August 2021

WaterAid

MOTU KOITA ASSEMBLY

Water For Women

PNGAus Partnership

Tables

Figures

The Motu Kota Assembly wants to improve water supply and its governance in the nine Motu Koita villages. Pari village will be a demonstration village for sustainable water supply and sanitation services, which can be scaled to other Motu Koita villages. WaterAid PNG is assisting with the technical and governance aspects in Pari, with funding from the Australian Department of Foreign Affairs and Trade (DFAT) Water for Women program.

A baseline survey of all 501 households in and near Pari village was conducted in July 2021, to better understand the water supply, sanitation and hygiene (WASH) facilities and conditions, household WASH service levels, willingness to pay for an improved piped water service and a range of social indicators that are key to the provision sustainable WASH services. The baseline survey informs WASH service improvements in Pari.

The findings support the need for affordable water supply. One third of households are low income (quintiles 1 and 2) with 8.3% of households in the poorest category. 7.2% of households have a fortnightly income less than K200. One fifth of households are built over or near the ocean, providing a challenge to the provision of water supply and sanitation services.

Numerous sources are accessed for both drinking water and water for cooking and washing. 76% of households obtain drinking water from tanker trucks, bottled water (jerry cans), and water boys (carted water). The use and payment of these informal water sources is in direct competition with the piped water supply, and water quality and safety of these informal sources is not guaranteed. 97% of households buy water, often paying inflated prices of K52.50-K100 per kilolitre. Households purchasing small quantities of water (20 litres) every day pay the highest cost per kilolitre and would benefit the most from cheaper reliable kiosk water.

Willingness to use services is higher for piped water than kiosks. For unconnected households, 58% are willing to pay for water from a kiosk, while 69% want piped water. This suggests a roll-out of kiosks may be needed in high demand areas first. 92% of households already connected to piped water supported improved piped water services. Willingness to pay for water from pipes and kiosks averaged K24 per month, which is below actual expenditure reported by households. Households may not be aware of the total amount they actually spend on water in a month. The benefits of well managed, user-pays, cheaper, and higher quality water should be promoted to all households. The demand for better water services is strongly supported. Lack of a service in the area is the main reason for no connection to piped water. Problems with piped water include not enough water (low water pressure), and lack of regular availability of water. Management of an improved water service by a utility (Water PNG) or MKA is preferred.

Sanitation is poor in Pari. At least half the toilets are unimproved (pit latrine without slab 17%, hanging toilet 24%) or no facility (9%). Hanging toilets are prevalent but provide no barrier between faeces and human contact and present a serious health hazard. Three quarters of households are interested in upgrading their toilet, with 59% of them very likely to upgrade the toilet within the next 6 months. The survey confirms a need to improve sanitation, and some initial support from households, which should be explored further.

A very high proportion of households (80%) have a handwashing facility – either a fixed facility at the dwelling or the yard or a mobile object. This may be due to recent handwashing promotion in Pari as part of the COVID-19 pandemic response. More effort is needed to ensure that both soap and water are available at the handwashing place, as only 56% of all households have both soap and water available for handwashing.

A summit workshop is planned with MKA, NCDC, Water PNG, WaterAid and other stakeholders to share the survey findings and models of WASH service delivery for Pari.

The Motu Koita Assembly (MKA) wants to improve the supply of water and its governance in the nine Motu Koita villages. Pari has been selected as a demonstration village to begin establishing a sustainable governance model for water supply and sanitation services, which can be scaled to other Motu Koita villages.

WaterAid is providing technical and governance support to MKA, with funding from the Australian Department of Foreign Affairs and Trade (DFAT) Water for Women program.

This report presents the results of a baseline survey of the people in and near Pari village. The purpose of the survey is to understand water supply, sanitation and hygiene (WASH) facilities and conditions in Pari, household WASH service levels, and willingness to pay for improved pied water service. Information collected from the survey will be used to plan WASH service improvements in Pari.

Household WASH and socio-economic data was collected using mWater[1] installed on Samsung hand held tablets. The tablets were used to take photographs which were uploaded to mWater. The survey tool was designed by WaterAid staff, drawing on indicators from the UNICEF and WHO Joint Monitoring Program (JMP) for WASH and other surveys in PNG. The survey tool is designed to be used in other Motu Koita villages who will follow the Pari model in improving WASH services.

The survey was conducted by 16 Motu and Koitabu enumerators (8 female and 8 male) selected by MKA, from within Pari village and from other areas in Port Moresby. Male and female enumerators were paired into 8 teams of two people. MKA and WaterAid supervised the survey process.

Enumerator training took place between 6 and 9 July, and covered the purpose of the survey, understanding the survey questions, especially WASH, and use of the mWater surveyor and tablets. Field testing and practice in Pari took place on 7 July, 2021. WaterAid staff made amendments to the survey tool based on feedback from the pre-testing.

Household interviews were conducted between 12 and 22 July 2021. No sampling was done as every household in Pari village was targeted as well as a number of households just outside of Pari village as they rely on water from Pari, and should be included in the service improvements.

Every household was given the option to refuse to take part in the survey, however no household refused. A total of 501 households were interviewed (see Figure 1). Interviews were conducted with 501 adult members of households. Respondents were 49.9% male, 49.1% female, and 1% other. 75.2% of surveys were from Pari Taoata electorate, and 4.8% from Pari Taurama. The distribution of households by section is shown in Table 1.[2]

Data was cleaned by WaterAid staff, and then analysed using mWater and Excel.

[1] mWater is an on-line water point mapping tool with a surveyor app, used in more than 150 countries worldwide. Data is collected using mobile phones or tablets and uploaded to the internet.
[2] Survey responses on section and clan names may be unreliable due to fluidity and inconsistency of names.

Table 1 Pari households by Section

Section name	Number of Households	% of all households
Boboro	38	7.6
Buataukini	8	1.6
Budoa	3	0.6
Dadarai	28	5.6
Doru	96	19.2
Field Side	7	1.4
Gwadu	46	9.2
Hurricane City	15	3.0
Kepoga	4	0.8
Kunika	1	0.2
Laurina	7	1.4
LLV	29	5.8
Mavara	2	0.4
Minitoa	26	5.2
Miri	21	4.2
Ranuguri	3	0.6
Taora	62	12.4
Taurama Taurama	15	3.0
Urouron	53	10.6
Other	19	3.8
Not answered	18	3.6
Total	501	100.0

The water supply situation in Pari is complex, with no piped water supplied at the time of the survey. The JMP indicators do not adequately capture the situation in Pari and some data has been recoded to reflect the complexity of the situation.

Interviewers were community members employed to collect data and not WASH experts. Although data has been carefully cleaned by WaterAid staff some inconsistencies may still exist in the data.

Households were generally very interested and willing to participate in the survey, as indicated by the 100% participation rate. Enumerators also reported that household were welcoming and happy to be part of the survey. This was due to awareness about the survey conducted by community and church leaders over the preceding weekend.

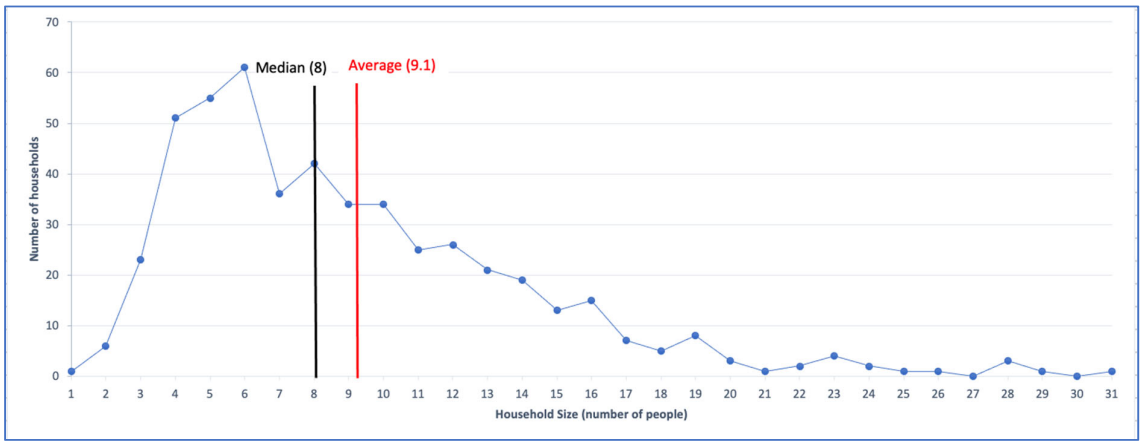
Enumerators recorded informal field observations during the data collection process, via a WhatsApp group. These field observations include stories of people with a disability, water supply challenges, and insights into sanitation. Consent was obtained from all people photographed, and in the case of children, from a parent. The observations are presented in Annex A Stories of Disability and Inclusion, and Annex B WASH Situation in Pari Village.

Figure 1 Location of household surveys in Pari village

The population of Pari and the surrounding area is around 4,550 people.

The average household size is 9.1 people, with a median size of 8 people. Households range in size from 1 person to 31 people (refer Figure 2). Households were mostly single family households (64.3%) with 35.1% being multi-family households.

Figure 2 Household size



Most households are from Pari village (87.0%), 1.6% from another MK village, and 11.2% of households from another place.

The largest age group is male adults aged 15-64 followed by females of the same age, representing 57.2% of the total population. Children under the age of 15 represent 39.1% of the total population, children under 5 represent 13% of the population, with older adults over 65 accounting for only 3.7%. Females represent 48.8% of the population, and males 51.2%. (Refer Table 2)

Table 2 Age range

	321	7.0
	285	6.3
	603	13.2
	573	12.6
	1315	28.9
	1293	28.4
	96	2.1
	71	1.6

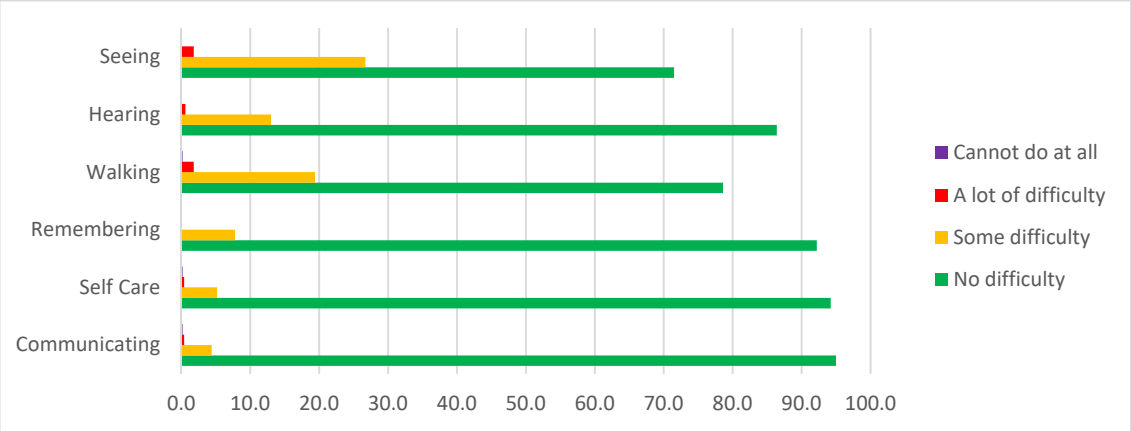
The highest education level of the head of the household is shown in Table 3. 98% of household heads have primary school level education and above.

Table 3 Highest level of education of head of household

	34	6.8
	84	16.8
	199	39.7
	173	34.5
	3	0.6
	8	1.6
	501	100

Respondents were asked questions on level of disability of household members, across six domains.[3] 46% of households had a member who had some form of disability although only 4.2% of households had someone with a disability with severe difficulties (a lot of difficulty and could not do at all). Females in the age range of 15-64 years had the most severe disabilities, followed by males aged 15-64 years, then older males and females aged 65 and over.

Figure 3 Types of disabilities



Of those households with someone with a severe disability, 79% could access the water source by themselves, but 21% needed a carer to help them. In the 34 households where a carer was required to help access water, only 6 households (17.6%) had the water source located inside

[3] These are referred to as the Washington Questions, a short set of questions, used for disaggregating the Sustainable Development Goals by disability status. People with a disability are at greater risk than the general population for participation restrictions due to the presence of difficulties in six core functional domains, if appropriate accommodations are not made.

the house. The remainder of water sources were outside the house (13 no.) or away from the house (13 no.).

Collection of water presented safety risks for carers and PWDs (see Table 4).

Table 4 Safety of carers and PWDs during water collection

Response (no. of households)	Is it safe for the person with a disability to be left alone while the carer collects water?	Is it safe for the carer when they are collecting water on behalf of the PWD?
Yes	8	12
No	9	7

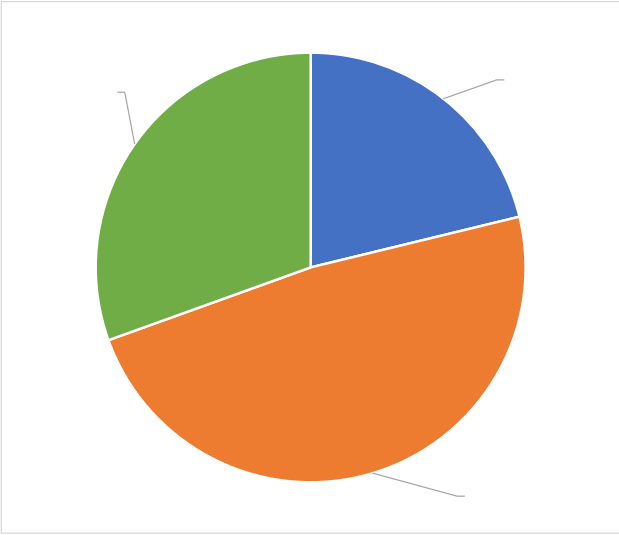
85% of PWDs could access the toilet by themselves and 15% needed the help of a carer. For the 22 households with a PWD who needed a carer's support for toileting, the toilet was located inside the house in just 9 of those households, and outside the house (10 no.), or away from the house in 3 households.

Features available at the water and sanitation facilities to make them accessible for PWDs are shown in Table 5. Support rails are common but ramps are not.

Table 5 Facilities to support PWDs

	Support rails	Bench/shelf at water collection point for water container	Ramp	Other	No accessibility features
Number of facilities	67	35	3	48	73

Figure 4 House location



48.3% of households are located on flat land, with 30.5% on hilly or sloping land and 21.2% on a walkway or over water.

96.4% of households own their house, with 3.2% staying for free, and just 0.4% renting. Land ownership was less with 88.6% owning their land, 8.8% not owning the land, and the remainder either didn't know the land status or had a different arrangement.

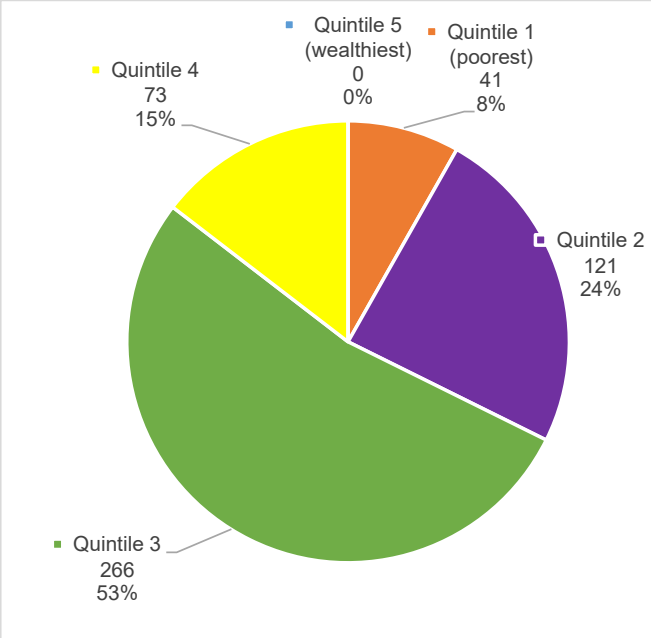
A standard wealth quintile composite index for PNG urban areas was used to determine the relative wealth of households in Pari.[4]

[4] PNG does not have a system for identifying the poor. To determine wealth quintiles for PNG, WaterAid has partnered with Metrics for Management, an organisation specialising in statistics who have developed a tool called Equitytool http://www.equitytool.org/. Metrics for Management undertake analysis of the list of questions in Demographics and Health Surveys, Census and other nationally statistically representative surveys. The questions most relevant to national wealth are identified and weighted. WaterAid has added these question sets to household

Households were grouped using a combination of 15 variables including access to water and sanitation, construction materials of the house, what assets are present in the house eg. television, refrigerator, mobile phone, computer, if there is access to a bank account, and the source of fuel for lighting and cooking. Depending on the presence or absence of these variables, households can be assigned to wealth quintiles.

Pari has only four wealth quintiles with most households (53%) in quintile 3 (middle income). Just 8.3% are in the poorest quintile (quintile 1) and 24.2% of households are within quintile 2. No households were observed to be in the wealthiest wealth quintile 5, and only 14.6% in quintile 4. Overwhelmingly, the residents of Pari are low and middle income (quintiles 1, 2 and 3).

Figure 5 Wealth quintiles for Pari village



49% of households have a radio in their home, 48% have a television, 50% have a refrigerator, 32% have a computer, and 94% have someone in the household with a mobile phone. In response to the question: does any member of this household have a bank account, 80% of households reported having at least one person with a bank account with the same proportion having a bank card, and 40% using mobile phone banking.

The main source of lighting for Pari households is electricity (86%), lantern including battery lantern (7.2%) and other (6.8%).

The main form of employment and source of income is from employment with a private company. However unemployment is very high with 21% of households saying they were unemployed. Nearly 17% of households had government employment as their main form of income. (Refer to Table 6)

Table 6 Main form of employment for household

	206	41.1%
	107	21.4%
	83	16.6%
	47	9.4%
	30	6.0%
	22	4.4%

surveys and applied these weightings. The SDG service levels can thus be disaggregated by wealth quintile to assess how well the poorest households are being included in service delivery.

	2	0.4%
	1	0.2%
	3	0.6%
	501	100.0%

Respondents were asked to select the income band which represented their household net fortnightly income from all sources and from all household members. 314 households answered the question. Most households are in the K351-K500 per fortnightly income band, while 7% of households have an income less that K200 per fortnight. (Refer to Table 7). The number of people in the household earning an income shows that men are about twice as likely to be earning an income compared to women. (Refer Figure 6)

Table 7 Household's net fortnightly income from all sources

	36	7.2%
	57	11.4%
	74	14.8%
	46	9.2%
	33	6.6%
	25	5.0%
	7	1.4%
	185	36.9%
	1	0.2%
	501	100.0%

Figure 6 Number of people in household earning

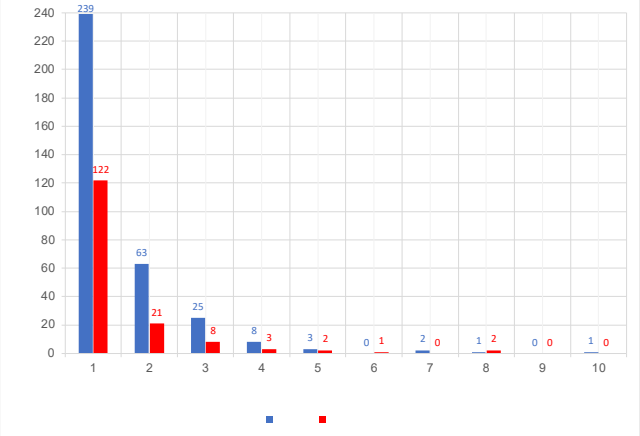
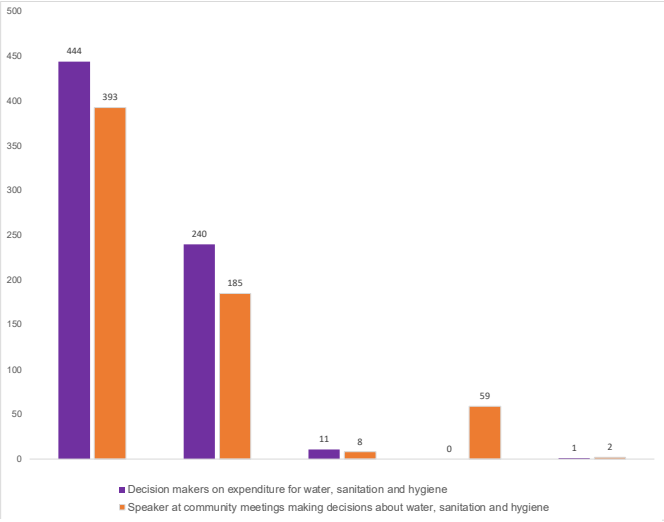


Figure 7 Gender and decision making



Note: Multiple responses allowed

When there is expenditure regarding water, sanitation and hygiene, decisions on that expenditure are usually made by adult males (87%) within a household, followed by adult females (48%). (see Figure 7 Gender and decision making).

The person in the household mostly likely to speak at important community meetings to contribute to community decision making about water, sanitation and hygiene is: adult males (78%), adult females (37%), other adults (2%) and no one (12%). This decision making includes joint decisions between adult males and females, but highlights that men have twice the influence as women.

Figure 9 shows the complex water supply situation currently in Pari village and that there are multiple water sources. Most households use bottled water, which in reality is water in jerry cans, not purified bottled water. Water collections/deliveries from tanker trucks, bottled water (jerry cans), and water boys account for 76% of all drinking water. The water quality and safety of these informal sources is not guaranteed.

Water supply is located in own dwelling for 7.2%, in own yard/plot for 35.5% and elsewhere for 57.3%.

Figure 8 "Bottled" water are jerry cans

Figure 9 Main source of drinking

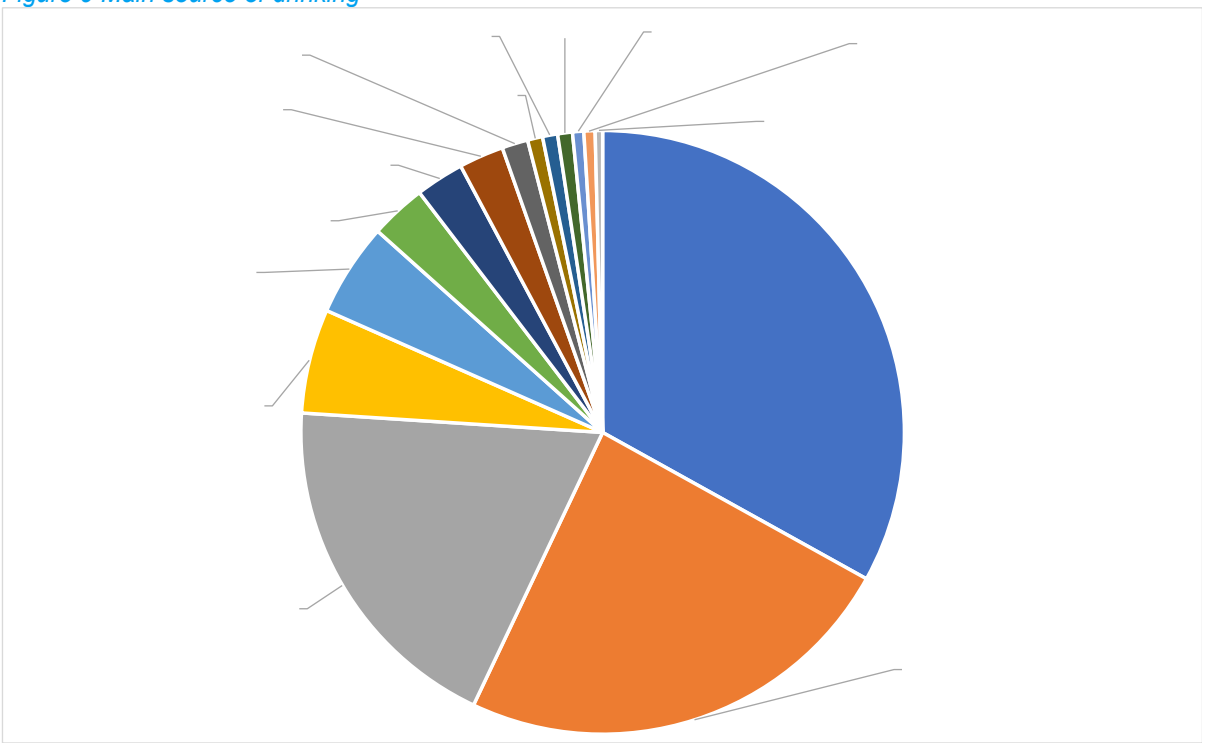


Figure 10 Examples of drinking water supply – Pari village

Water deliveries are also made by private water tankers as depicted in Figure 11.

The length of time required to collect drinking water was perceived by more than half the households as taking a long time or taking too much time (see Figure 12).

Only 14% of households said that water was available all day every day. Water unreliability was high with 43.3% of households saying water is available rarely or only some days (see

Table 8).

Figure 11 Water delivered by private tanker

Figure 12 Time to collect drinking water

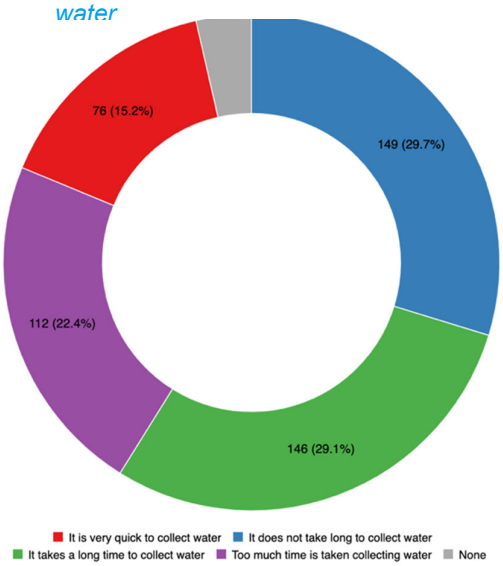
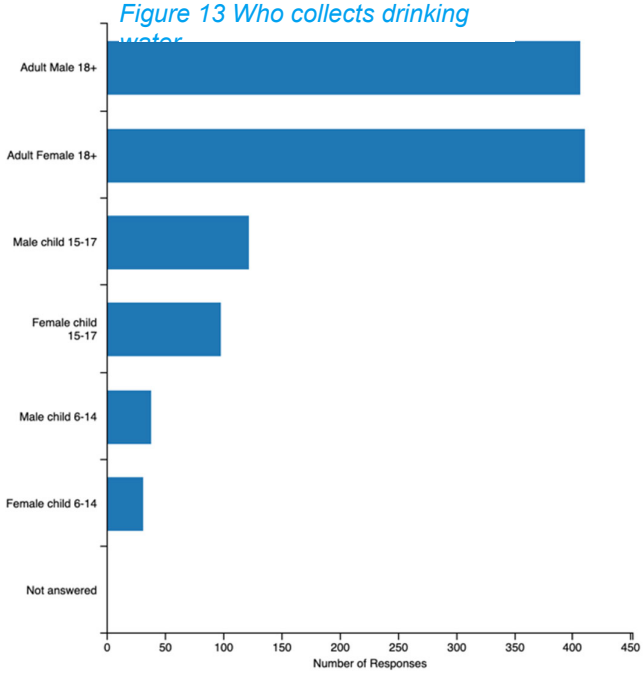


Table 8 Reliability of water supply

		70	14.0
		181	36.1
		33	6.6
	217	43.3	

78% of households had experienced a time or significant period of time in the last month, when they did not have sufficient quantities of drinking water when needed.

Figure 13 Who collects drinking water



Drinking water is collected mostly by male and female adults, and in general more by males than females. 50% of households said there were some risks for women and girls collecting water, with a further 5% saying that it was very unsafe to collect water.

Safety risks to women and girls when fetching water supply are fairly evenly spread in their proportion between different locations of water supply (see

Table 9). Only 2 households said that fetching water in their own dwelling was very unsafe.

Table 9 Safety risks to women and girls when fetching water

Location of water supply	No risks	Some risks	Very unsafe	No response	Total
In own dwelling	36.1%	47.2%	5.6%	11.1%	100.0%
In own yard/plot	38.8%	36.0%	2.8%	22.4%	100.0%
Elsewhere	35.5%	45.6%	5.2%	13.7%	100.0%

Storage of water is very common with 99% of households storing water. The majority were stored in narrow mouthed containers, followed by wide mouthed containers. Large storage tanks, such as tuffa tanks, were also common, and these were shared with neighbours in 40% of the time. Not all the containers are covered. Pouring is the most common method of drawing water, followed by using a dipper or cup, and a tap. About 13% of households take water by scooping with their hands.

The drinking water situation for Pari village compared to SDG service levels is shown in Figure 14.

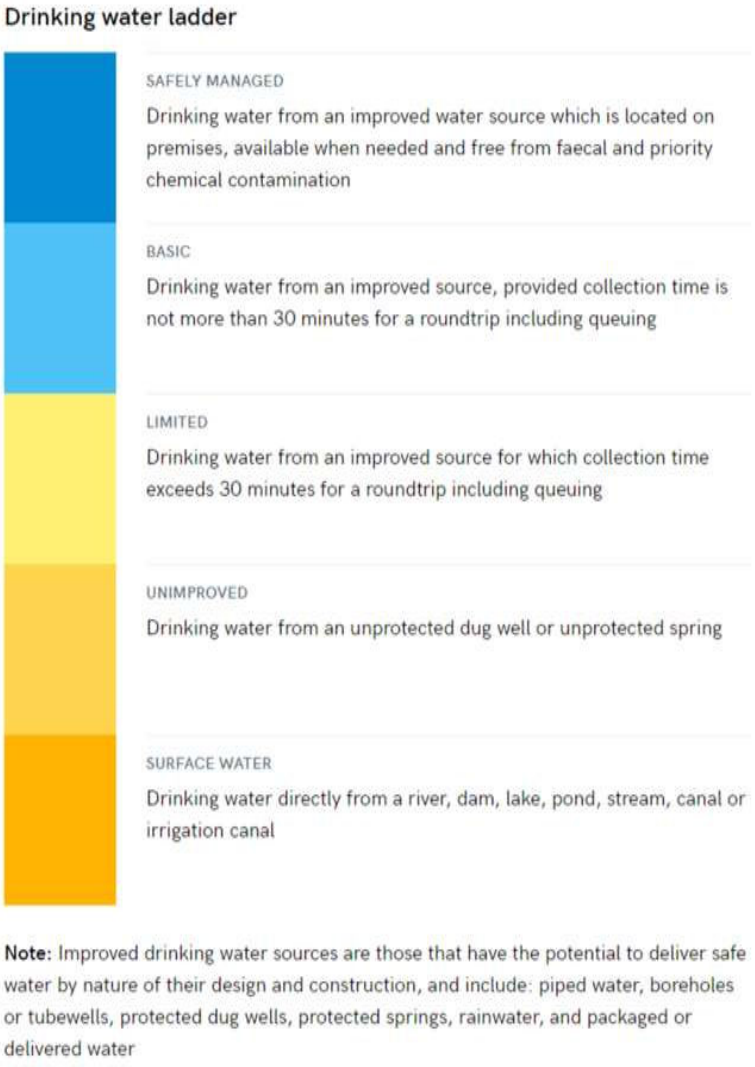
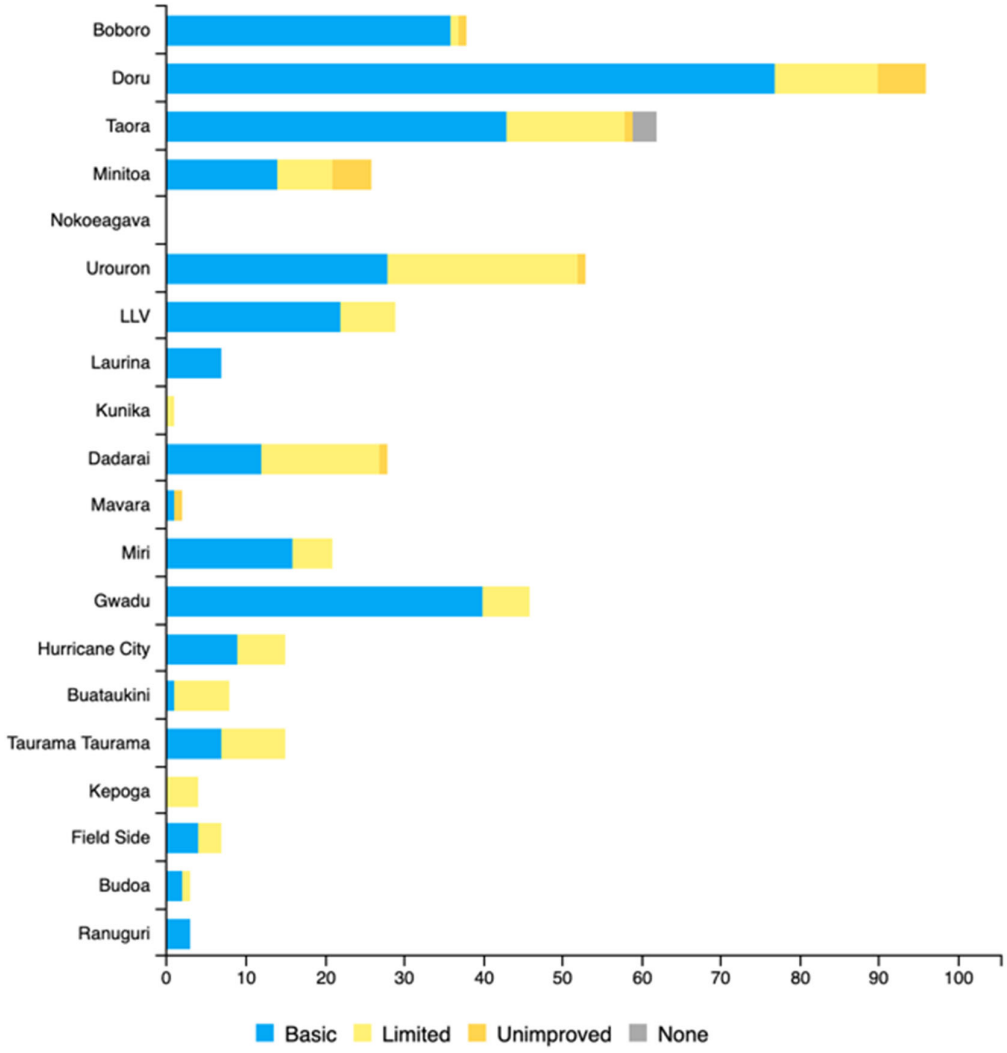
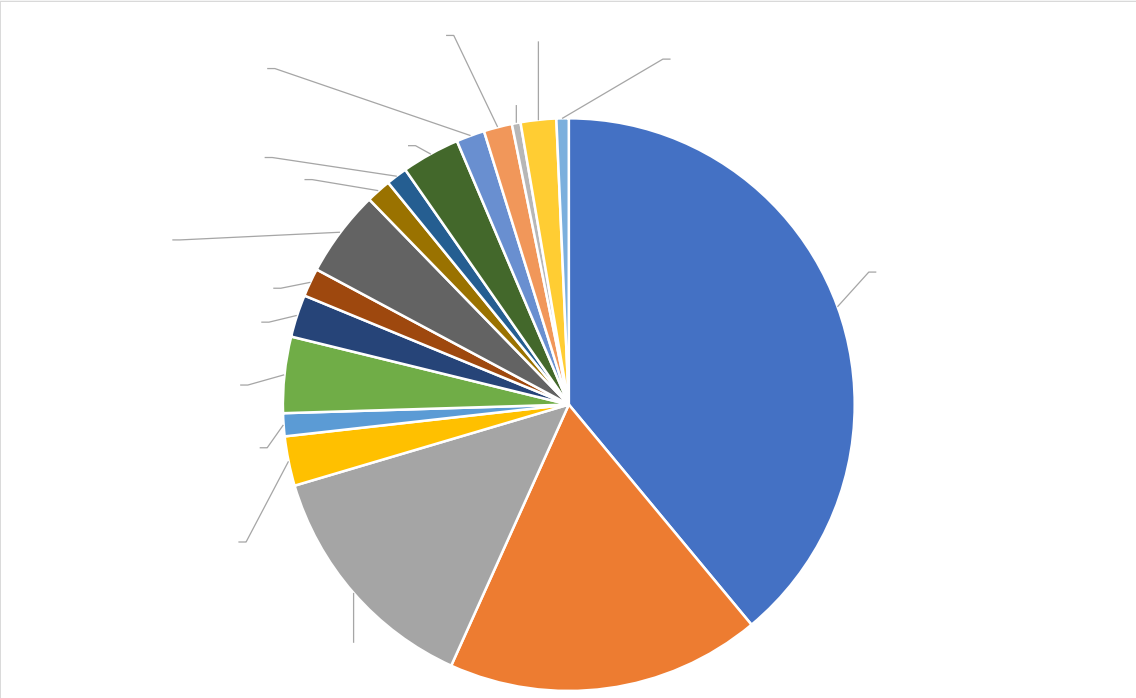


Figure 14 Water supply SDG Service Levels – Pari



There are numerous sources of water for non-drinking uses (See Figure 15). 70% of water for other purposes such as washing and cooking comes from container water such as jerry cans, water carts and tanker water, while the remaining 30% comes from a mixtures of sources such as rainwater, protected dug well, and piped water. Only 47% of households said they had enough water from this source.

Figure 15 Source of water for other



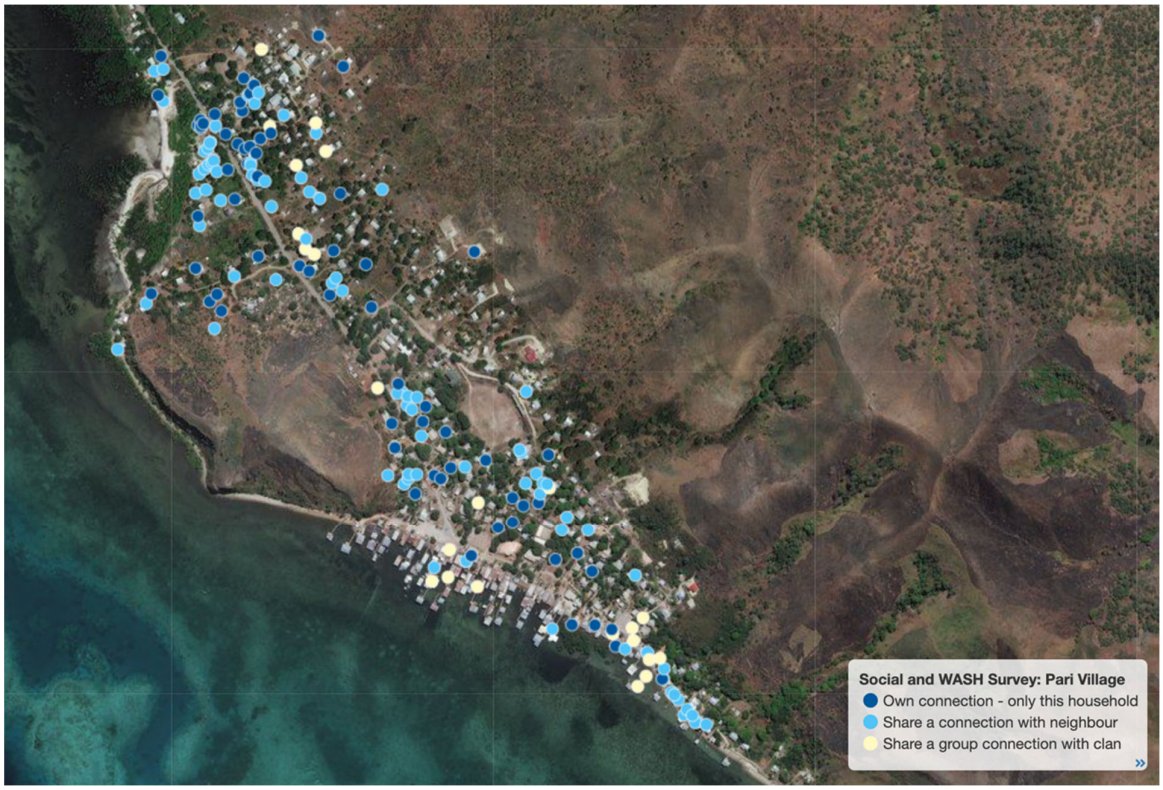
More than 65% of households were not connected to the piped water, with just 13% having their own connection (refer Table 10). Due to lack of water supply for a long period of time, i.e. no water through the pipes, some households commented that they had removed previous connections due to lack of water. The total number of households who have removed connections is not known as they are counted as having no connection currently.

Table 10 Connections to piped water

	327	65.3
	83	16.6
	23	4.6
	67	13.4
	1	0.1
	501	100

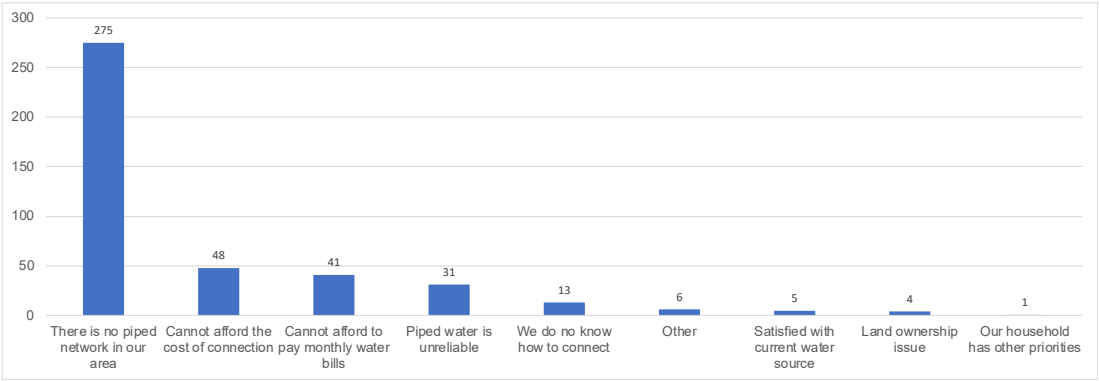
Households connected to piped water and the type of connection are mapped in Figure 16.

Figure 16 Connections to piped water



The main reasons for not being connected to piped water were related to lack of piped water supply in the area. Affordability, including the cost of connection, and the cost of monthly water bills was also an issue for some households. Only 5 households indicated satisfaction with their existing source of water as a reason for not having piped water.

Figure 17 Reasons for not connecting to piped water

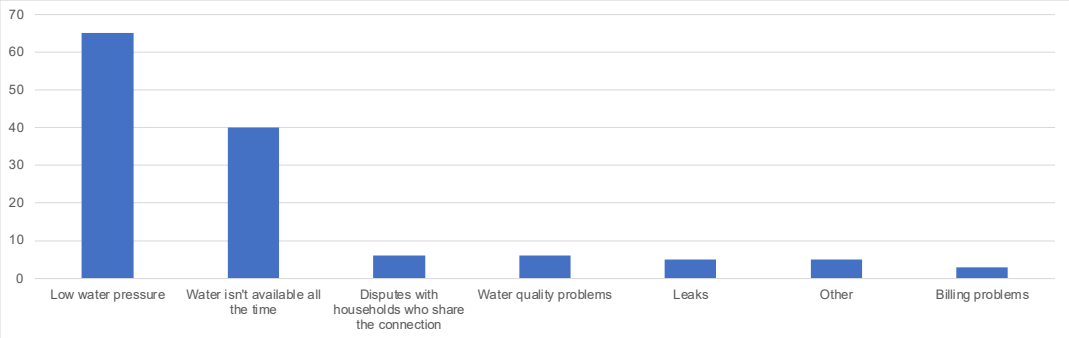


Note: Multiple responses allowed. 424 responses from 327 households.

Connections were made by a utility (Eda Ranu) (43%), households themselves (38%), NCDC (6%), plumber or technician (3%). 91% of households said water was not available from the connection at the time of the survey. Meters did not seem to be present for nearly all connections. This is thought to be due to the previous water supply model where WASH committees collected water fees and meters were not necessary.

The main problem identified with piped water was insufficient quantity of water as indicated by low water pressure, and lack of regular availability of water (refer to Figure 18).

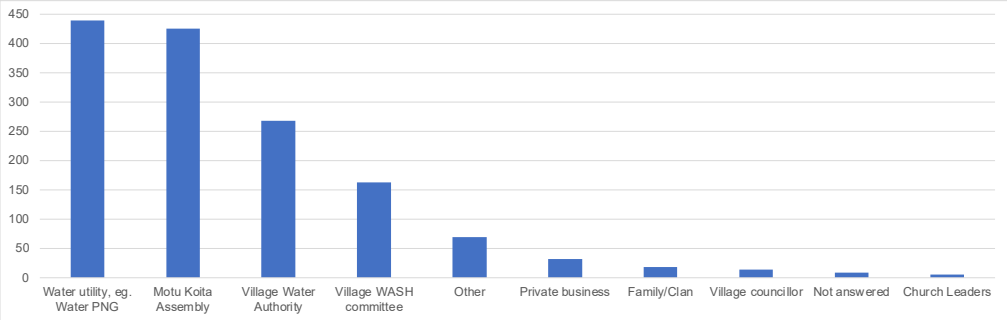
Figure 18 Problems with Piped Water



Note: Multiple responses allowed.

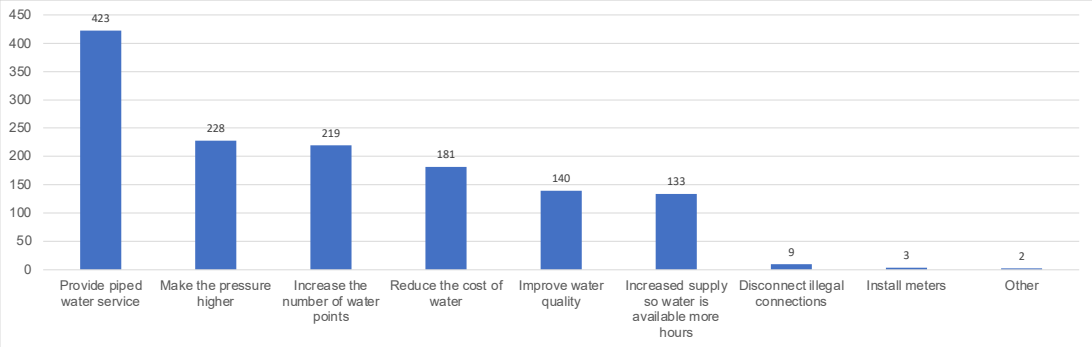
The preferred managers of an improved water supply service for Pari were Water PNG followed by MKA. (Refer Figure 19)

Figure 19 Who should manage an improved water system for continued operation



Suggestions for an improved water service for Pari indicate a high demand for a piped water service (refer).

Figure 20 Suggested improvements for water service



Note: Multiple responses allowed.

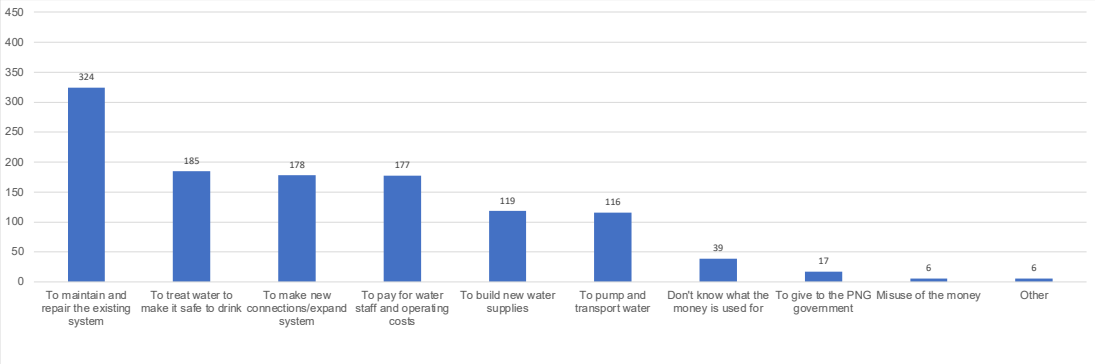
Suggestions for improving the operations and maintenance of the water supply in Pari highlighted the desire for a professional service. The need for all households to pay their fair share for water also was mentioned by many households. (Refer Figure 21).

Figure 21 Suggested O&M improvements

Note: Multiple responses allowed.

All 501 households were asked what they thought the money collected from water fees was used for. The most common response was to maintain and repair the existing system, followed by treating the water to make it safer to drink, making new connects, and paying for operations. (Refer to Figure 22).

Figure 22 What piped water fees collected by the utility are used for



Note: Multiple responses allowed.

There is a variety of toilets used by households in Pari. The most common types are pit latrine with slab (32%), and pit latrine without a slab (17%) (refer to Figure 23 and Figure 24).

Approximately a third of households use hanging toilets and or have no facility. Hanging toilets provide no protection from human faeces and are considered as fixed point open defecation, with the toilet providing privacy only and no treatment. (Refer to Figure 25).

As many as 16% of Pari's toilets are located outside of the household dwelling or yard.

Figure 23 Type of household

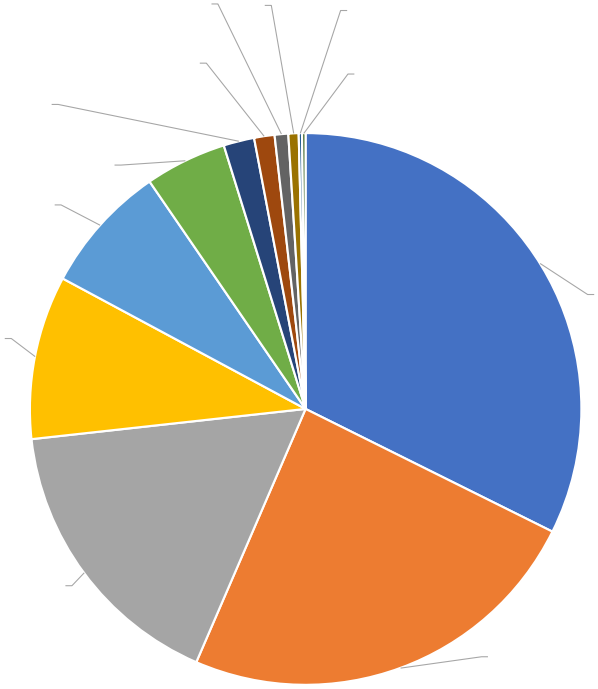


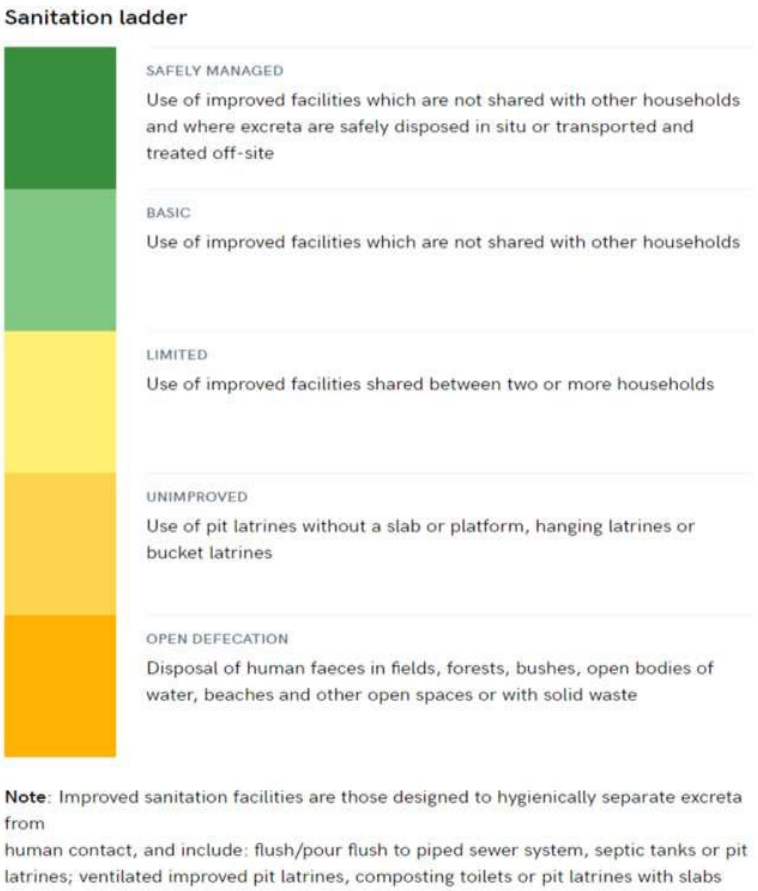
Figure 24 Examples of toilets, Pari

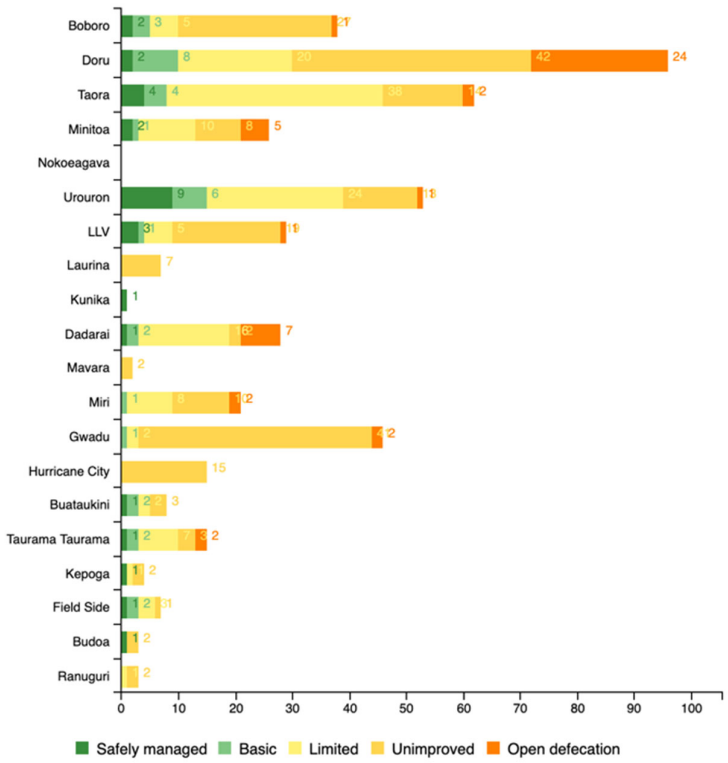
L to R: Hanging toilet, pit latrine with metal slab, flush to pit

Figure 25 Hanging toilet

The sanitation situation for Pari village compared to SDG service levels is shown in Figure 26. A high proportion of sanitation is unimproved or open defecation.

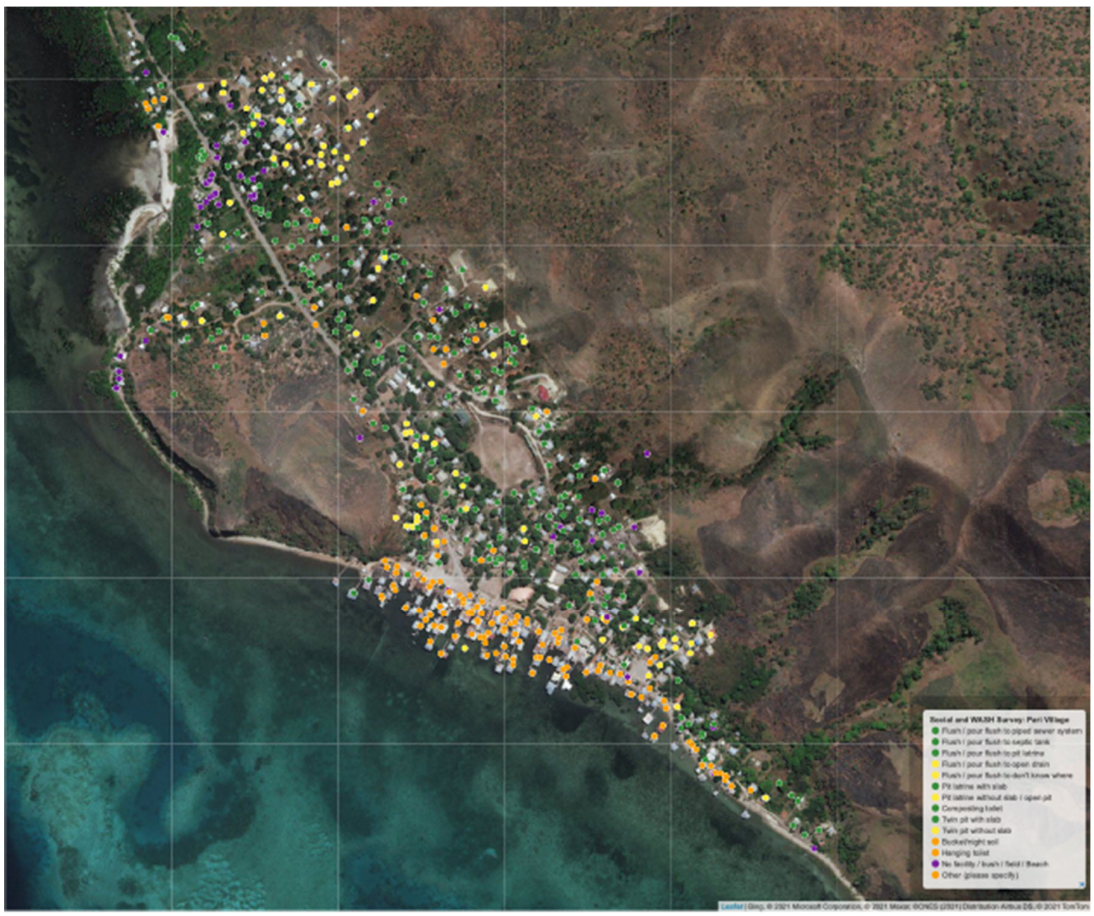
Figure 26 SDG Service Levels – Pari village Sanitation





The location of different types of toilets are shown by map in Figure 27.

Figure 27 Sanitation map of Pari



Safety risks to women and girls when using household toilets is varied, with 53.1% of households saying there were no risks, 41.7% saying there were some risks, and 3.6% of households saying it was very unsafe, with no response from 1.6% of households. Table 11 breaks down the risks by location of toilet, with women and girls being most unsafe when they open defecate and use toilets away from the home.

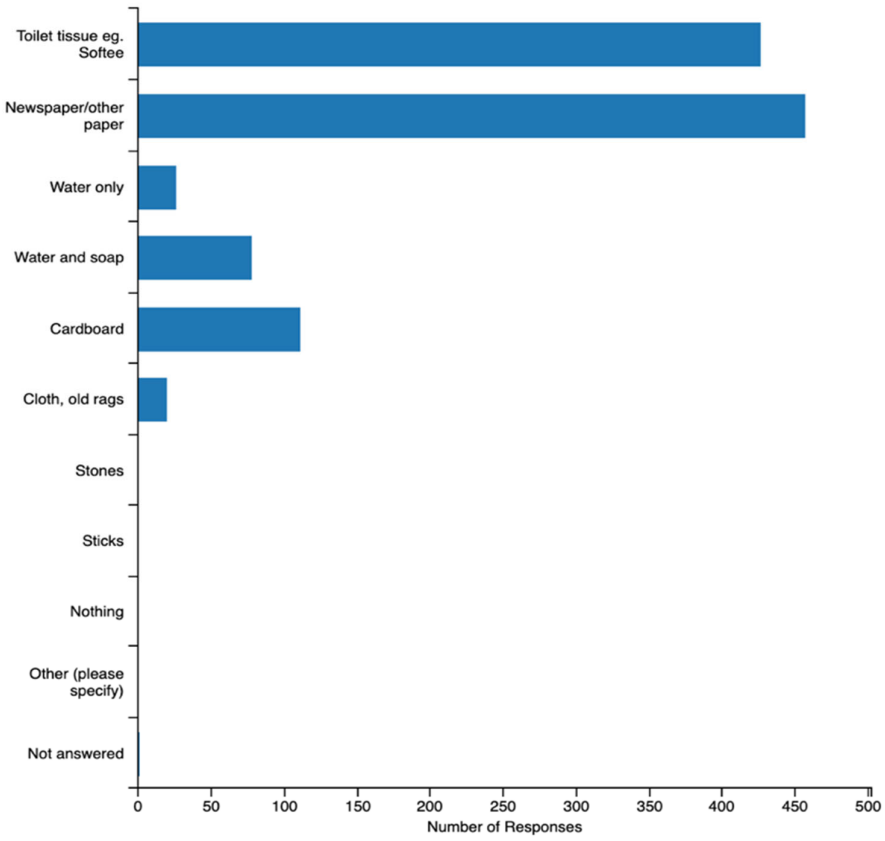
Table 11 Safety risks to women and girls using toilets

	60.7%	38.0%	0.0%	1.3%	100.0%
	56.1%	41.1%	2.3%	0.5%	100.0%
	37.8%	54.9%	4.9%	2.4%	100.0%
	41.7%	33.3%	18.8%	6.2%	100.0%
	53.1%	41.7%	3.6%	1.6%	100.0%

Privacy for women and girls using toilets was high at 85.4% of household toilets, with 13.0% saying there was no privacy, and no response from 1.6% of households.

The most common anal cleansing material was paper such as newspaper, with toilet tissue also popular. (Refer Figure 28)

Figure 28 Anal cleansing material



Only 19% of households with a septic tank or pit had ever emptied it and this was done mostly by householders themselves (90%).

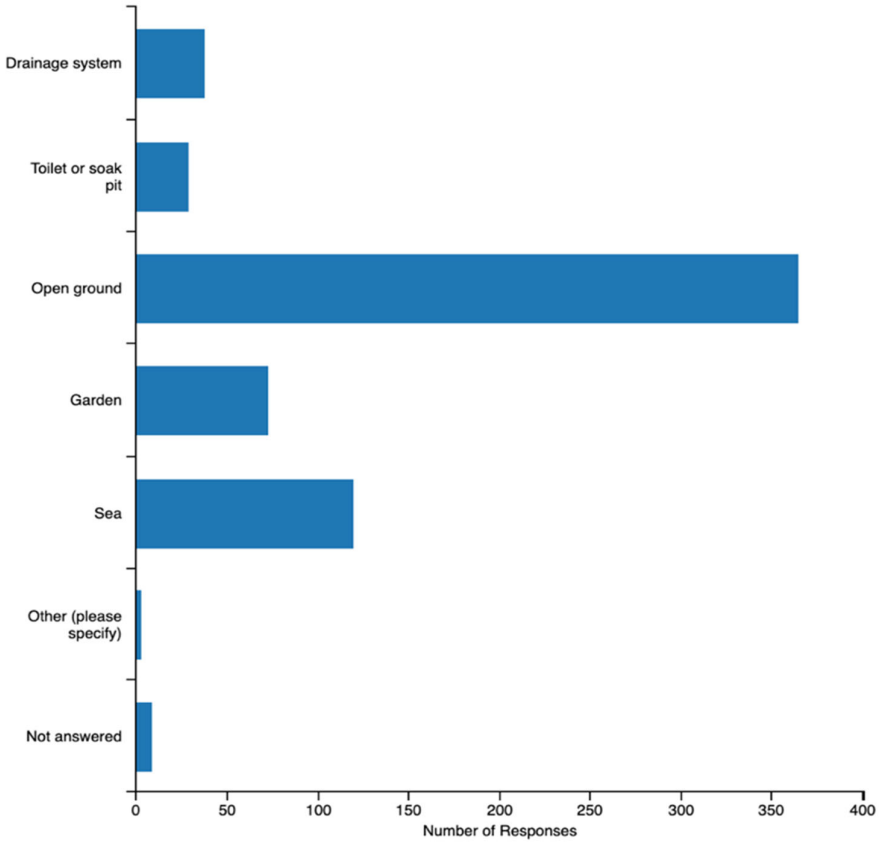
Of those households that did empty their pit toilet or septic tank, most buried the contents in a covered pit (86%), with only a few (5%) using a truck or tanker for removal, and 5% of households disposing of the contents to an uncovered pit, open ground, or water body.

78% of households said they were interested in upgrading their toilet with a further 16% either “maybe” or “don’t know”. However of those who said they were interested in upgrading their toilets, 59% of them said they were very likely to upgrade the toilet within the next 6 months, and 29% were likely.

Flooding of the household yard or entrance of the house had occurred for 29% of all households, although mostly this was occasional flooding (62%), once a year (31%) and more than once a year (7%). 23% of households said that the flooding had caused their toilet to overflow.

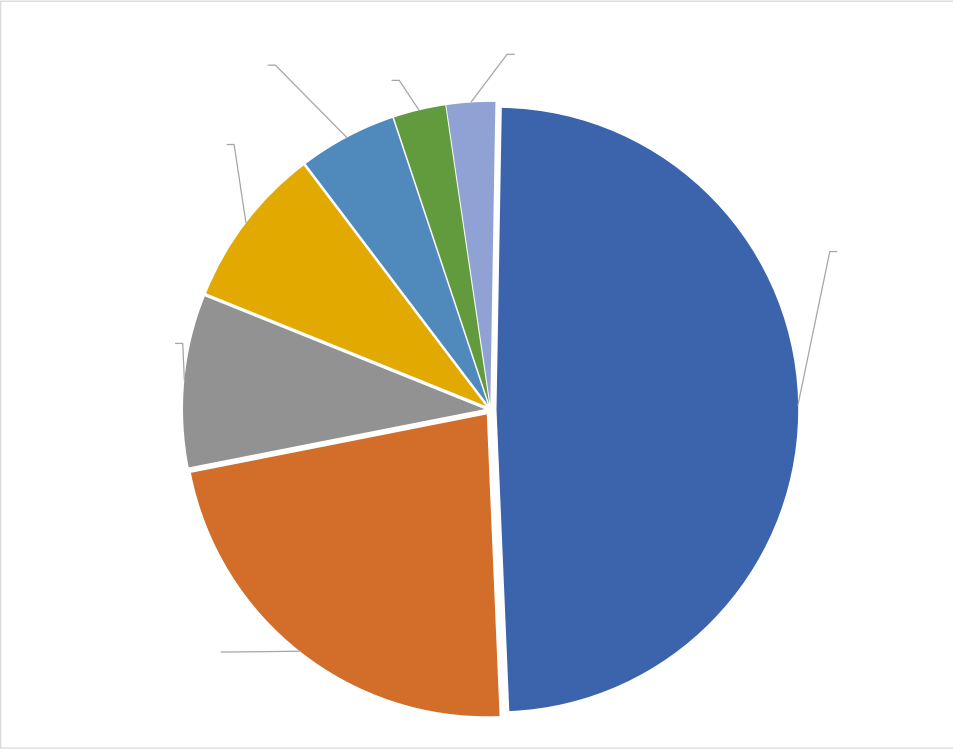
Most wastewater is disposed to open ground, with very little use of drains or soak pits (refer Figure 29).

Figure 29 Disposal of wastewater



A very high proportion of households (80%) were observed to have a handwashing facility – either a fixed facility at the dwelling or the yard or a mobile object (refer Figure 30). Approximately 9% of households had no handwashing facility. The high presence of handwashing facilities may be related to the COVID-19 pandemic and possibly the promotion of handwashing in Pari as part of COVID prevention.

Figure 30 Handwashing facilities



Of the households with a handwashing facility, 66% had water available, and of these 75% also had soap available. In total, 56% of all households had both soap and water available for handwashing.

The handwashing situation for Pari village compared to SDG service levels is shown in Figure 31. Only a small proportion of households have a basic level of service with the majority having a limited handwashing facilities, or none at all.

Figure 31 SDG Service Levels – Pari village Handwashing

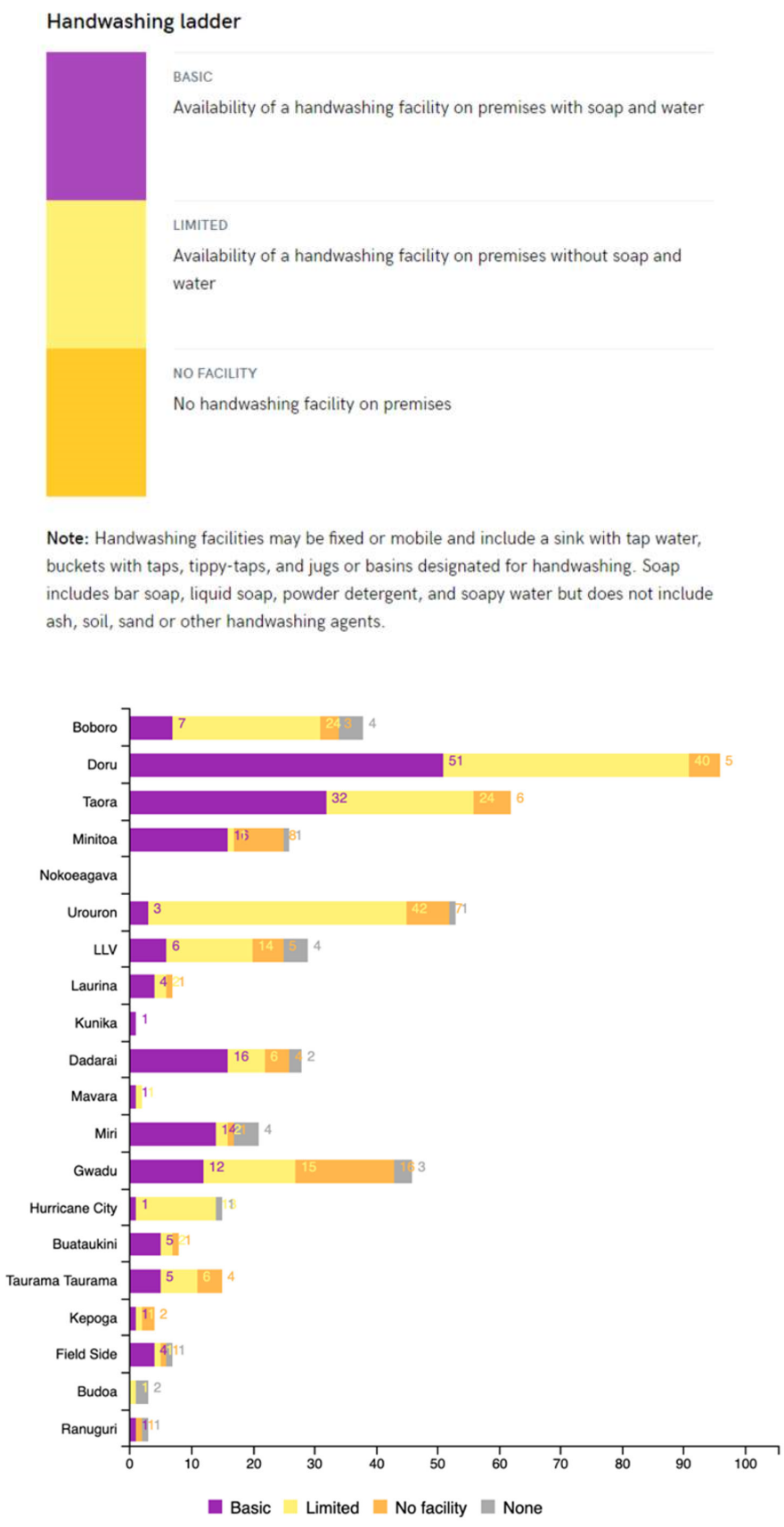


Figure 32 Handwashing facilities - Pari

Handwashing practice seems to be well known, even by young children (refer Figure 32 and Figure 33).

Figure 33 Young children practising handwashing

A very high number of households are buying water (97%). 63% of water is purchased from water boys or informal vendors, 16% from neighbours, and 12% from water source owners (refer Figure 34). Water is purchased everyday (43%) to occasionally (8%) and various frequencies in between (refer Figure 35). For example large storage tanks may be filled weekly, every two weeks, or monthly.

Figure 35 How often water is purchased

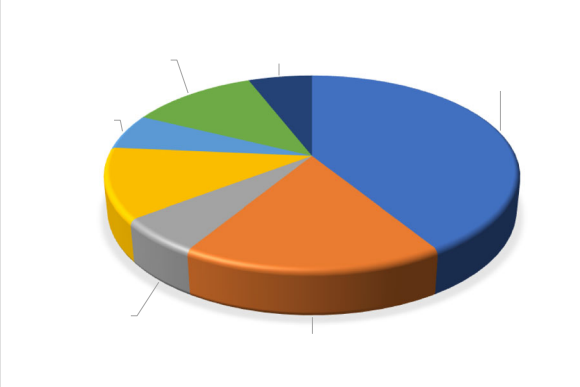
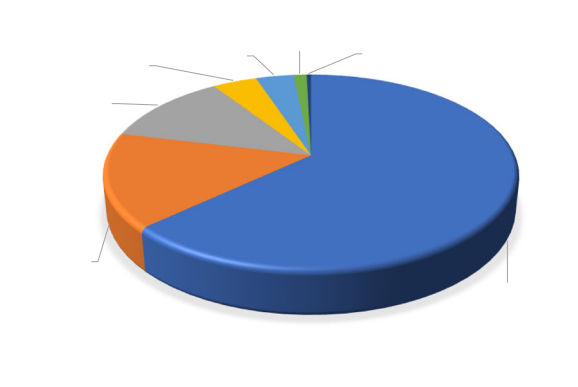


Figure 34 Who water is bought from



Responsibility for buying the water was mainly that of the head of the household (77%), but was a shared responsibility in 10% of households, adult female in 6%, and adult male in 4%.

Water was mostly charged on a per container basis (80.0%), by meter reading 7.6%, a monthly fixed rate for 5.1%, and other methods for 6.9%.

Households are currently paying K2 for 20 litres of water, and up to K450-K500 for 9,000 litres of water. The survey captured the volume of water purchased, frequency and cost. Typical high, medium and low water consumption households are compared and summarized in Table 12. The average volume of water consumed by a household in a month is 7.9 kL although the range varies widely from 36.0 kL (9,000 litres every week) to 0.6 kL (20 litres every day).

For households who said they purchased 9,000 litres every month at a cost of K450-K500 per purchase, this represents their monthly water bill (K500 every month). Households who stated they purchase 5,000 litres every week at a cost of K250 per purchase, are spending around K1,000 on water every month. Even households who purchase just one 20 litre jerry can of water every day are spending K60 every month on water.

Households are currently paying amounts of K2 for 20 litres of water to K450-K500 for 9,000 litres of water. The equivalent tariffs that households are paying for water are calculated in Table 12. Notably, households purchasing the smallest amounts of water are paying the highest rate per kL at K100 per kL of water. This equivalent tariff is 66 times Water PNG's commercial price for domestic customers of K1.50 per kL. By comparison, if MKA were to introduce a tariff of say K5.0 per kL, a 20 litre container would only cost 10 toea to purchase.

Table 12 Actual water costs

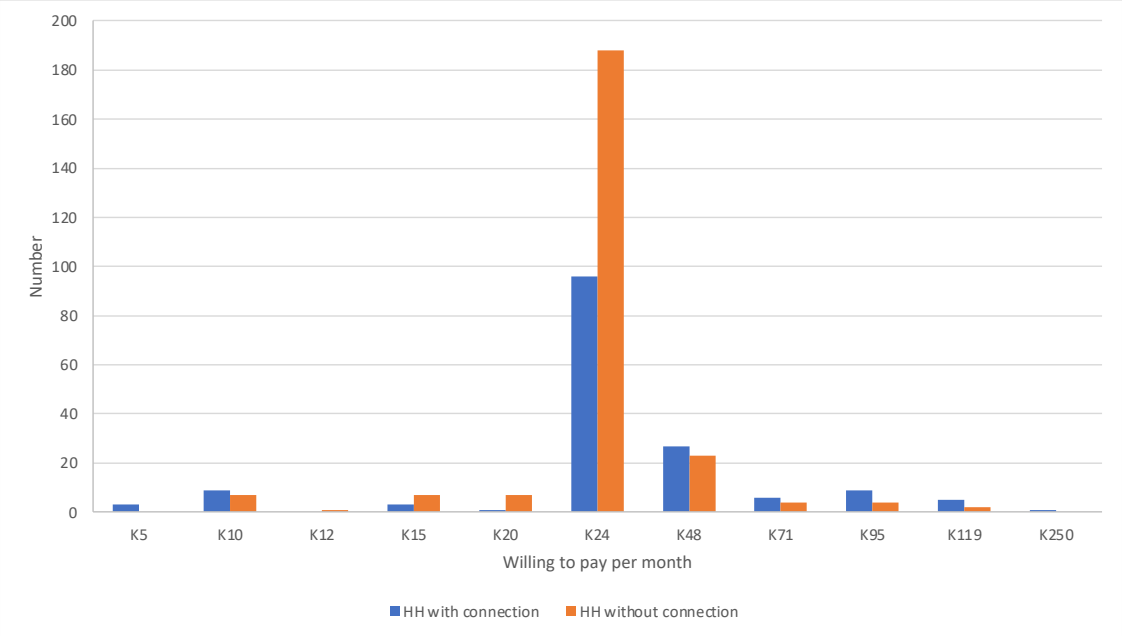
	20.0 kL per month	K1,050 per month	K52.50/kL
	4.0 kL per month	K300 per month	K75.00/kL
	0.6 kL per month	K60 per month	K100.00/kL

Households with an existing connection to piped water and those without a connection were asked whether they were interested in the option of having their own water connection with a meter, water available 24 hours a day, good pressure, clean and safe to drink, and well maintained. Only a few households were not interested in the option with reasons given as not being able to afford the piped water fees, and also they did not think the piped water system would be managed properly.

Households interested in piped water supply were asked to bid on how much they would be willing to pay per month for piped water fees. Values were preselected ranging from K24 to K119, with the option to bid for lower or higher values.

The most common value for both households with and without an existing connection was K24 per month, followed by K48 (refer Figure 36). About 10% of households interested in having piped water could only afford less than K24 per month. The range of values was K5 to K250 per month.

Figure 36 Willingness to pay for piped water



Comparisons of willingness to pay for different services are shown in Table 13.

Table 13 Willingness to pay

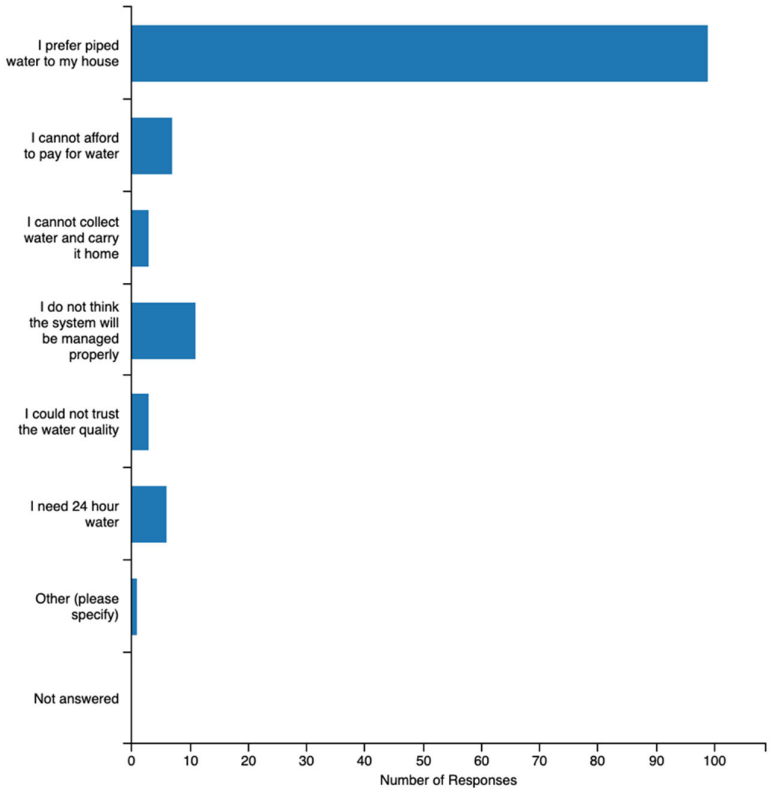
				160	92%	Average: K36 Median K24
Households with own connection (67 households)				65	97%	Average: K38 Median: K24
Households with shared connection with neighbour or clan (106 households)				95	90%	Average: K34 Median: K24
	190	58%	Average: K21 Median: K12	226	69%	Average: K28 Median: K24

Households with an existing connection (both their own connection or shared with others) were asked if they would use the option to have their own water connection with a meter, water available 24 hours a day, good pressure, clean and safe to drink, and maintenance done. 92% of households with a connection to piped water were interested in this option. The average amount they would pay per month was K36 with a median amount of K24.[5] For households who are not connected to piped water, 69% said they would use this option and pay an average of K28 per month and a median price of K24. Households with an existing connection would pay 28% more per month than households currently without a piped water connection.

Non connected households were also asked about their willingness to pay for water from a kiosk. Only 58% were interested in this option. The main reason why households were not interested in this option was that they preferred a piped water connection to their house (refer Figure 37). This suggests that a phased role out of the kiosks might be needed, with clear, formal processes for households to apply for piped water connections (if this is their preferred option).

[5] Set values were offered for the monthly tariff

Figure 37 Reasons for rejecting use of a kiosk



Those who would use a kiosk were willing to pay an average monthly water bill of K21 and a median amount of K24 (refer Table 13).The range of monthly water bills was K5 to K71.

Most households were interested in the option of water delivery from the kiosk for a small fee.

For households without access to piped water, they would be willing to pay a connection fee of K119 on average, with a median amount of K100. The connection fees ranged from K5 to K500.[6]

Willingness to pay is a lot less than what appears to be actually spent on water every month. This could be due to the fact that households are not aware of the total amount that they spend on water in one month, especially if they are making daily purchases.

Mapping of non-connected households interested in kiosks and piped water are shown in Figure 38 and Figure 39.

[6] Where the results stated “under K100” but no bid amount was provided, K50 has been used as a theoretical value.

Figure 38 Non connected households interest in kiosks

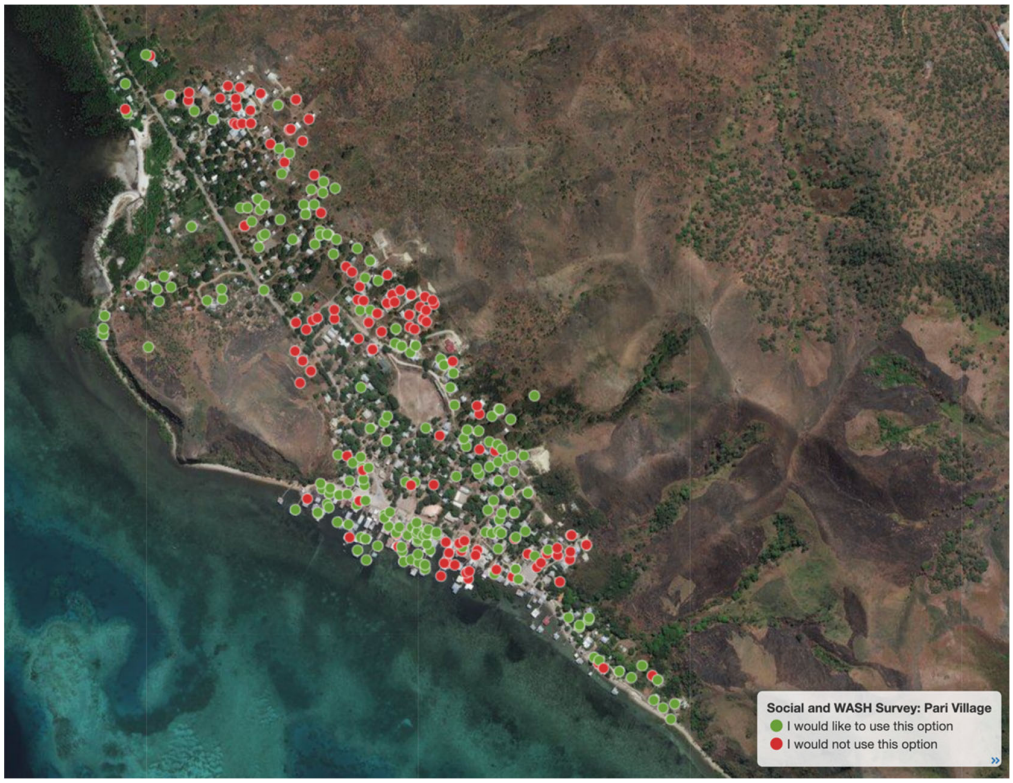
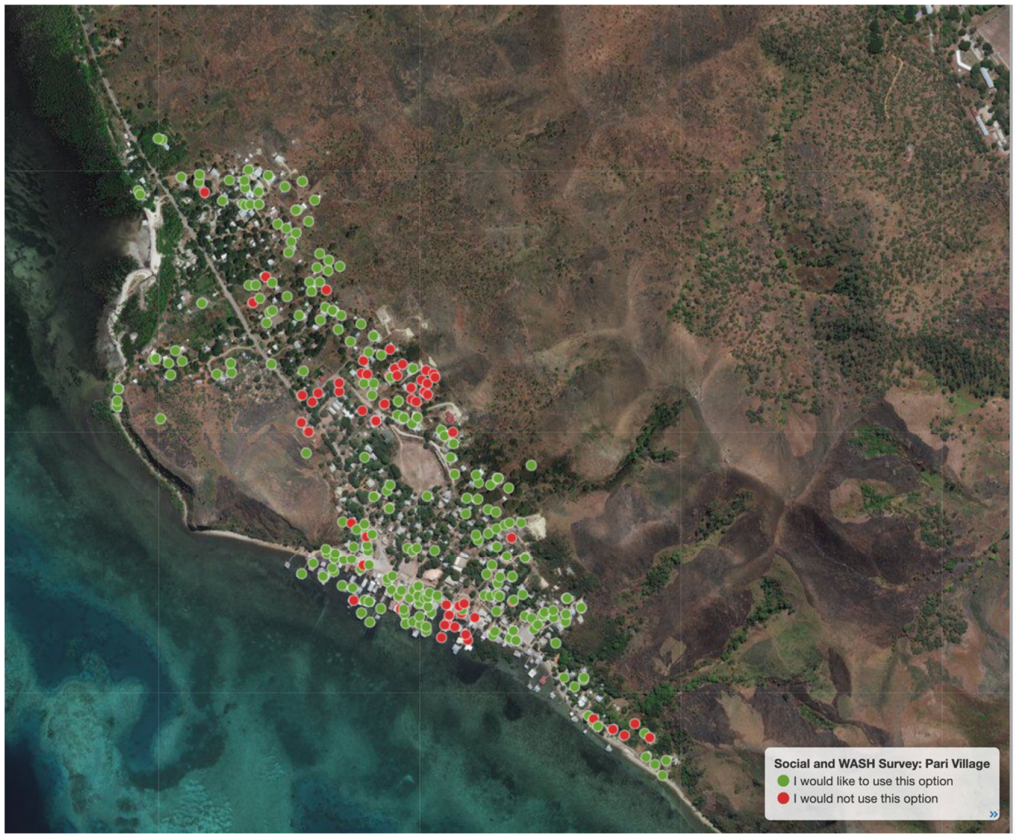


Figure 39 Non-connected households interest in piped water



Annex A: WASH situation in Pari Village

The people in this area live separately but eat together and make decisions together. This arrangement highlights the different household configurations which need to be considered in Pari.

This hardworking mother earns her daily living through selling her unprotected spring water near her yard. The water is used for washing and doing laundry.

The unprotected spring and payment instructions.

This recently dug well (unprotected) is helping a lot of people at Doru (Bethel and Horab). It is mostly used for bathing and laundry.

Appearances are deceptive. Water is collected from this spring and stored in large tuffa tanks and then distributed to taps.

This is the first septic tank toilet built in Pari village. It was built 40 years ago and is still functioning.


Left: An example of a dry pit latrine, which can be used any time.
Right: A septic tank toilet which is only used when the water is flowing.