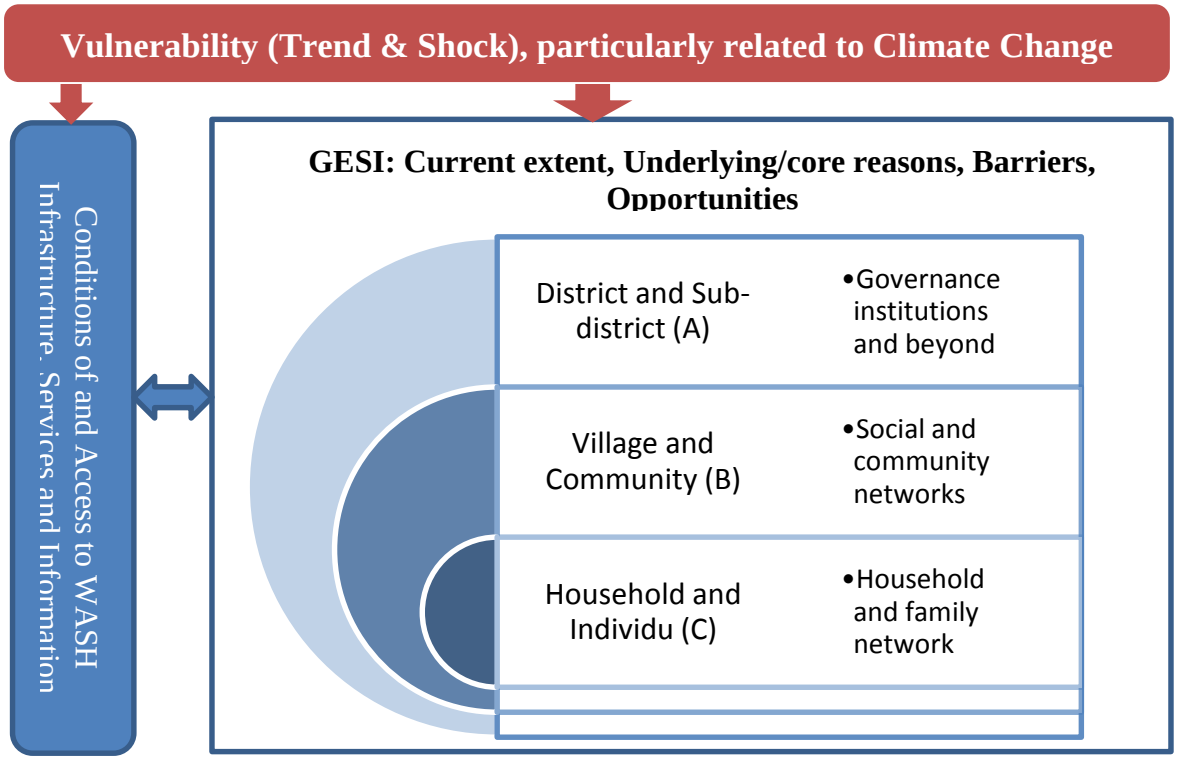

Figure 1. The Framework for Data Collection and Analysis

More specifically, at the village and community levels, data collection was conducted through individual and possibly group interviews with relevant stakeholders, which include: *village officials, PKK members, village health workers, Posyandu cadres, and community leaders.* The interviews focus on the issues related to social and community networks with regard to self/individual and relationship (including the vulnerability to and impact of climate change). In addition, the information collected also assist the team in identifying potential FGD locations and participants, and household respondents.

In addition, the team conducted household interviews with 1 household with good WASH access, 3 households with bad access to WASH (with different conditions), 1 household with PWD and good WASH access, 3 household with PWD (with different level and types of disability) and bad access to WASH. In each household, in-depth interviews conducted with the household head and/or the spouse. For the household with PWD, the interviews are also conducted with the PWD (if possible)[4] and their caregiver. The interview explore all aspects at the household sphere, and the reasoning for the condition at the local community sphere. The followings table summarises the number of people interviewed within the sample villages:

Table 2. Number of Informant Involved in Data Collection

	Men	Women	Boys	Girls	Total
Household interviews	37	18	-	-	55
MFGDs	35	43	32	43	153
Plenary FGD	44	39	-	-	83
Government interviews	33	18	-	-	51

The first identification of people with disability (PWD) uses local standard (according to local criteria). The identification was conducted through discussions with village officials and/or nurses in the village. Furthermore, at the start of the household interview, the research team confirmed the level and types of disability of PWD through the Washington Group Questions guidelines (see Appendix 2). Overall, there are 26 household informants with PWD as their family member, from a total of 49 household informants.

Table 3. Number of PWD Targeted in Data Collection

	Men with disabilities	Women with disabilities	Boys with disabilities	Girls with disabilities	Total (PWD)
Household interviews	8	8	8	2	26
MFGDs	-	-	-	-	-
Plenary FGD	-	-	-	-	-

At the household and individual levels, data were collected through mini FGD. The selection of mini FGD participants is based on the criteria of men, women, age and the availability of their time. While participant access to WASH is not a primary consideration because it is to describe the

[4]In the household with PWD, while the PWD have no capabilities to participate (eg: paralysis, chronic illnes, intellectual disabilities), the research team conducted interviews with the caregivers.

diversity of WASH access in the village. The discussion held near the participants' house and conducted in an informal setting. There was 4 mini FGD in each village: adult (30 – 50 years old) male, adult female, young (17 – 29 years old) male, and a young female. The mini FGDs explore both self/individual and relationship at the household sphere as well as explore the reasons for the conditions found at the local public domain. The mini FGD discuss two main topics. The first is the distribution of WASH household responsibilities, the reason behind it (including power and economic relations), and the impact of climate change. The second is regarding the participation in WASH decision making at the local community level, the reason behind it, and the change in response to climate change impact.

As this research is adopting a participatory approach, the preliminary results of the data collection at the village, community and household levels compiled and presented in the final FGDs at the village level, with participants from representatives from community/*dusun* leaders and village officials. These findings resulted in an opportunity to clarify and seek confirmation of the result of the research. This FGD also explores opportunities based on preliminary analysis on the current extent, underlying reasons and barriers identified from data collected at the household, community and village level. Some issues clarified with relevant institutions at the *kabupaten* or *kecamatan* level.

1.2.3 Limitations

This study has several limitations. First, in the case of the selection of sample villages, the selection is more concerned with the availability of adequate time and access. In addition, the distribution or presence of PWD is not a consideration in the selection of sample villages so that less representative in each district. At the time of site selection, the research team assumes there must be several PWDs in each village. Secondly, in terms of PWD involvement, in this study did not involve PWD, this is because to involve PWD requires different design and research approach. In addition, in terms of community they are not used to involving PWD in community meetings.

II. KABUPATEN SUMBAWA BARAT

2.1 General Overview of Kabupaten Sumbawa Barat

2.1.1 Geographical Condition

Kabupaten Sumbawa Barat is an autonomous region in the province of Nusa Tenggara Barat, which is located on the western tip of Sumbawa Island. Geographically, the *kabupaten* shares a border with Kabupaten Sumbawa to the north and east, Selat Alas to the west, and Samudra Indonesia to the south. The land area of the *kabupaten* covers 1,849.02 km2 with an altitude of between 0-1.730 meters above sea level (m a.s.l.). In addition to the mainland, the *kabupaten* also covers 16 small islands in its vicinity (BPS Kabupaten Sumbawa Barat, 2017a).

The topographical conditions of Kabupaten Sumbawa Barat are quite diverse: most of its area, 50.5%, consisting of land with a very steep topography (with the slope of land above 40%); 28.9% steep areas (slope between 15%-40%); 8.8% undulating land (slope between 2%-15%); and only 11.8% flat area (slope between 0-2%) (BPS Kabupaten Sumbawa Barat, 2017a). A large part of the land with a flat topography is used for residential areas and agricultural land. Meanwhile, steeper areas are forested. The limited amount of land with a flat topography means that there is only a narrow stretch of land which can be used for productive activities, such as farming.

2.1.2 Administrative Regions

Administratively, Kabupaten Sumbawa Barat, which was formed as a result of the proliferation of Kabupaten Sumbawa in 2003, is divided into 8 *kecamatan* that consist of 64 villages/*kelurahan* and 220 *dusun*, with the following specifications: (1) Kecamatan Taliwang, as the Kabupaten capital, with an area of 375.9 km^2, consists of 7 *kelurahan* and 8 villages; (2) Kecamatan Poto Tano, which is located to the very north, covers an area of 158.9 km^2 and oversees 8 villages; (3) Kecamatan Brang Rea with an area of 212.0 km^2 consists of 9 villages; (4) Kecamatan Brang Ene with an area of 140.9 km^2 consists of 6 villages; (5) Kecamatan Maluk with an area of 92.4 km^2 oversees 5 villages; (6) Kecamatan Jereweh with an area of 260.2 km^2 consists of 4 villages; (7) Kecamatan Seteluk, with an area of 236.2 km^2 consists of 10 villages, and; (8) Kecamatan Sekongkang, which is located at the southern end, with an area of 375,9 km^2 and oversees 7 villages (BPS Kabupaten Sumbawa Barat, 2017a).

2.1.3 Population Compositions

Based on Indonesia Population Projection 2010–2035, the population of Kabupaten Sumbawa Barat reaches 137,072 people, consisting of 69,477 male residents and 67,595 female residents. These figures grew by 2.76% compared to data from the previous year. Meanwhile, the total number of households is 34,983 with an average number of 4 people in each household (BPS Kabupaten Sumbawa Barat, 2017a). Based on Community Welfare Statistics, around 13.1% of households are headed by women (BPS Kabupaten Sumbawa Barat, 2017b).

Population density in the *Kabupaten* is 74 people/km^2. Based on population distribution, the largest number of residents live in Kecamatan Taliwang, with 52,617 people, while the area with the smallest population is Kecamatan Brang Ene, with 6,127 people. Meanwhile, the region with the highest population density is Kecamatan Maluk (151 people/km^2) and the region with the

lowest population density is Kecamatan Sekongkang, with 26 people/km^2 (BPS Kabupaten Sumbawa Barat, 2017a).

Based on age group, the largest proportion of the *Kabupaten* population is aged between 0-4 years old at 16,129 people, while the smallest number of residents are in the age group of 70-74 years old at only 1,727 people. Meanwhile, the number of working-age people (15-64 years) is larger than those not of working age, with 65,718 working aged people compared to 26,960, not working-aged people. The highest level of education achieved by the majority of the population is the equivalent of senior high school (SMA), with as many as 24,312 people achieving this level. The number of residents with the equivalent of a primary school education (SD) is also almost the same, at 24,228 people (BPS Kabupaten Sumbawa Barat, 2017a).

2.1.4 Livelihoods

Of the total workforce, 60,474 people (36,438 men and 24,036 women) have jobs, while 5,244 people (3,575 men and 1,669 women) are unemployed. The total current unemployment rate in the *kabupaten* is 7.98. If calculated based on main employment, the majority of people in the *kabupaten* work in the agriculture, forestry, hunting, and fishing sectors, with 13,316 men and 6,316 women working in these industries. Other industries supported by the community (and women) include trade, restaurants and hotels, and the services industry at the community, social and individual level. Meanwhile, of the total number of people not in the labour force (economically inactive), 14,894 are women who take care of the household (BPS Kabupaten Sumbawa Barat, 2017a).

In Kabupaten Sumbawa Barat a significant part of the community, mostly women, also work as Indonesian migrant workers (*Tenaga Kerja Indonesia* – TKI) in various countries. The number of women who worked as migrant workers in 2016 was 795, or 96.9% of all migrant workers in the *kabupaten*. This figure experienced a decline compared to the year before at 1,129 people. The education level of migrant workers is quite evenly distributed between elementary school and senior high school. The main destination countries for migrant workers include United Arab Emirates, Taiwan, and Malaysia (BPS Kabupaten Sumbawa Barat, 2017a).

2.1.5 Welfare Conditions

According to the Integrated Database (BDT) in 2017, 14,581 households/head of households fell into the poorest 40% of households in Indonesia. Among this number, 2,010 households were headed by women. The number of individuals included in the poorest 40% reached 55,946 people or around 40.8% of the total population (TNP2K, 2017). However, the latest BDT validation results by regional teams in 2017 show that the number of poor community members in Kabupaten Sumbawa Barat was 4,412 people or only around 3.32% of the total population (Pemerintah Kabupaten Sumbawa Barat, 2017b). Meanwhile, inequality in the *kabupaten*, measured using the Gini index, was 0.35, less than the provincial and national average (BPS Kabupaten Sumbawa Barat, 2017b).

In terms of the number of community members with disabilities in Kabupaten Sumbawa Barat, data results from the Regional Program for the Empowerment of Communal Work (*Program Daerah Pemberdayaan Gotong Royong* – PDPGR) in 2017 calculated 766 people with disabilities (PWD) in the *Kabupaten* (Pemerintah Kabupaten Sumbawa Barat, 2017a). Meanwhile, BPS Kabupaten Sumbawa Barat (2016) recorded the number of people with disabilities was 525 with the following specifications: 156 children with disabilities, 269 people with disabilities, and 100 blind people.

2.1.6 Climate and Natural Disasters

Kabupaten Sumbawa Barat is a tropical climate area. The *kabupaten* experiences two seasons: dry season, which lasts for 7 months (April – October), and rainy season, which lasts for 5 months (November – March). The highest rainfall occurs in December and reaches up to 380 mm. In terms of natural disasters, according to data from Indonesia's Disaster Risk Index (*Indeks Risiko Bencana Indonesia* – IRBI), Kabupaten Sumbawa Barat is included in the category of high risk of disaster with an index of 152. From this index, the *kabupaten* has a high risk of experiencing several disasters, including tsunamis, landslides, extreme waves and erosion, and field and forest fires. In addition, some disasters have a moderate risk of occurring in the region, such as drought, earthquakes, and extreme weather (BNPB, 2013).

2.2 Current Extent and Underlying Core Reasons

2.2.1 Access to Improved WASH Services

There have already been significant WASH-related achievements in Kabupaten Sumbawa Barat. In terms of sanitation, the *kabupaten* has achieved the status of being open defecation free (ODF) since 2017 (Pemerintah Kabupaten Sumbawa Barat, 2018). In order to achieve this status, the regional government took on a key role in ensuring access of all community members, especially the poor, to appropriate latrines and septic tanks. Two development interventions: the "Jambanisasi" or installation of toilets in 6,212 households by 2016 and the improvement of septic tanks for 5,396 households by 2017 have demonstrated the commitment of the local government to the achievement of STBM pillar 1 (to stop open defecation) (Pemerintah Kabupaten Sumbawa Barat, 2017a). Both projects are incorporated in the Tubabas Program (*Tuntas Buang Air Besar Sembarangan* – Eliminate Open Defecation), an initiative established by the current *Bupati* in an effort to achieve the provincial targets for the BASNO (Zero Open Defecation) Movement[5] and national targets towards universal access to sanitation.

However, at the village and household level, access to improved toilets and septic tanks has not fully affected a change in community behaviour when defecating. A large proportion, approximately 19.632 out of 60.474 or 32,5% people of the *kabupaten* population, who work as farmers still have difficulty accessing improved toilets while they are in the rice paddies or corn fields. In the three study villages, the rice paddies/fields are located a significant distance from the local housing, meaning the community (especially husbands and wives) are forced to defecate in the fields.

Unique defecation habits are still encountered in Kiantar Village. Household access to toilets and septic tanks in this village is relatively low compared to the other two study villages. According to data from the Poto Tano Community Health Centre, in December 2017, of the 306 households in Kiantar Village 27 still did not own a toilet and 200 did not own a septic tank (UPTD Puskesmas Poto Tano, 2018). While it is assumed that households who do not own a toilet can use that of a neighbour, in practice this does not occur. Some of the 27 households still have a toilet, but the conditions are inadequate. Others prefer to defecate in the open to using a toilet and households

[5]In the STBM Road Map for NTB, the BASNO Movement targeted 1,117 STBM villages and uses BASNO as an indicator of universal access to sanitation by 2019. The provincial government rewarded Kabupaten/City Governments with BASNO funding to the amount of Rp 1,000,000,000 for operational activities carried out by regional governments in the field of health, which are promotive and preventive, to achieve RPJMD targets for 2019 (Dinas Kesehatan Provinsi NTB, 2018).

that already have toilets were still found to defecate in the open. There are several locations at the beaches where the local community go to defecate. Community members who own a toilet but still defecate in the open admission that they are not accustomed to using the toilets distributed by the government. According to them, the size of the toilets is too narrow, 1x1 metre, and the walls of the toilet blocks, which are made of metal (zinc), make the temperature in the bathrooms too hot to use during the day.

Meanwhile, in terms of achievements in clean drinking water, the potential surface water area in Kabupaten Sumbawa Barat is large. In the region, there are at least 41 watersheds and a lot of water springs in each *kecamatan*[6] which fulfil the communities bathing, washing and toilet needs. However, coastal communities have more difficulty accessing clean water because of the lower amount and quality of water compared to highland communities. Clean water services in the *kabupaten* are quite diverse. The Pamsimas has been present in this *kabupaten* since 2017 in 14 villages from 7 different *kecamatan*. Meanwhile, in 2018 this program targeted 15 villages, with the implementation in 12 villages being funded by APBN and the remaining 3 villages funded by APBD. In this *kabupaten*, Pamsimas focuses on efforts to restore drinking water pipelines that already exist in the villages and the development of toilet facilities in schools. Another program that is also present in the *kabupaten* is the Water and Sanitation Grant Program (*Program Hibah Air Minum dan Sanitasi* – Prohamsan) which is funded by APBN and implemented by the regional drinking water company and the Department of Public Works and People's Housing. In December 2017, based on Prohamsan data, 1,290 houses had already received assistance installing pipeline connections to their houses (Direktorat Jenderal Cipta Karya, 2015).

At the *kecamatan* and village level, there are a number of serious issues relating to clean water that need to be taken into account. In Kecamatan Brang Ene there is an issue concerning the high content of limestone in the water, which can cause cardiovascular disease and kidney stones. This situation is caused by Kabupaten Sumbawa Barat being surrounded by limestone hills[7]. Meanwhile, in Kecamatan Brang Rea, illegal gold mining[8] means that residents have concerns related to the mercury content in the river water. Furthermore, in Kecamatan Poto Tano, apart from the extremely limited availability of water, the issue of water pollution also arose. Water from springs at the top of the hills is channelled through pipes which traverse through privately owned corn fields. The community is concerned that the water is being polluted with pesticides used by local residents.

Other issues were also raised by the community concerning the use of drinking water. The existence of springs that have local history and mystical significance also influences people's behaviour when using the water. In Mura Village, the local belief in the healing powers of the Buin Banyu water spring means that the community does not boil the water for fear of ruining the taste of the water and eliminating the effectiveness of its powers.

With regard to waste, garbage removal services managed by the Environmental Agency (DLH) are still focused on urban areas. In 2016, there were only 11 garbage removal trucks and 15 public waste bins (BPS Kabupaten Sumbawa Barat, 2017a), most of which were located in the region of Kecamatan Taliwang. DLH admitted that current waste management limitations are a result of limited funding for waste management, which receives only Rp 400 million annually compared to

[6]Kabupaten Sumbawa Barat has the potential of water springs debit up to 6.308,51 m3 (BPMPPT Kabupaten Sumbawa Barat, 2016).

[7]Potency of the limestone (lime) has reserves of 34,000,000 m^3 (BPMPPT Kabupaten Sumbawa Barat, 2016).

[8]The entire *kecamatan* has the potential of gold compounds in the soil, with reserves of 0.5-5 g/tonne each (BPMPPT Kabupaten Sumbawa Barat, 2016).

the ideal Rp35 billion annual budget (Suara NTB, 2018). Amidst the uneven distribution of waste management services and the absence of final disposal sites (landfill) in each *kecamatan*, some people are still in the habit of burning garbage and dumping waste (especially in rivers).

In response to these conditions, in 2016, six community members in Kelurahan Dalam, Kecamatan Taliwang, formed a community self-help group in the form of a waste bank called Kelurahan Dalam Care Community *(Komunitas Peduli Kelurahan Dalam - Kompi Handal)*. They buy eco-bricks (empty water bottles filled with plastic) for Rp500 per piece from the community around Kelurahan Dalam. The regional government sees this movement as a potential option for handling the issue of waste. The government also promised to give support by providing 75 hectares of land behind the Taliwang bus terminal for waste management in 2018.

Relating to the risk of natural disaster, Kabupaten Sumbawa Barat is at risk of two types of natural disasters which are directly related to WASH: drought and floods (BNPB, 2013). Coastal regions are subject to the highest risk of drought, while the risk of annual flooding is present in central urban areas. Unfortunately, until now the Regional Disaster Management Agency (BPBD)'s capacity to manage disasters is limited to on-demand processes and is not proactive in mitigating disasters. They rely on requests from the village head when they require assistance, for example for clean water assistance.

In the dry season, from April – October, the community (predominantly women), has to perform extra work to gather water from nearby water sources. They are required to wait in line to take turns collecting water for their household needs, especially drinking water. In Kiantar Village, women have to take turns lining up their 5-litre jerry cans to collect water from one piped spring, while in Mura Village, women have to carry 1 gallon of water each day from a spring located around 1 kilometre from their houses. Some households, especially who lives in the outer area of the Kiantar Village, are also required to spend extra money to buy water from mobile water tanks with prices varying between Rp80,000 – Rp300,000, depending on the village's access to the main road.

2.2.2 Gender Equality

a) Participation and the Role of Women in Public Activities

In Kabupaten Sumbawa Barat, in general, women have the same opportunities as men to participate in community activities. A strong indicator of this, for example, is the participation of women in the Kabupaten Government, with the proportion of women and men working in bureaucracy being relatively balanced. Of the 3,673 civil public servants, 50.83% are male and 49.17% are female (BPS Kabupaten Sumbawa Barat, 2017a).

Despite this, the positions held by women in the government are not necessarily as strategic as those held by men. This trend can be seen in the tendency for women to hold less strategic positions. Of the 26 echelons II public servants in the *kabupaten*, not one is female. In the legislature, from the 2014 local elections, not one woman serves as a member of the Regional People's Representative Council (DPRD) (BPS Kabupaten Sumbawa Barat, 2017a). Women also tend to hold positions that reflect their role in the household and stick to their traditional domain. Within the *kabupaten* government, for example, female employees are concentrated in health and basic education institutions, such as public hospitals, community health centres, early childhood education, and elementary schools.

At the *kecamatan* and village level, women also tend not to hold strategic positions. Of the 64 villages, only 3 have female village heads (BPS Kabupaten Sumbawa Barat, 2017a). Women who are involved in the regional government structures usually occupy positions in the treasury and as administrative staff. There is still a perception, from both men and women themselves, that women are more suited to and diligent at managing finances. Meanwhile, only a few women are involved in village governance. Until now, there are only 1 – 2 female members on the BPD (*Badan Permusyawaratan Desa* – village consultative body) and LKM (*Lembaga Keswadayaan Masyarakat* – community empowerment institution) in each village.

In activities outside of the government, women's roles also still reflect their activities in the household. Women usually provide food and clean the venue while men play the role of village governance leaders and carry out tasks such as leading meetings, and so on. On top of this, during formal village activities, women's participation is relatively limited. Only representatives who are usually active in the village, such as midwives, nurses, PKK members (who are mostly women), and integrated health post cadres, are invited. Meanwhile, in more-informal *dusun* level activities, participation rates of women are higher.

Furthermore, community affairs are still informally divided into women's and men's domains, meaning that women's voices are still limited to their domain. One case of this was encountered in Moteng Village when a woman attempted to voice a suggestion about irrigation development in the village meeting forum. At the time, the suggestion was rejected by some men because issues to do with irrigation are not considered to be women's business. The women's domain, for example, is related to women's activities such as *Qasidah*[9] and other women's empowerment activities.

Meanwhile, at the household level, women have full access to household finances. However, their control over these finances is still limited. Women only have the power to make small and routine decisions, such as shopping for daily needs, types of food which will be cooked, etc. Meanwhile, larger decisions (such as renovating the house) still fall on the men (head of the household). Women are also given the opportunity by their partners to join in village activities. Unfortunately, women are still burdened by the responsibility of managing all domestic affairs, which limits their movements. The traditional division of labour in the household places women as being primarily responsible for the tasks of: washing clothes and dishes, cleaning the house, cooking food, collecting water, caring for children, and caring for PWD within the household. This last task, for example, limits the ability of one woman in Kiantar Village to attend religious recitals and other activities held for women, because she has to take care of her child with mental health problems.

b) Participation and Role of Women in the WASH Sector

At the *kabupaten* level, most policy-making positions are occupied by men. There are no women who occupy strategic policy-making positions for affairs relating to either clean water or sanitation. There are extremely technically positions in the WASH sector which are held by women, just not at the policy-making level. Some of the individuals identified were: (1) A staff member of the Local Development Planning Agency (Bappeda) in the Socio-Cultural section; (2) A staff member of the *Dinas Pekerjaan Umum* (Office of Public Works) in the section of Human Settlements, Water Supply, and Wastewater Infrastructure; (3) Sanitarians at *Puskesmas* (community healthcare centres) in Kecamatan Poto Tano and Brang Rea. Meanwhile, strategic units in the WASH sector, which should be present in the *kabupaten*, are not yet available, for

[9]A group activity for women, in which they practice performing traditional musical instruments similar to the tamborine (*rebana*) for community contests and events.

example, the association for the BPSPAMS (*Badan Pengelola Air Minum dan Sanitasi* - water and sanitation management agency), which can act as a pressure group on WASH-related policies.

Even though policymakers generally understand that woman play the main role in managing clean water in the household and are also responsible for maintaining sanitation, there is no collective awareness to include more women in the policymaking process. To involve women in any activities (including in WASH-related sector), they still refer to the program implementation guidelines (terms of women's involvement). This tendency is also reflected at the community level. In the three study *kecamatan* and villages, men and government officials are already aware that women need to be involved in village activities and that women also need to be given basic rights, such as education and health. However, no specific steps have been taken to involve more women in village-level decision-making. As an example, women are not intentionally engaged in governing the implementation of Pamsimas in Mura Village.

On the other hand, there are still few women who are confident enough to and active in voicing their opinions in public, especially during village events. A large proportion of women do not have the capacity and appear to be held back by the stigma surrounding their role as women, which is limited to the domestic sphere. Women are involved in WASH sector programs, for example 2 – 4 of the 8 – 12 PDPGR (*Program Daerah Pemberdayaan Gotong Royong* – Regional Program for the Empowerment of Communal Work) agents are women, not because of the collective consciousness of women but the program design which offers equal opportunities to both men and women.

c) Fulfilment of Women's Needs in the WASH Sector

WASH policies in Kabupaten Sumbawa Barat do not place women as actors nor consider them to be main beneficiaries. Affirmative policies that recognize the different needs of men and women related to WASH are not yet evident. The PDPGR (including the Tubabas program) tends to be gender-blind, as it focuses only on household access to latrines and septic tanks with no special consideration to the needs of individual women or women-headed households. Each household receives the same form and value of assistance.

Nevertheless, the presence of the Tubabas Program is felt to adequately fulfil the practical needs of women, in no longer defecating in the open (BABS). In some cases, women find it difficult to defecate in the open, due to security and comfort issues acting as obstacles for women. If it is dark, women and female children must be accompanied by their husbands or parents. For example, in Kiantar Village women and female children must be accompanied to the fields near the beach at night, usually by male family members. The lack of lighting and quiet conditions mean women are afraid to go alone. Fortunately, having a toilet in the home means that women currently do not need to go far to the field. Currently defecating is more safe and comfortable for women in the family.

Unfortunately, in terms of women's strategic needs, not much can be said about the Tubabas program. The program design, which tends to be gender-blind, does not affirmatively include women in the execution of projects. At the community and household level, Tubabas does not specifically further involve women in efforts to provide toilets. Even in the installation of toilets in each household, men are more involved. As a result, women are not able to utilize this program to increase their capacity.

Regarding issues to do with clean water, the Pamsimas program present in the *kabupaten* pays more attention to women, although during the implementation stage at the village level women

are not actively involved in program governance. Program policies such as building separate toilets for girls and boys in schools indicate an awareness that women have different needs to men and ensure the safety and comfort of women when using the toilet.

In addition, the provision of household plumbing from pipelines revitalized by Pamsimas also helps to alleviate women's work in not having to collect water from sources outside of the house. In the village of Moteng, where Pamsimas is only present in public taps close to the centre of the village, women are somewhat isolated and have to draw water from a well in front of the mosque. A different situation was encountered in Mura Village, where women can easily turn on taps in front of their homes to wash clothes and other needs.

Despite this, the implementation of Pamsimas in the field does not tend to present women with new capacities. The minimal involvement of women in program implementation means that women do not appear in public through this program. Room for discussion between men and women has only started to open up at the household level. During the installation of water taps, the opinions and needs of women tend to be valued in terms of the location and height of taps installed by Pamsimas. In the future, this has the potential to increase women's confidence to make decisions within the household.

2.2.3 Disability Inclusion

a) Participation and Role of PWD in Public Activities and WASH Sector

In Kabupaten Sumbawa Barat, the participation and role of PWD in public activities are still extremely limited. At the *kabupaten* level, PWD are still viewed as objects rather than subjects in development initiatives. The *kabupaten* government has a specialized program, called PARIRI Cards, which targets PWD and the elderly as the main beneficiaries. This social protection program is implemented by PDPGR agents and provides assistance to the amount of Rp250,000 per month as a benefit for households with PWD (Pemerintah Kabupaten Sumbawa Barat, 2017a). Unfortunately, no steps have been taken at the *kabupaten* level to place PWD as implementers of the program, for example through involving PWD in the management of PDPGR, which implements the program at the community level.

The situation is not much different at the community level. According to BPS Kabupaten Sumbawa Barat (2017), there are: eight PWD in Mura Village, 17 PWD in Moteng Village, and five PWD in Kiantar. Most of them are still isolated to the home, while only one of them in Mura Village was found to be involved in community service events. Meanwhile, no PWD are actively involved in community governance. A large proportion of PWD are still isolated to the home and are not involved in village activities. Meanwhile, families and the surrounding community see limited mobility as the main reason for PWD not often leaving the home. Limited awareness of the rights of PWD outside of access to health, means that the regional government has no initiatives to involve PWD in decision-making process. On the other hand, the village governments consider the needs of PWD to be the responsibility of individual families, not the village government or the surrounding community.

From the above list, there are only two PWD with less challenge in physical conditions, who are able to participate in the community activities, mostly voluntarily. One of them expressed the feeling of being shy and sometimes reluctant to participate in community meetings, for fear that other community members would not understand what she has to say. Inability to join community gatherings or meetings sometimes affect emotional wellbeing of the PWD.

Furthermore, the participation of PWD caregiver, especially PWD with mental health challenges or with physical mobility limitations, are also limited. The caregivers find it hard to allocate time to participate in the community meetings or activities due to the caring responsibilities even though some of the caregivers strongly expressed their intentions to join and actively participate in the community.

In the WASH sector, the fulfilment of community needs (including PWD) is still entirely run by people without disabilities. There are no PWD acting in the WASH sector, at the *kabupaten*, *kecamatan*, or village level. In carrying out the required tasks, especially those at the village level, actors are required to have a high level of mobility. The required level of mobility might be the obstacle to the participation of PWD.

b) Fulfilment of PWD WASH-Sector Needs

The *kabupaten* government pays more attention to PWD, as is reflected in the PARIRI Cards program which provides aid to 4,375 people, consisting of 3,498 elderly people and 721 PWD from poor households (BPS Kabupaten Sumbawa Barat, 2017a). Unfortunately, this social protection scheme is not directly related to PWD's WASH needs. Meanwhile, the Tubabas program run by the PDPGR is not specifically concerned with PWD. They do not recognize that PWD have clearly different WASH needs compared to people without disabilities. The building standards and types of toilets built are uniform and no adjustments are made by the government specifically for PWD. From 12 PWD interviewed during the research, two PWD with mental health challenges are still practising ODF inside the house, which will be cleaned by their caregiver. PWD with mobility limitations are also need full support from the caregiver to fulfil their WASH needs.

For households with PWD, the needs of PWD are entirely the joint responsibility of all family members. They have a shared awareness to provide care for PWD. Despite this shared awareness, women (wives, and female children and grandchildren) are the main actors in providing care, including the fulfilment of WASH needs for PWD. Women do not only prepare food and drinks but also provide assistance when PWD need to go to the bathroom to defecate and bathe. If PWD have extremely limited mobility or have difficulty communicating their needs related to defecating (asking for assistance to go to the toilet), women are also responsible for cleaning up after PWD. To facilitate the defecation of PWD, some households in Mura and Moteng villages adjusted the shape of their toilets to better suit the needs of PWD. Of course, the costs of adjustments made were the responsibility of each household. Other household members understand if PWD take longer to use the toilet due to their different needs. In such cases, if they need to they access toilets owned by neighbours.

Regarding the practice of caring for PWD, both the regional government and community members are sharing similar view that the PWD are the responsibility of each individual household. So far, there is no specific assistance provided to fulfil PWD specific need, unless it is provided by their own family. Among PWD in the selected villages, only two PWD have access to private bathroom, specifically built to cater their WASH needs. Nevertheless, it is still found that some WASH facilities are still difficult to access, for example, PWD still needs to crawl to reach the bathroom. Other PWD expressed their needs to change types of toilets or to modify the current type to adjust to their body limitation.

Table 4. List of PWD Involved in In-dept Interview in Kabupaten Sumbawa Barat

No	Informant	Sex	Age	Impairment/Health Condition	Caregiver
1	A	Female	76	Visual impairment, Hearing impairment, limited physical mobility Need help in WASH	Daughter
2	B	Female	73	Limb loss due to chronic illness. Able to meet WASH needs independently.	Daughter in Law, grand daughter
3	C	Male	35	Hearing impairment, difficult to communicate, paralysis (mobility limitation) Need help in WASH	Mother
4	D	Male	60	Hearing impairment Able to meet WASH needs independently	-
5	E	Boy	13	Mental challenge Need help in WASH, practice ODF, mostly inside the house	Mother, and older sister
6	F	Female	30	Difficult to communicate Able to meet WASH needs independently	-
7	G	Male	40	Limb loss due to accident at work, mobility limitation Need help in WASH	Sister in law
8	H	Female	65	Visual impairment, mobility limitation	Granddaughter
9	I	Female	25	Mental challenge Need help in WASH, practice ODF	Mother
10	J	Boy	10	Hearing impairment WASH need fully assisted by the caregiver	Mother
11	K	Female	60	Visual impairment, hearing impairment, mobility limitation Need help in WASH	Daughter and granddaughter
12	L	Male	30	Physical impairment, mobility limitation Able to meet WASH needs independently	-
13	M	Male	70	Visual impairment, Hearing impairment, limited physical mobility Need help in WASH	Daughter
14	N	Female	73	Visual impairment, Hearing impairment, limited physical mobility Need help in WASH	Daughter

2.3 Barriers and Opportunities

2.3.1 Barriers

Kabupaten Sumbawa Barat faces various challenges in the fulfilment of WASH needs relating to geographical barriers (geographical conditions and the topography of the region), institutional barriers (institutional aspects at the *kabupaten*, *kecamatan* and village level), and daily practices within households. Daily practices within the household, especially those which involve trends in the division of roles and responsibilities between men and women, as well as trends in power

relations between men, women, adults and children, also present their own challenges in the practice and implementation of WASH programs with the perspective of gender equality and social inclusion. Regional vulnerabilities, including vulnerabilities within the community and the household to natural disasters caused by climate change, add to the pressure and challenges of fulfilling WASH-related needs.

a) Geographical Barriers

Regional topographic conditions in Kabupaten Sumbawa Barat are the most evident obstacles in the effort to provide for and fulfil the need for clean water and sanitation facilities. The undulating regional topography of Kabupaten Sumbawa Barat, which stretches to the coast, means conditions for fulfilling WASH needs are varying and specific. Areas which are close to the city centres, such as Mura Village, have relatively easier access to clean water and sanitation compared to coastal areas, such as Kiantar Village. In this case, the *kabupaten* government is required to be more sensitive, including being responsive to the needs of different regions depending on their geographical conditions.

Geographical challenges do not only differ between villages, but also within villages themselves. In Moteng Village, rainy season can have an impact on the amount of sediment in spring water. As a result, *dusun* located in the low-lying areas of the village and further from the water springs experience difficulties accessing clean water and drinking water. For their drinking water needs, the *dusun* residents collect water from the one well which they say never runs dry, while for their clean water needs the people use irrigated water.

In disaster-prone conditions, special attention needs to be placed in the worst affected areas. Kiantar Village, for example, is classed as an area vulnerable to drought. During the dry season, water sources from various locations, including PDAM, will be deployed to meet the region's water needs. Collaboration and effective coordination between *kabupaten* government apparatus, such as the BPBD, local governments and community figures in channelling community aspirations regarding the fulfilment of clean water and sanitation needs can reduce the follow-on effects of natural disasters on community lives.

Water supply issues in areas such as Kiantar Village have follow-on effects on the availability of clean water and sanitation facilities in schools. Limited clean water in schools can disrupt the learning process of both male and female children. Until now, no special efforts have been made to fulfil these clean water and sanitation needs. As a result, students are forced to go to the beach or the fields to relieve themselves, which takes a long time and can disrupt the process of learning.

b) Institutional Barriers

Institutional factors at the *kabupaten*, *kecamatan,* and village level are also an obstacle to the fulfilment of community WASH needs. These institutional aspects can be the availability of local institutions in the village, *kecamatan,* and *kabupaten* which can facilitate the participation and involvement of various groups in the community, both male and female, in development processes. The development planning process is also included in these institutional factors.

At the village level, the current development planning process still follows general planning mechanisms, through the process of village development planning forums. Upon closer observation, practices in the three villages show that men, in particular, well-known community figures and local leaders such as *dusun* heads, are still dominant in attending the collaborative meetings. The presence of women, in this case, is the only representative, predominantly from

organisations such as the PKK, healthcare cadres, and wives of the *dusun* heads. The involvement of other women and general members of the public is still limited. Further investigation shows that, in line with findings in Mura Village, women have a strong desire to be more involved in these processes. Unfortunately, local norms, such as the practice of distributing invitations address specifically to men, obstruct their involvement.

Institutional factors in the WASH sector are marked by the existence of the PDPGR. At the village level, the PDPGR plays a pivotal role in helping to achieve ODF at the village level in both providing and enhancing sanitation facilities in the community. Current conditions reveal the PDPGR's instrumental role in efforts to raise community welfare, for example through providing assistance for housing renovations. However, unfortunately, the working of the PDPGR team is still quite elite. Not many community members are aware of the composition of PDPGR representatives at the village level, or the dynamics and processes took in electing them. This fact makes it difficult to further assess the PDPGR as an institution which is hoped to be able to accelerate achievements in gender equality and social inclusion within the community, through both their staffing and management, as well as their programs.

At the *kabupaten* and *kecamatan* level, one institutional aspect which comes to the forefront is personnel limitations, both in terms of numbers and capacity, to ensure the fulfilment of the community's WASH needs. The *kabupaten* public health office complains about the shortage of sanitarian and environmental healthcare workers at the *kecamatan* level to support regional STBM achievements. In 2019, the public health office aims to have 1-2 STBM for each community health centre.

c) Gender-based Division of Labour

The division of labour, tasks and responsibilities in the home based on gender is still the predominant practice carried out by the general public in the three study villages. This traditional division of labour can obstruct the participation and mobility of women in the community and the public sphere.

The household interviews and discussions at community and village level reveal that in three villages, women and female children are the main actor who responsible for unpaid care work within the household, both for other family members in general and those with special needs. The involvement of men and male children in care work is still limited and occurs in the form of 'helping'. The main task of the men/husbands/household heads within the household is to earn an income, while male children will take responsibility for or carry out tasks related to matters outside of the home, such as taking out the trash or collecting firewood for cooking.

In addition to the burden of unpaid care work, women are also fully involved in economic activities as income generation for the family. As found in Kiantar Village, most of the women are fully involved in income generation through working in the corn fields and have the same working hours as male family members. In order to perform these economic activities, women then have to share and delegate domestic tasks, such as cooking, washing, fetching water and other domestic tasks, disproportionately to their daughters. During discussions with teenage girls in Kiantar Village, it was revealed that after senior high school, only a few adolescent girls in Kiantar Village, who continue their education or pursue jobs outside of the village. The burden of unpaid household work placed on them is substantial as they are expected to replace the role of the mother in the household, and parents concern about letting their daughters work outside of the household is one factor limiting the movements of teenage girls outside of the home.

According to women and young girls from the three villages who we talked to during the research, they accepted this division of labour in the family and regard it as part of a long-standing tradition that they are required to follow, preserve and maintain. Even among young girls, during a focus group discussion, they do not see the need or urgency to change the way household tasks and responsibilities are divided and do not view it as unfair or unequal. Nevertheless, some adolescent girls stated that if they had more free time, they would use it to rest, play with their mobile phones, or watch films on Youtube.

The traditional division of labour in the household based on gender is reflected in women's roles at the village, *kecamatan*, and even *kabupaten* level. During village activities, such as village meetings or routine activities to clean the public areas and places of worship (mosques), the main role of women and female children is to prepare food and drinks, and to carry out tasks which do not require much physical exertion, such as sweeping the streets. Women are involved in community organizations in the village, for example through the PKK, but on a limited scale and with limited scope. The management and staffing of the PKK is usually representative, involving women who are wives of the village head, the *dusun* head, or *kelurahan* staff/officials. Comprehensive participation of women in village activities is not accommodated by this organization. Activities such as vocational training are only aimed at administrators and members, who usually take turns participating. No wider impacts of PKK activities on the general welfare of village women are evident. There have not been any proposals from this group regarding the fulfilment of WASH needs (drinking water, sanitation and cleaning facilities).

d) Physical Barriers: Obstacles Experienced by PWD

People with disabilities face obstacles in accessing WASH associated with their physical condition. The economic conditions of the family, as the main caregiver, also influence the WASH facilities available to people with disabilities. The main needs of PWD concerning their access to WASH are mostly fulfilled by members of the family themselves.

At least four families with PWD in Mura and Moteng Villages build specialized facilities, in the form of toilets separate to the bathroom, and to provide special seats to assist PWD when defecating. Families from lower-income households in Mura and Moteng villages experience difficulties providing specialized toilet facilities for family members with disabilities. PWD were still found to be defecating in the open and this, in turn, influences the cleanliness of the house. In Moteng Village, PWD with mental health problems are indirectly guarded by the community surrounding their homes, especially if the person is present or playing outside of their home.

The physical barriers experienced by PWD in most cases limits their participation in social activities within the village. Only one person with a hearing impaired in Mura Village was found to be actively involved in community service, since he still has capabilities to participate in the activities with physical exertion. On the other hand, family and community perspectives on the involvement of PWD suggest that given their physical limitations, and in some cases also their age, PWD are better off not participating in community activities. Some of the sentiments that arose during the data collection process were a feeling of pity if they (PWD) have to participate, for example in community meetings, or on top of that a sense of burden upon the family who usually take care of them. Having PWD in the family and the responsibility of taking care of them limits the involvement of caregivers themselves in the community. Unless they have someone with whom to share the burden and responsibility of caring for PWD they would choose to stay at home and perform their tasks, for fear of neglecting the person.

2.3.2 Opportunities

a) The inclusion of the Vulnerable, Marginalised and PWD and Readiness of Local Institutions

The still limited involvement of vulnerable and marginalised groups, and people with disabilities in community activities, including in the planning process of WASH-related development, indicates that there is still room for improvement for a more inclusive planning system at the village, *kecamatan* and *kabupaten* level. To reach this state, an awareness needs to be built amongst community members of the specialised needs of these groups and ways of fulfilling them.

From an institutional viewpoint, Kabupaten Sumbawa Barat already has PDPGR, a cross-sector forum with routine weekly meetings aimed at discussing pressing issues in the community, especially relating to welfare. The success of this forum in encouraged the acceleration of Tubabas achievements can be relayed to affect achievements in other fields.

b) Improving Self-Confidence among Women and Young Girls

The participation of vulnerable and marginalised groups and PWD in planning processes to discuss their strategic needs requires a certain sense of self-confidence on behalf of each individual. The self-confidence of women as well and adolescent and young girls need to be further developed in order for them to appear in public and express their opinions. In discussions with groups of adolescent girls in the villages it was revealed that, in Mura and Moteng villages, for example, there are already young girls who have taken on positions as leaders of intra-school student organisations (OSIS) and some girls expressed a desire to become leaders in school or village activities, while the rest still felt the need to improve their self-confidence. In Kiantar Village, although currently, women tend to have a higher level of formal education than previously, aspirations to be further involved in WASH-related decision-making at both the household and community level are not clear. On one hand, this represents a challenge, however, on the other hand, can lead to assistance or capacity building programs for young people within the villages.

Among adult women, their self-confidence needs to be enhanced in order to be more involved in village planning activities, particularly in order to channel their desires in relation to their strategic needs. In reference to the prevailing societal norms and practices, there are no significant restrictions on the roles of men and women in the community. Men, in some instances and under certain conditions, have already begun to take on roles and responsibilities traditionally held by women/their wives.

GESI Responsive STBM

To achieve GESI-STBM, the continuation of services and sustainable behavioural changes, several opportunities that can be utilized are:

Individual and Household Level

- More equitable division of household duties and responsibilities between the genders to provide women and female children with greater opportunities to participate in community activities.

Village Level

- The utilisation of Village Funding to support the maintenance of public WASH facilities, or the provision of assistance to poor residents and/or those with special needs. Until now, there

have been no efforts on behalf of village apparatus to utilize funding in this way given the limited understanding of the utilisation of village funding and best practices from other regions.

- WASH management opportunities through village-owned enterprises.
- Active involvement of women, marginalised and vulnerable groups, and PWD in the planning process through improving, for example, the systems for inviting participants and carrying out activities.
- More specific identification of the effects of flooding and droughts resulting from climate change on the conditions of individuals and household.

Kecamatan and Kabupaten Level

- Sanitation assistance/grants for residents to be followed by triggering and monitoring activities to ensure the sustainability of behavioural changes. Assistance in the form of facilities without adequate follow-up procedures does not ensure sustainable behavioural change, especially if community members are faced with desperate situations or conditions.
- Learn from the success of sanitation entrepreneurs located in other *kecamatan*.

III. KABUPATEN MANGGARAI

3.1 General Overview of Kabupaten Manggarai

3.1.1 Geographic Condition

Kabupaten Manggarai is a *kabupaten* in the province of Nusa Tenggara Timur. Kabupaten Manggarai is located in the western part of Flores Island and geographically the area of Kabupaten Manggarai is situated between 8^0 LU - 8^0.30 LS and 119, 30^0 –12, 30^0 BT. To the west, Kabupaten Manggarai shares a border with Kabupaten Manggarai Barat, to the north with the Flores Sea, to the east with Kabupaten Ngada and to the south borders the Sawu Sea. The topography of Kabupaten Manggarai is dominated by land with an incline of more than 40^o covering an area of 295,121 Ha (70.45%). The rest is land with an incline of between 0-2^o covering 16,487 Ha (3.94%), 2-15^o covering 25,310 Ha (6.04%), 15-40^o covering 81,979 Ha (19.57%). In addition, 70.45% of its territory is at an altitude above 1,000 m (a.s.l) (BPS Kabupaten Manggarai, 2017).

3.1.2 Administrative Regions

Kabupaten Manggarai is a parent Kabupaten which has undergone two regional proliferations into Kabupaten Manggarai Barat in 2003 and Kabupaten Manggarai Timur in 2007. Kabupaten Manggarai covers a land area of 1,915.62 km^2 which consists of part of the mainland of Flores Island and one small island, Molas Island. Administratively, Kabupaten Manggarai consists of 12 *kecamatan*, 227 villages and 27 *kelurahan*. The twelve *kecamatan* include: (1) Kecamatan Cibal which covers 104.59 km^2, (2) Kecamatan Cibal Barat which covers 83.88 km^2, 3) Kecamatan Langke Rembong which covers 60.54 km^2, (4) Kecamatan Lelak which covers 49.02 km^2, (5) Kecamatan Reok which covers 229.88 km^2, (6) Kecamatan Reok Barat which covers 365.53 km^2, (7) Kecamatan Rahong Utara which covers 54.95 km^2, (8) Kecamatan Ruteng which covers 72,64 km^2, (9) Kecamatan Satar Mese which covers 280.55 km^2, (10) Kecamatan Satar Mese Barat which covers 291.49 km^2, (11) Kecamatan Satar Mese Utara which covers 179 km^2, and (12) Kecamatan Wae Rii which covers 76.55 km^2. The *Kabupaten* government centre is located in Ruteng City – Kecamatan Langke Rembong (BPS Kabupaten Manggarai, 2017).

3.1.3 Population Composition

Based on population projection data from 2010-2020, in 2016 the total population of Kabupaten Manggarai was 324,014 people with 84,770 family heads, 158,378 male residents and 324,014 female residents. The population density of the *Kabupaten* is 194.09 people/km^2. Based on population distribution, the majority of residents are located in Kecamatan Ruteng, at 41,636 people, and the lowest population is in Kecamatan Lelak with 11,196 people. Meanwhile, the *kecamatan* with the highest population density is Kecamatan Langke Rembong (1,307.40 people/km^2) and the *kecamatan* with the lowest population density is Kecamatan Lelak (228.40 people/km^2) (BPS Kabupaten Manggarai, 2017).

Based on age group, the largest age group in this *kabupaten* is between 0-4 years old with 39,328 people, while the smallest proportion of people are in the over 65 years age group with a total of 5,098 people. Meanwhile, there are more working aged people (15-64 years) than those not of working age, reaching 57.36%. The majority of community members in the *kabupaten* have the highest education level equivalent to elementary school (SD), with a total of 52,502 people. Meanwhile, 11,935 people have an equivalent education to middle school (SMP), and 16,392

people have an equivalent education to senior high school (SMA) (BPS Kabupaten Manggarai, 2017).

3.1.4 Livelihoods

Based on the national labour force survey data, Kabupaten Manggarai has 131,963 residents who work, 70,778 of who are male and 61,185 of whom are female. Meanwhile, the number of unemployed reached 5,477 people with 3,142 being male and 2,335 being female (BPS Kabupaten Manggarai, 2016).

The main livelihoods of most of the working population are agriculture and livestock farming with 86,660 people working in these sectors, 43,070 of who are male and 43,590 of whom are female. Meanwhile, more men fill positions in the civil service and as members of parliament. In 2016, the total number of civil servants was 4,925, consisting of 2,739 men and 2,186 women. Meanwhile, there were 35 members of parliament, 31 of whom are male and 4 of whom are female (BPS Kabupaten Manggarai, 2017).

3.1.5 Welfare Conditions

Based on BDT, out of 36,690 total households in Kabupaten Manggarai, there are 10,077 very poor households, 13,018 poor households, 10,409 almost poor households, and 3,186 other households who are vulnerable to becoming poor (TNP2K, 2017).

In terms of the number of residents with disabilities in Kabupaten Manggarai, data from Social Services Office state that in 2017, there were 2,764 people with disabilities in Kabupaten Manggarai in August 2017, 332 of whom are blind, 366 with hearing impairments, 600 with intellectual disabilities, 1,330 with physical disabilities, and 136 with multiple disabilities. In Kabupaten Manggarai there is only one school for children with disabilities, called Sekolah Luar Biasa (SLB) Karya Murni Ruteng, which is designed to accommodate for blind children. Meanwhile, the closest school for children with other special needs, SLB Negeri Komodo, is located in Kabupaten Manggarai Barat which is 127 km away from the centre of Kabupaten Manggarai.

3.1.6 Climate and Natural Disasters

Kabupaten Manggarai is a tropical region which is affected by 2 seasons: the dry season and wet season. In general, dry season occurs between June-September, while wet season occurs from December-March. In 2016, the highest rainfall occurred in January, reaching 823.7 mm, with as many as 30 days of rain in March and April. In 2016, the highest temperatures were experienced in October (26.9^{o}C) and the lowest temperatures in August (14.7^{o}C) (BPS Kabupaten Manggarai, 2017).

In terms of natural disasters, based on data from Indonesia's disaster risk index (IRBI), throughout NTT there were 9 *Kabupaten*/cities which are classed as high risk of disaster and 12 *Kabupaten*/cities classed as moderate risk. Kabupaten Manggarai is ranked 6th in the high-risk category for natural disasters. According to information from the regional disaster management agency (BPBD), potential disasters in this region include strong winds, landslides, drought, flood, extreme weather, extreme waves, fires, volcanic eruptions, tsunamis, and earthquakes (BNPB, 2013).

Areas prone to disaster in Kabupaten Manggarai, according to The Kabupaten Manggarai's Working Group on Sanitation (2012) include:

1) Landslide prone areas are scattered throughout all *kecamatan*, mainly due to the steep slopes of land.
2) Tidal prone areas are located in Kecamatan Reok, Kecamatan Satarmese and Kecamatan Satarmese Barat.

Flood prone areas are located in Kecamatan Ruteng, Kecamatan Reok, Kecamatan Lelak, Kecamatan Rahong Utara, Kecamatan Wae Ri'i, Kecamatan Satarmese, dan Kecamatan Satarmese Barat.

3.2 Current Extent and Underlying Core Reasons

3.2.1 Access to Improved WASH Services

Access to sanitation in Kabupaten Manggarai was 82% in 2015, covering access to flush toilet facilities, and non-flush toilets (Dinas Kesehatan Provinsi NTT, 2015). Based on STBM data (2017), access to modern toilet facilities covers 87.3% of the population and is distributed evenly across semi-permanent improved toilets, and shared toilets as well as permanent improved toilet facilities. In other words, less than a quarter of all citizens have access to safe, permanent toilets or adequate sanitation facilities[10]. There are 7,583 households (11.77%) still defecate in the open.

Up until the end of 2017, STBM triggering was held in 148 villages/*kelurahan* (91.4%) of the target of all 162 villages/*kelurahan* in Kabupaten Manggarai (Kementerian Kesehatan, 2018). This achievement was above the overall percentage reached in the province of NTT (74.5%). 62 villages/*kelurahan* have already been verified as ODF (32%) and 32 villages/*kelurahan* claim to be ODF (20%). Until 2015 the verification of ODF was carried out by *kabupaten* STBM teams with APBD funding. However, as of 2016 verification was passed on to village and *kecamatan* teams using Puskesmas BOK funds. Based on performance, Kabupaten Manggarai was ranked as moderate, assessed by the scope of villages/*kelurahan* in which triggers have been implemented and the scope of ODF villages/*kelurahan*[11].

The head of Division of Community Health for the Dinas Kesehatan Kabupaten Manggarai stated that the increased performance of STBM implementation only began in 2017 since environmental health affairs and STBM have been under the jurisdiction of Community Health. Since taking office in February 2017, she began to map the community's understanding of STBM through distributing questionnaires to the heads of community health centres. The results of this mapping showed that the level of stakeholder understanding at the *kecamatan* level was still quite low, and even more so at the village/*kelurahan* level. One initiative implemented to address this was the mapping of ODF progress at the *kecamatan* level through a number of meetings attended by the *Camats* (heads of the *kecamatan*) to trigger action in each *kecamatan*. The *Camats* who triggered then created a review process of the conditions which activated the *kecamatan* STBM teams.

The implementation of sanitation programs in Kabupaten Manggarai applies nationally-implemented STBM concepts, through the process of triggering to encourage behavioural changes in relation to defecation followed up by the self-supported or subsidy-free construction of toilets

[10]NTT Province universal access target for updated and adequate sanitation from 40% adequate sanitation and 60% basic sanitation; 28.8% achievements in accumulative access to adequate regional and urban sanitation (Bappenas, 2015)

[11]In the province of NTT, only Kabupaten Alor has reached 100% ODF villages/*kelurahan*.

by the community. Triggering is carried out by community health centre sanitarian staff with the involvement of the health centre staff, regional midwives and integrated health post cadres. Triggering is conducted throughout all 5 STBM pillars, however, up to 2017 the Kabupaten Manggarai, Public Health Office has been focused on the post-trigger stage of STBM pillar 1 only, to stop defecating in the open. The triggering and follow-up of the next STBM pillars are only just beginning to be planned in 2018 with an emphasis on pillar 2, Washing Hands with Soap, with the subsequent pillars following one-by-one.

Communities that have undergone triggering are allowed to build any type of latrines or toilets according to their individual resources – predominantly flush toilets which they call permanent toilets, or pit toilets outside the house which are called emergency toilets. If there is a large amount of available space, emergency toilets are constructed out the back quite far from the house, with some located further than 10 metres away. Emergency toilets usually consist of a non-permanent toilet on a cement slab or the ground with a stone stopper. The walls of emergency toilets make use of available materials, usually bamboo or tarpaulins. The community calls these pit toilets emergency toilets because they will eventually be replaced with permanent flush toilets when they have enough funding. Despite this, many of the emergency toilets continue to be in use for years and even when broken have been replaced with similar style emergency toilets. Simple pit toilets (*WC cemplung*) have begun to be replaced with toilets were waste is channelled off to the side (*WC plengsengan*) because residents, particularly women and children, are afraid of using *WC cemplung* which are considered to be at risk of collapsing.

Most toilets are equipped with a waste disposal/pit, either a septic tank with one to three treatment tanks or a pit—brick-lined pit, bamboo-lined pit, or unlined pit. Some houses located close to the river dispose waste directly into the river. In Ruteng city and the surrounding region, only a small proportion of the citizens emptying their septic tanks, while in rural areas there are no services available for emptying septic tanks, meaning that when they become full the people fill in their septic tanks and build a new hole, or they are forced to manually emptying their waste disposal tanks if available land is limited.

Citizens who do not have a toilet can usually use that of nearby family members or neighbours but do not have access to these toilets at all times, especially at night or if the toilet is occupied. The availability of water also influences people's decision to use that of other people. Most people who do not own a toilet choose to defecate in the river or near their coffee plantations – the faeces are then eaten by wild dogs or pigs. During the dry season when there are water shortages, some residents who own emergency toilets choose to defecate in the river, as well as bathing, washing clothes and fetching water.

The scope of access to drinking water in Kabupaten Manggarai only reached 69.94% in 2016 (BPS Kabupaten Manggarai, 2017). Water needs are mostly fulfilled by tap water (PDAM and rural pipeline systems), protected spring water sources, rainwater harvesting, and other sources of groundwater. Although there are numerous spring water in Kabupaten Manggarai, the region is classified as a water shortage area because the majority of settlements are located in highland areas while the spring water are located in low-lying areas. In addition, most of the spring water sources are intermittent water springs with the amount of water available fluctuating depending on the season.

Kabupaten Manggarai has been a Pamsimas program location since 2008. Until 2015, 103 villages received assistance to build water supply sytem (SPAM). According to data from Pamsimas (2018), 82 facilities are in fully functioning condition, 18 are partially functioning and 3 facilities are not functional. Facilities which are classes as partially function condition are mostly still functioning,

but not optimal. Indicators used as a reference include: not functioning management bodies (BPSPAMS), technical malfunctions or water shortages. Based on the indicator of water tariffs existent, 49 facilities have applies water tariffs, however only 20 have total income equal to or greater than operational and maintenance costs, 29 other facilities receive water payment which are smaller than their operational costs. However, most Pamsimas facilities (72 facilities) do not applies water tariffs to cover their utilisation.

Until 2018, 53 of 118 villages/*kelurahan* in seven *kecamatan* were supplied by PDAM Tirta Komodo, more or less 40% of Kabupaten Manggarai. In 2019, based on regional and central government planning there will be an additional 3,500 house connections, raising the service scope to 66% of all PDAM technical regions or approximately 50% of Kabupaten Manggarai.

a) Institutional STBM

There are 35 sanitarian workers in total, 13 men and 22 women, who work in the 22 community health centres in Kabupaten Manggarai. Each health centre has 1-2 sanitarian workers. The differing number of health centres depends on the size of each *kecamatan*, for example Kecamatan Wae Rii which is quite large has 3 health centres. In 2018 the public health office aims to have at least two ODF villages/*kelurahan* per health centre, so it is expected that there will be an additional 44 ODF villages/*kelurahan* in this year and the rest will follow in 2019, in accordance with the national target for 100% access to safe sanitation.

STBM triggering is implemented using Health Operational Assistance (Bantuan Operasional Kesehatan – BOK) funding which is attached to the health centres. For the 2017 fiscal year, BOK funding allocated to STBM activities was Rp 7.5 million per village covering all activities starting from pre-triggering, triggering, post-triggering, verification, until declaration[12]. In 2017, the Puskesmas Cancar in Kecamatan Ruteng received an STBM BOK allocation of Rp 50 million for 12 villages/kelurahan within the scope of the clinic.

In 2017, the Kabupaten Manggarai Public Health Office started efforts to encourage more effective competition between community health clinics, including: a) a competition for direct STBM counselling– counselling was recorded on video so it could then be judged by the *kabupaten* team, b) triggering competitions in villages with a focus on judging the level of community involvement, the role of the community and triggering materials, and c) a physical competition under the Healthy Living Community Movement (GERMAS) program[13].

b) Sanitation Entrepreneurships

There are no prominent sanitation entrepreneurships in Kabupaten Manggarai, although there is one sanitation enterprise which is often used as a reference, the Sentra Desa sanitation entrepreneurship in the region of Puskesmas Timung, Kecamatan Wae Rii, which was initiated by Yohanes Yanto, Sanitarian. The Sentra Desa Golo Mendo santitation enterprise in Kecamatan Wae Rii was launched in 2014 after village sanitation cadres training held by Pamsimas. Sanitarian, together with a village cadre from Golo Mendo village, Benyamin, began an attempt to build toilets using a mould owned by the public health office using their own money. The price of a toilet produced from the mould is Rp 90,000 per unit, far cheaper than the price of toilets sold in shops

[12]Regulation of the Minister of Health No. 71 of 2016 on Technical Guidelines for the Use of Non-physical Specific Allocation Funds for the Health Sector for the 2017 Fiscal Year.

[13]Germas is a systematic and planned action undertaken jointly by all components of the nation with awareness, willingness and ability to behave healthily to improve one's quality of life (Ministry of Health, 2016).

which range between Rp 185,000- Rp 300,000. Until now Sentra Golo Mendo has produced more than 200 toilets the majority of which are marketed in the region of Puskesmas Timung and a small number in other *kecamatan*. The sanitation enterprise in Golo Mendo also involves women, including the wife of Benyamin, who started to work in the finishing stages of the toilet prints. Later on, other Sanitarian also started the closet mould production, such as Sanitarian in Bangka Kenda. However, the initiative was hampered due to unsatisfied results because of the lack of proper paint materials and unknown proper raw sand type.

In addition to training offered by Pamsimas, in 2015 there was a training session on how to mould concrete rings for septic tanks from the Millennium Challenge Account Indonesia (MCA-Indonesia) through the Community-Based Health and Nutrition to Reduce Stunting Project. Thanks to efforts to support sanitation entrepreneurs, Sanitarian Yanto was dubbed Highest-Achieving Sanitarian at the *kabupaten* level in 2014, and in addition his place of work, Puskesmas Timung, succeeded in winning first prize for sparking competition between community health centres in 2017.

c) School Sanitation

The ratio of the number of toilets to the number of students in NTT is 1:129. This number is still far from the ideal number of 1 toilet to 25 students or 1 toilet to 40 students[14]. Currently, interventions relating to school sanitation are still focused on elementary schools which are facilitated by Pamsimas through the provision of hand washing facilities and separate toilets for boys and girls. In addition, there is also the construction of toilets from DAK APBN Education funding.

Through community health centres, the Public Health Office also runs routine counselling programs in schools, from elementary to senior high school. Topics covered by this counselling usually include clean and healthy lifestyles (PHBS), STBM, reproductive health, as well as drugs and HIV/AIDS. There are no special activities for Menstrual Hygiene Management, which is usually included under the topic of reproductive health.

3.2.2 Gender Equality

a) Participation and Role of Women in Public Activities

In the community, the division of roles between men and women follows the division of roles in the household. Men are having greater responsibility for determining matters related to important decisions in the community, whereas women are more likely to have a role related to consumption, health of young children or to community activities involving women dominated groups. Men and women generally agree that women have the same rights as men. However, there are several factors which can inhibit these rights, for example in relation to physical activities, mobility and proficiency. Recognition of women's rights depends largely on prevailing behaviors. Although, there is no longer a taboo against women doing work which is usually done by a man, but some conditions are made a requirement to make sure that what is done by women can be done well, i.e. women have proofed experienced or skills that match or above men. The involvement of women in roles such as leadership positions is still limited to women who can speak in public, and meet certain criteria, such as having graduated at least from high school. More and more young educated women are also taking on positions as *kelurahan*/village officials. Nowadays, there are 1 – 3 women are involved as village officials.

[14]Province of NTT Sanitation Profile 2014, AMPL working groups, 2015

b) Participation and Role of Women in WASH Sector

Women have a larger role and responsibility in everyday affairs relating to WASH (water, sanitation, and hygiene), such as ensuring water is available and managing household water use, fetching water and washing in places where water is available (public taps, public bathrooms, and in the river), to cleaning the bathroom and toilet. Men usually take on the task of fetching water from water springs or other places if there is a decrease in the amount of water available or water sources in the house or in the environment dry up.

In the local public domain, recognition of women's rights and role in relation to WASH is considered important, but yet to be seen strategically. The decision on WASH-related development still decided by men, especially if there is physical development involved. WASH programs put women involvement as mandatory, however, the women's participation is generally more to meet the program requirements and quotas. Women's participation in the neighbourhood or *dusun* level is quite high because invitations or notifications about events are usually delivered orally, while at the village or *kelurahan* level they are restricted to written invitations. Only women who are invited attend activities at the village or *kelurahan* level, usually, they serve as village midwife and nurse, Posyandu cadres, and PKK members.

3.2.3 Disability Inclusion

a) Participation and Role of PWD in Public Activities and WASH Sector

The role and involvement of PWD is still very small because it is determined by the level of their mobility and communication capabilities. Men and women generally agree that women and PWD have the same rights as men. However, there are several factors which can inhibit these rights, for example in relation to physical activities, mobility and proficiency. In practices, there is no recognition of the special needs of PWD. Acknowledgement of PWD which does exist is more focused on fulfilling the basic needs of PWD which is generally carried out by the families themselves. If there is planning for PWD, the participation is usually represented by other family members, nevertheless, the PWD needs and perspectives are not well represented. Vulnerable and marginalized groups are seldom involved in formal activities. Some stated that they have been invited to program training but could not explain the contents of the meetings.

Table 5. List of PWD Involved in In-dept Interview in Kabupaten Manggarai

No	Informant	Sex	Age	Impairment/Health Condition	Caregiver
1	O	Male	17	Mental health challenge, suspect epilepsy Able to meet WASH need independently	Step-grandmother
2	P	Female	67	Visual Impairment due to cataract	Son and daughter-in law
3	Q	Male	40	Limb loss (able to meet WASH needs independently) (Three PWD at home: wife with visual impairment, father with mobility difficulty)	Daniel is the caregiver of his father
4	R	Male	40	Mental health challenge. Practice ODF around the village	Older brother
5	S	Female	39	Mental health challenge	Mother (80 years old)
6	T	Girl	7	Speaking impairment	Mother
7	U	Female	10	Difficult to concentrate,	Mother and Older sister
	V	Male		Chronic illness	
8	W	Male	26	Visual impairment	-
	X	Male	25	Visual impairment	-
9	Y	Male	14	Visual impairment	Mother
10	Z	Female	21	Mental health challenge	Both parents

The rights of PWD are still fulfilled by members of the family themselves. There is no special attention paid to the rights of PWD at the village/*kecamatan*/*kabupaten* level. Attention from the government is only evident in the collection of data on PWD conducted by the regional government. The data is provided to the social service. Furthermore, social services provide nine basic needs (sembako) assistance to some PWD. However, this assistance is still limited in some areas due to budget constraints. In the study villages only found in the Bangka Lelak Village.

b) Fulfilment of PWD Wash-Sector Needs

WASH needs of PWD are usually the responsibility of the family. In general, community is lack of information regarding how to provide better access to PWD. The WASH access of PWD is highly depend on the fulfillment of and the availability of WASH services in the family, as reflected on interviewed PWD in three study locations; in Bangka Lelak two out of eight PWD have bad access to WASH, in Wae Belang four out of 8 PWD have bad access to WASH, meanwhile in Golo Wua the conditions is worst, 7 out of PWD have bad access to WASH.

In the PAMSIMAS program, there is already segregate data effort related to PWD. In the implementation of PAMSIMAS during community planning stages, if in the beneficiary group there is PWD, special plan to facilitate access will be added, for example, adjustment of the design of the facilities or additional accessories to ease up PWD access. However, this adjustment or special plan can be accomplished if funds are still available, if not sufficient then will be incorporated into medium-term planning.

In Kabupaten Manggarai, the cost of providing WASH facilities, permanent toilet at home, is still high. Therefore, only very few households with PWD listed above, were able to build permanent

toilet near the house for the convenience of the PWD. Even so, these PWD still needs support and assistances for their WASH needs which mostly fulfilled by their closest family members.

With regard to PWD participation in community meetings and activities, although considered important and necessary, but has not been a common practice in the selected village. Even though in general, there is active participation in community activities in Kabupaten Manggarai, such as during *pesta adat* of going to school ceremony, ceremony in relation to death and other festive, yet it is mostly attended by general community members. The presence of PWD in the household, as admitted by some of the caregivers, hampered their opportunities to be able to fully participate. Put it into their own words,

> "I don't feel comfortable staying too long in the meetings. I am always thinking about my brother (who has mental health problems). I also can't go outside the village for extended period of time. I am worry that my brother would suddenly cause trouble in the community. Other family members don't care anymore about him."

3.2.4 Barriers

This section describes some barriers faced by the community in accessing WASH as well as barriers against the involvement of women and PWD in planning processes and village development.

a) Geographical Conditions

Housing settlements located in hilly contours

Housing settlements in Kelurahan Wae Belang, Bangka Lelak and Golo Wua villages are located in the hills while spring water are in low lying areas, making it hard to reach these areas with clean water facilities, especially in Bangka Lelak and Golo Wua villages which are more mountainous than Kelurahan Wae Belang. The community in Kelurahan Wae Belang can be reached by PDAM pipeline installation facilities but feel that the water flow is not always consistent because the PDAM water spring originates from Ruteng, which is geographically located lower than Kelurahan Wae Belang.

On top of this, the hilly contours make it difficult for women and children who are usually tasked with collecting clean water from springs (in Wae Belang and Bangka Lelak villages this occurs during dry season, while in Golo Wua village it occurs all year around). In Golo Wua village there are no pipelines installed, meaning people rely solely on water collected from water sources. To reach the springs the community must traverse mountainous, dirt roads which turn muddy during rainy season, further complicating the journey. In addition, the geographical conditions make it difficult for women living in mountainous areas and away from the village office to engage in PKK activities, which are usually held in the village office.

Spatial (distance from the city/kabupaten centre)

The distance of villages from the *kabupaten* centre influences the distribution of WASH access services, especially in locations which are far from the *kabupaten* centre and have difficult road access. Based on information from the public health office, the limited number of sanitarian workers goes hand in hand with the breadth of coverage of the sanitarian's service areas, especially for areas located far from the centre of the city and with difficult road conditions.

In addition, spatial barriers faced in accessing WASH services are experienced by regions which are located far from community healthcare centres, for example Golo Wua village. Golo Wua village is located close to the *kabupaten* centre (around 9km), but far from the community health centre (*Puskesmas* Bangka Kenda) and the road to reach the centre is hilly. At Puskesmas Bangka Kenda there are only 2 sanitarian workers, 1 man and 1 woman. The woman sanitarian worker does more work in office administration while the male sanitarian is tasked with duties in the field. One sanitarian has to be responsible for the wide coverage of villages.

b) Institutional barriers

Capacity: Regional Government, Village Apparatus

Unequal capacity and knowledge of sanitarian workers acts as a barrier against changes in community behaviour through STBM. The unequal capacity and knowledge of sanitarian workers is caused by several reasons. Firstly, because of the limited funding allocated to training for sanitarian workers. Until now, training has only been inserted into routine sanitarian meeting with the public health office for the implementation of PHBS. Secondly, not all sanitarians have participated in STBM training because they are absent or had not yet started working at the time of the training.

On the other hand, in terms of funding capacity, the *kelurahan* government in Wae Belang is only allocated a limited amount of funding from the *kecamatan*, meaning not much can be done to improve WASH access. One informant from Wae Belang *kelurahan* stated that many residents want the *kelurahan* to be classed as a village, for one so that they have access to financial sources from the village funding budget.

Funding limitations are also faced by BPSPAM. There is no honorarium for BPSPAM because there is no budget for non-village-specific organisations. This lack of funding was the reason behind the founding of OPAM in order to receive funding from village funding coffers.

Quantity (number of sanitarian workers and environmental healthcare workers)

One barrier to improving access to WASH is the less than optimal performance of some sanitarian workers. This is caused by the limited number of sanitarian workers. According to an informant from the public health office, not all community health centres have sanitarian specialists, meaning that this work becomes a double burden for nurses and health promotion. These conditions cause the performance of sanitarian workers to be less than optimal.

Community Organising

Community organising is required in order to optimise WASH facility maintenance and maintain the sustainability of STBM achievements. At the village level, BPSPAM is not active because honorariums are not allocated to committee members, and on top of this there is no village STBM team. At the *kabupaten* level there is no association for the Water Supply and Sanitation Facility Management Agency (BPSPAMS) because there is no coordination between technical institutions such as the Ministry of Public Works and public health office.

Community and Village Apparatus Awareness in WASH Facility Maintenance

In general, problems maintaining clean water facilities in Kabupaten Manggarai come back to a lack of community awareness of how to look after these facilities, including a willingness to pay maintenance fees for clean water facilities, such as plumbing, public faucets, and water collection tanks. Issues managing and taking care of public WASH facilities were encountered in Bangka Lelak and Golo Wua villages.

In the village of Bangka Lelak, the community is unwilling to pay maintenance fees for clean water facilities, especially those provided by Pamsimas (Community Water Supply and Sanitation Program), because they have previously obtained water provided by PNPM (the National Program for Community Empowerment) and/or other water sources commonly accessed for free. In terms of the cleanliness of public bathing, washing and toilet facilities, in Bangka Lelak Village until now the cleaning and maintenance of these facilities has been the responsibility of those who use them and live in the surrounding area.

In addition, the cutting of pipes by people in the villages is common to meet household water needs and for fields with no irrigation. Pipe cutting occurs in Bangka Lelak and Golo Wua villages. Until now there are no strict sanctions against such occurrences. In addition, in Golo Wua village when bore wells provided by the NTT Province are not functioning, supporting facilities such as water collection tanks are relocated to residents' houses.

In relation to the implementation of triggers, awareness and support of village apparatus are lacking, for example in the village of Golo Wua. Sanitarians at the Bangka Kenda health centre feel that several villages still do not support access the WASH, for example the village apparatus in Golo Wua, meaning they have not yet started to distribute sanitation products, either toilets or septic tanks, to the village.

Village apparatus in the study villages do not have the proper understanding to prioritise the provision and maintenance of public WASH facilities in village development. Until now, Golo Wua and Bangka Lelak villages have not allocated village funding to the provision of access to WASH. On the other hand, these villages already have water sources which could be optimised if provided with access to WASH facilities. Meanwhile, because Kelurahan Wae Belang does not receive village funding they are dependent on the allocation of funding from the *kecamatan* and have never budgeted it toward the provision of access to WASH.

c) Economic Barriers

The economic conditions of the community, most of whom are middle-lower class, mean that they believe it to be very difficult to have a permanent private toilet. Until now, not many community members own a permanent private toilet. In addition, economic barriers also influence the effectiveness of triggers. Economic limitations mean community members prefer to work rather than attending triggers. The majority of work on offer in the community is in farming and paid with daily wages. This makes it difficult to hold triggers during dry season when daily wages are more likely to be cut.

In addition, the community is more accepting of programs in the form of providing assistance rather than initiatives which aim to change behaviours, such as triggers and training. According to informants in the public health office, the community is enthusiastic in attending training events if assistance packages are provided. If not, they are reluctant to attend.

d) Norms and values

Norms

The community in Manggarai have several beliefs relating to access to clean water which limit equal access. Based on information from the public health office, there is a belief in several villages that water sources in the village may not be used by other villages because they are traditional water sources. In addition, some water sources may not be used by residents with

mixed bloodlines. Another belief is that some water sources should not be tampered with (for example, fitted with filters) due to ancient restrictions. In Bangka Lelak village, there is a water source under the control of one family because it is located on their land. Some of the community are also reluctant to offer their land for the construction of toilet and public bathroom facilities.

In addition, according to information from health department officials, there are also beliefs related drinking water management. In certain villages there is a belief that drinking water directly from particular water springs without boiling it first can cure illnesses. These beliefs represent a barrier to achieving STBM pillar 3, management of household food and drinking water.

In addition to beliefs about clean water, beliefs concerning pregnant women were also encountered in Golo Wua village. The community in Golo Wua believe that when collecting water, jerry cans or baskets carried by pregnant women must be full. The jerry cans usually used hold 5 litres of water meaning that when pregnant, women are expected to carry a heavier load when collecting water. Collecting and carrying water while pregnant can cause difficulties in pregnancy and other reproductive health consequences, such as uterine prolapse (Sultana and Crow, 2000).

The fulfilment of practical gender needs (especially of women and girls) for clean water and sanitation is constrained by geographical conditions (villages located in hilly areas experience difficulties constructing toilets) and there is a taboo that toilets must be located far away from the home/kitchen. Women and girls are constrained by these factors in that they must walk significant distances to reach emergency toilets with road conditions making the journey infeasible (slippery, covered with trees and tall grass).

e) Barriers to the participation and mobility of women and PWD in development planning forums

An obstacle faced by women and PWD in participating in the community is their ability to communicate or express their desires, and their ease of mobility. Groups of women have the desire to participate, but the fulfilment of these desires is dependent on the opportunities provided to them and their level of self-confidence. Providing opportunities to participate, for example, during the deliberation of development planning both at the *dusun* and village level. At the *dusun* level, informal invitations are distributed orally to all residents of the *dusun*, meaning that women can participate without limitations on the number of people invited. Nevertheless, the self-confidence of women when attending deliberation forums is restricted by their ability to use Indonesian language, and the shared space between men and women. In the three study villages, men are still dominant in voicing their opinions during deliberation forums.

During development planning deliberation forums at the village level, there is a limited number of places meaning that not all women are invited. Invitations are generally based on level of involvement or position at the village level, meaning that those usually invited are women who are RT, PKK board members, and so on.

Mobility issues and time constraints are experienced by women who live far away from the location where deliberation forums are held. During the night, women in Golo Wua village are afraid of going out alone because the village is located close to the forest with limited lighting. In addition to these conditions, they are afraid of ghosts during the night. Some women choose

not to be involved in community activities, such as PKK, because of their responsibilities in the home and working in the fields. On top of this, there they have a sense of self-doubt because they do not have a degree.

f) Obstacles faced by PWD

At the *kabupaten* level, the regional government does not have the awareness to involve PWD in planning. Until now, the people involved in planning depends on request or on program requirements. Although the social services department in Kabupaten Manggarai has collected data on the number of PWD in the *kabupaten* so that they can be provided with assistance in the form of basic needs, not all PWD receive aid. For example, out of the 3 study locations, this type of assistance was only encountered in Bangka Lelak village.

Similar to the situation at the *kabupaten* level, at the village level PWD are not involved in planning. Although the mobility of PWD is highly dependent on the severity of their disability, village and *kelurahan* apparatus do not have an awareness of involving PWD with any level of disability, for example those with deformities of the hands or feet, in regional development planning meetings either at the *dusun* or village level. There is no budget allocation specifically for PWD, because PWD are considered to be the responsibility of each individual household, including in meeting their WASH needs. Until now, the specific needs of PWD in accessing WASH are limited. No households or families have provided access to WASH facilities which are adjusted to the needs of PWD. For example, elderly PWD require access to specifically designed or seated toilet facilities to facilitate defecation.

g) Vulnerability to natural disasters

The vulnerability of the 3 study villages and *kelurahan* to natural disasters is similar to other villages and *kelurahan* in Kabupaten Manggarai. The vulnerabilities with the largest impact each year are droughts during the dry season, polluted water during the wet season and strong winds. Strong winds frequently destroy plantations and houses.

During droughts available water sources are limited and the amount of water from pipes is low, forcing households to collect water, wash, bathe and go to the toilet in the river and collect rain water. In Wae Belang *Kelurahan* residents must go to water springs in neighbouring villages using pickup trucks. In Bangka Lelak Village, citizens reduce the frequency with which they bathe during dry periods. At the regional government level, no village funding is allocated to reducing the impacts of drought or providing assistance for buildings damaged by strong winds.

In relation to access to toilets, in some areas with extreme slopes, moving soil and sloping contours are a barrier for some residents to building toilets near the home. This complicates women and female children's access to sanitation. In Golo Wua village, children are afraid of using the emergency toilets because they could collapse.

h) Opportunities

Based on the results of FGDs and interviews with informants, there are various opportunities to provide and improve access to WASH and the participation of women and PWD.

Table 6. Opportunities to provide and improve access to WASH and the participation of women and PWD

Level	Opportunities
Kabupaten level	Clean Drinking Water Management Organisation (*Organisasi Pengelolaan Air Minum Bersih* – OPAM)
	Sanitarians – sanitation entrepreneurs
Village Level	Village Funding
	Community activities for women: PKK, *arisan* (community-based savings scheme)
	Collaboration with Babinsa[15] and/or regional police

Kabupaten Level

Clean Drinking Water Management Organisation (OPAM)

At the *kabupaten* level, in 2017 the bupati of Manggarai released a decree to form OPAM, implementation of which began in 2018 and will be directed and strengthened by regional regulations. The formation of OPAM was an alternative option after dissolving BPSPAM. Dissolving BPSPAM was caused by a lack of honorariums allocated to administrators from village funding because it was not classed as a village-specific organisation.

OPAM represents an opportunity as an organisation for the implementation, supervision and management of drinking water and clean water in each village. Especially responding to problematic community behaviour in being irresponsible when taking care of public drinking water and sanitation facilities. In addition, through OPAM it is hoped that an awareness can be raised amongst government apparatus at the village level and the community of the importance of access to clean water and sanitation.

Sanitarians: Sanitation Entrepreneurs

The practice of sanitarian entrepreneurships which have been carried out by sanitarian workers in Bangka Kenda can be used as an alternative way of providing access to sanitation to community members who face economic barriers to building permanent private toilets. The practice of sanitation entrepreneurships can be modified to further ease the burden placed on buyers through a community-based savings scheme (*arisan*) for toilets. Furthermore, sanitarians who have not yet implemented sanitation entrepreneurships can duplicate already existing initiatives.

Village Level

Village Funding

Village funding represents one opportunity to create and improve access to WASH at the village level and also an opportunity to generate the necessary initiatives to increase the capacity of women and PWD. This would, however, require community awareness to propose this option during development planning meetings, and an awareness on the part of village apparatus to support the allocation of village funding to WASH access, and increasing the capacity of women and PWD.

[15] Non-commissioned law enforcement officers posted in villages and wards and affiliated with the civilian administration.

Village funding could also be used as an opportunity to fund the formation of activities for women and PWD. An example of such group activities is vocational training and learning discussions. Such activities would aim to raise the awareness of women and PWD to voice their desires and self-confidence.

IV. CONCLUSIONS AND RECOMMENDATIONS

4.1 Conclusions

- Both *kabupaten* took different approaches in the implementation of STBM:
    - The Kabupaten Sumbawa Barat approach tends to be *top-down* with the PDPGR program in which there is a TUBABAS (100-day Regent Program), the provision of WC packages to households that do not have a WC without considering the level of household welfare (although the guidelines set the target to poor households). Although the TUBABAS program has meet the target of no open defecation at kabupaten level, the next challenge is to ensure that the behavioural changes are permanent, and there is an active effort from the community to independently realizing the next STBM pillar. In terms of sanitation, Kabupaten Sumbawa Barat has achieved the status of being ODF since 2017. For clean water, the main program is PAMSIMAS (just starting 2017) and Water and Sanitation grant program. Only PAMSIMAS formally incorporates a gender equality perspective, although in practice it is still weak. Other programs do not have a GESI perspective.
    - The approach of Kabupaten Manggarai is more *bottom-up*; namely the implementation of STBM without subsidies through the process of triggering and building WC independently. Through this process, the achievement of the first STBM pillar is slower than in Kabupaten Sumbawa Barat. It is expected that through community self-help and initiative in the provision of toilets, there will be more permanent behaviour changes that ensure active community participation and avoiding the long-term impact of dependence on aid/subsidies. In addition, OPAM has been established (in 2018) to improve the maintenance of clean water facilities, but has not yet started operations. These programs do not explicitly use GESI perspective, although more women are attended, particularly during the triggering phase. Kabupaten Manggarai, has also progressed to achieve access in sanitation which has covered 88.23% of population in 2018.
- Permanent behavioural changes related to all STBM pillars remain a challenge. It is still found unhealthy practices in the communities such as, rarely hand washing with soap, drinking water directly from the sources, and unmanaged solid and liquid household waste.
- The GESI aspect in STBM in both *kabupaten(s)* is still normative, mostly only to meet program requirements as stated in the guidelines, and still focusing on meeting the general target of STBM.
- In an effort to improve gender equality, there are cultural barriers because of the strongly tradition to distinguish the domains of men and of women, both in the domestic and in the community spheres; despite the common understanding and acknowledgment of the need for gender equality and the presence of women leaders in the WASH sector, especially in Kabupaten Manggarai.
- Participation and role of people with disabilities in community and public activities is still limited. PWD is still largely seen as the target beneficiaries of social protection program. There are no specific or affirmative actions by the government to purposively involving People with disability in community meetings and in decision making process. In the WASH sector, the needs of PWD is fulfilled by and remains the main responsibilities of their family members.

There are no adjustment made to the types and building of toilet to suit the needs of PWD. There are no WASH related activities that takes the needs of PWD into consideration.

- Climate change affects droughts and high rainfall in certain months in the study area. Both have an impact on community access, especially women and PWD, to clean water. In both Kabupaten Sumbawa Barat and Kabupaten Manggarai, the decrease of the quality and the amount of water caused by both disasters requires women, as the household water managers, to collect water from alternative sources outside the home, such as rivers and springs. For PWD, drought means the reduction of the share of water consumption they can use in households, while some of them have limited mobility to the alternative water source. While related to sanitation, people in Kabupaten Manggarai experienced more obstacles due to high rainfall. Pit toilets which are located outside the home are difficult to access by PWD, even with the assistance of their caregivers.

4.2 Policy Recommendations

4.2.1 Policy Recommendation at Kabupaten Level

a) Main Recommendation:

The focus of the WASH institutional aspects at the *kabupaten* level shall focus on raising awareness and recognition of key stakeholders on the aspects of gender equality and social inclusion and the impacts of climate change.

b) Practical Recommendations:

Advocacy for Kabupaten Government:

- Support the review process of local government strategic plans/documents in achieving the Universal Access of drinking water and sanitation by incorporating the GESI framework; in particular to ensure that the involvement of women and PWD at every stage of the activities, especially at the planning stage. It also needs to be done at the national level.
- Facilitate the adoption of the GESI framework for water and sanitation programs at the kabupaten level.
- Support the capacity development of the WSS Working Group/WSSG to encourage multi-stakeholder coordination.
- Facilitate an equal learning process of implementing and achieving GESI responsive STBM.
- Improve the capacity of STBM Kecamatan Teams to encourage coordination in planning and monitoring the implementation of GESI responsive STBM.
- Facilitate financial inclusion initiatives for improving households' access to drinking water and sanitation.
- Develop voice/aspiration and opinion polling and channelling mechanisms for women's groups and PWD in formal planning activities such as Musrenbangdes, or special activities/institutions in the WASH sector, such as PDPGR in Sumbawa Barat and OPAM in Kabupaten Manggarai.
- Conduct triggering activities (*pemicuan)* periodically to promote demand creation, ensure permanent behavioural change related to STBM Pillar.

- To encourage the fulfilment and improvement of WASH facilities independently, by taking into consideration of challenging factors such as geographical condition, financial aspects and supply improvement in toilet provision, in terms of types, materials and options of financing).

Supply Improvement

- Sanitation/sanitation marketing Entrepreneurship
  - Training of toilet-making through on the job training on Wusan that has been successful in other region.
  - Safe toilet septic tank & drainage training.
- Provision of information on sanitation technology options, including the cost estimation
  - Provision of alternative or financing options for WC construction that can be accessed by various community groups, such as micro credit, "arisan jamban", CU/cooperatives, including the potential utilization of BUMDes (Village owned enterprise – Badan Usaha Milik Desa).
- If there is a latrine subsidy program, there should be clear mechanisms to avoid being counterproductive, such as agreement on the criteria of stimulant beneficiary/toilet as well as the amount and type of subsidy granted (grant or revolving loan).

4.2.2 Policy Recommendation at Community Level

a) Main Recommendation:

- Create the opportunities for women and PWD to engage more actively in strategic activities at the community level.
- Remove the stigma of male and female domains in development.

b) Practical Recommendations:

- Review RPJM Desa to accommodate water and sanitation development priorities with GESI perspective.
- Establish or improve the performance of Village STBM Team, by incorporating aspects of GESI, including through:
  - Facilitate periodic training and capacity building for STBM actors at the village and *kecamatan* levels, with specific efforts to create natural leaders at village and *kecamatan* levels.
  - Rerun, socialization and campaigns utilizing various events or activities, followed by creating social contract and conduct social mapping process related to GESI.
  - Facilitate the adoption of the GESI framework in the implementation of STBM including exploring efforts to increase access of the vulnerable, marginalized groups and persons with disabilities.
- Increase women opportunities to be more involved in meetings that address strategic issues in the community.
  - Modify the invitation system; by inviting women in separate meetings of men.
  - Using a community assembly approach; by inviting husband and wife in every meeting, to ensure equal access to information and engagement.

- To increase participation and types of involvement of women and girls in community meeting and decision-making process by promoting *informed choice* among potential participants. By doing this, it is expected that the participants would have sufficient knowledge of the meeting, thus increase their self-confidence to voice their opinion and have meaningful participation.

- Creating a mechanism for gathering the aspirations/opinions/needs of vulnerable groups including PWD to make their WASH needs a concern in the community, so as to reduce the workload of women and girls (who take care of PWD).
- Supporting prospective women/girls leaders, and providing capacity building for women to speak up in the public sphere.
- Initiate School Sanitation with GESI perspective.
- Plan the monitoring of post-triggering phase and encourage community-based monitoring mechanisms involving various elements of community groups including groups of children/youth.

4.2.3 Policy Recommendation at Household and Individual Level

- Increase the confidence of female (women and girls) to take an active role outside the home, through formal education as well as training and mentoring.
- Socializing and transforming the gender-based division of work in the household; more involving men and boys in domestic tasks in the household so that women and girls can have more opportunities to engage in strategic activities in the community.

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