



**A STUDY ON THE CURRENT IMPROVEMENT ON COMMUNITY ACCESS AND PRACTICES ON WATER, SANITATION AND HYGIENE IN IVEMPI. SETTLEMENT IN ARUA DISTRICT.**

**December 2020**

## Contents

Acknowledgments.....	4
1.0 Background and project Overview.....	12
Project Objective.....	13
Project outcomes .....	13
Intervention Plan .....	13
Objective of the End line Survey.....	13
The Study Design.....	14
The Study Area .....	14
The Sampling Strategy .....	14
Sample Size Determination.....	15
Data Collection.....	15
Household surveys.....	16
Focus Group Discussions.....	16
2.5 Recruitment and Training of Data Collectors.....	16
Quality Assurance and Control .....	17
Validation of Results, Reporting and follow up .....	18
Ethical Considerations.....	18
Key findings.....	19
Source of water for other activities .....	21
Water per capita per zone .....	22
Protected water storage container.....	23

Distance to the nearest water point.....	24
Amount of water collected for HH use. ....	25
Persons who collect water for HHs.....	27
Cleaning water collection container .....	28
Water contamination at Households.....	29
Water treatment.....	30
Presence of soap.....	32
Critical Hand washing moments .....	34
Specific Hand washing station /Device at household.....	35
Sanitation.....	36
Waste management.....	41
Messaging .....	44
Diarrhoea prevalence knowledge and health Behaviour .....	46
Recommendations for the End line. ....	47

### **Acknowledgments**

WMU would like to express its appreciation to UNHCR for assigning us the opportunity to conduct the Base line survey. In addition, we would also want to appreciate whoever participated in the exercise that provides the key milestones to be realized by the project.

To all the beneficiaries of the project and stakeholders, we are greatly indebted for your efforts in ensuring the success of the project and easing the work of the evaluators.

Parameter	Indicator	Zone 1 Baseline findings	Zone 1 End line findings	% point change	Zone 2 Baseline findings	Zone 2 End line Findings	% point change	Zone 3 Baseline findings	Zone 3 End line findings	% point change
Water Quality	Average litres of potable water/per person/per day collected at HH level.	24LP/D	24.1L/P/D	1%	20L/P/D	30L/P/D	10L/P/D	23L/P/D	27L/P/D	4L/P/D
	% HHs with at least 10 L/p protected water storage capacity	72%	89%	17%	63%	98%	35%	39%	96%	57%
Water Access	Maximum distance [m] from household to potable water collection point	320M	375 M	55%	350M	412M	62%	440M	400M	40%
Water Quality	% HHs collecting drinking water from protected/ treated sources	100%	100%	0%	100%	100%	0%	100%	100%	0%
Sanitation	% HHs with family	89%	96%	7%	91%	100%	9%	94%	95%	1%

	latrine/toilet									
	% HHS reporting defecating in a toilet/latrine	89%	97%	8%	91%	99%	8%	94%	100%	6%
	% HHS practicing open defecation . **Include s defecating in the bush at night.	11%	1%	10%	9%	0%	9%	6%	2.3%	3%
	% HHS having access to a bathing facility	76%	93%	11%	92%	99%	7%	73%	100%	27%
Hygiene	% HHS with access to soap	94%	99%	5%	80%	100%	20%	92%	100%	8%
	% HHS with access to a specific hand-	64%	88%	24%	88%	96%	8%	81%	91%	10%

	washing device									
	% respondents knowing at least 3 critical moments when to wash hands	90%	88	2%	97%	90%	7%	96%	94%	2%
Solid Waste	% HHs with access to solid waste disposal facility	65%	84%	19%	75%	86%	11%	76%	90%	14%

**These programme indicators are common to UNHCR WASH projects.**

Parameter	Indicator
Water supply	<p>There is a close similarity in both the End line and Baseline where both reports show that 99% of surveyed households reported public tap stands to be their principle source of drinking compared to 1% who reported Hand pumps. There is no water trucking in Imvepi refugee settlement. Public tap stand are more distributed in the settlement as compared to the hand pumps(Bore holes)</p> <p>The End line survey shows 89% Adult females are responsible for fetching water as compared to 88.3% results of the Base line study. Child (11 – 18 ) years (6.3%) and 4 % Adult males, are responsible for water collection. The burden of water collection has increased to Adult females according to the End line findings. Most HHs are within 395 meters (10 minutes’ walk distance) and 93% HHs use jerrycans for water storage.</p>



	<p>Average litres of potable water collected / per person / day stands at zone 1 -24.1 l/p/d, zone 2 - 30 l/p/d, and zone 3 - 27 l/p/d. Imvepi settlement beats the UNHCR sphere standards which is at 20 l/p/d.</p> <p>94 % HHs reported to be with at least 10 L/p protected water storage capacity, zone 3 reported to have the lowest with 89%. There is a great improvement in HHs with the way they protect their water storage containers.</p> <p>(25%) of respondents reported to be cleaning their water containers at least once week, (73%) every time they use them while 2% say clean their containers at least once a month. There's an improvement according to the End line findings of 25% of HHs cleaning their jerrycans every time they use them.</p>
Water treatment	<p>79% of respondents reported not to treat their drinking water. 4 % boil their water as a way of treatment, 17% let the water stand and settle before drinking. Most systems have chlorinators and the water produced is chlorinated.</p> <p>75% of respondents' fingers didn't touch the water during the observation of water removing from the storage container, 10% touched the water while 15% poured the water during the observation. More sensitization has to be made to the 10% who are</p>

	<p>contaminating their water storage. This clearly shows that HHs are knowledgeable about the two cup system</p>
<p>Sanitation</p>	<p>Over 28% children below 5 years practise Open defecation, 54% use HH latrines, 25% use plastic potties.</p> <p>Only 4% of adults still practise open defecation with reasons stated that latrine too dark at night.</p> <p>92% of HHs use a single household facility while 6% use shared facilities and the remaining 2% use communal latrines. 68% HHs use bricks for latrine construction, 14% use metal, 8% use wood, while 10% use plastic sheeting for their latrine construction.</p> <p>(72%) HH latrines provide privacy to HH members while (28%) don't provide privacy to the HH members for reasons like missing locks, or semi – permanent door.</p> <p>(80.3%) of HHs reported to have designated bathing facilities while (19.7%) don't have designated bathing facilities.</p>

	<p>(72%) of respondents reported to be observing presence of mosquitoes, (10%) respondents said they observed Cockroaches, (8%) reported to be observing 6% flies while (4% )did not observe any vectors.</p>
<p>Waste management.</p>	<p>(86%) of respondents reported that they have solid waste disposal facilities.</p> <p>( 87.3%) dispose off in HH pits, (12.7%) designated areas.</p>
<p>Hygiene</p>	<p>Respondent reported the key times when they wash their hands with soap (94%) before eating, (97%) after defecation, and (76%) before cooking.</p> <p>The other important hand washing moments yet ignored and less practised are:- (54%) before breast feeding, (17%) after handling baby faeces, (23%) before feeding children.</p> <p>Hand washing with water is an adopted practise (77%), and in the absence of soap, respondents opt for the following (98%) Ash. Reasons as why HHs don't have soap are:- (2 %) ran out of soap.</p> <p>With observation, (77.6%) respondents had HWF, (22.3%) didn't have HWF while (58.6%) had water in the HWF, (41.3 %) didn't have water in those HWF, (52.6%) didn't have soap next to the HWF while (47.4%) had soap placed near the HWF.</p>

Health and hygiene message	<p>(71%) of surveyed HHs have access to Hygiene and Health messages.</p> <p>Of the households reported that most effective way of receiving hygiene messages, the sampled households cited (71.3%) Home visits from CHWs, followed by 23.3% community meetings, (4.3% ) FGDs and lastly (1.6% ) radio.</p>
Diarrhoea prevalence knowledge and health seeking behaviour	<p>Diarrheal cases were reported by (3.6%) amongst children below 5 years. While (22%) of house hold cited diarrheal cases amongst adults.</p> <p>Households reported that the most common methods used to prevent diarrhoea with citing 81% ` hand washing with soap, 88% cook food well, 79% boil or treat drinking water</p>

### **Background and project Overview**

Over the past two years, more than a million South Sudanese refugees have escaped to Uganda, fleeing the violence of civil war and famine in their home country. But their fight for survival doesn't end when they arrive. Due to the overwhelming influx of people, Uganda's infrastructure can't provide enough access to safe water for refugees and their local host communities. And without an understanding of healthy sanitation

and hygiene practices, deadly waterborne illnesses can spread quickly. The United Nations has declared this refugee crisis the largest in Africa, and the need is both urgent and enormous.

### **Project Objective**

To increase the average access to potable water to 20 l/p/d.

### **Project outcomes**

Outcome 1: Increased per capita water consumption from 16 l/p/d to 20 l/p/d.

Outcome 2: improved sanitation facilities according to SPHERE standards on appropriate use and regular maintenance of facilities and hand washing.

### **Intervention Plan**

**A) Sector:** The proposed project focused mainly on WaSH sector

**B) # Of Individual targeted:** 63,929

**C) Geographic Area:** The project implemented in district of Arua (Ivempi)entailing all the 3 zones.

### **Objective of the End line Survey**

The main objective of the End line study is "to analyze the impacts of the project intervention by comparing the data with the set project indicators.

### **The Study Design**

A mix of both quantitative and qualitative techniques was adopted in the End line study. Quantitative data was collected through household surveys. Qualitative data was collected through structured key informant interviews and focus group discussions. These were moderated using discussion guidelines. The data collection tools (household survey and discussion guides) were developed using information generated through review of key project proposal and the monitoring and evaluation plan and other key documents.

The quantitative data collection tools were leveraged on smartphones with Global Positioning System (GPS) facility enabled to support geo-referencing of survey locations and spatial analysis.

### **The Study Area**

The quantitative data collection was restricted to zone 1, zone 2, and zone 3, On the other hand, qualitative data was obtained from both the project area but also from relevant authorities in Arua District particularly Ivempi, In addition, RWCs and other key stakeholders that work within the settlement were be considered.

### **The Sampling Strategy**

The Proportionate Sampling Technique designed by Taro Yamane (1967) was adopted for the End line survey. This was based on the household numbers from the refugee and host communities. Probabilistic and non-probabilistic methods were then be used to sample the key respondents at household level. Therefore, the household numbers for each community were obtained to facilitate scientific determination of the sample size. Simple random sampling technique were adopted to select individual households for interviews.

### Sample Size Determination

The following formula by Taro Yamane (1967) were applied to determine the sample size. This were based on the 2014 National census and Office of Prime Minister (OPM) Refugee Information Management (RIMs) population to determine the sample of the End line study and the Plan of action.

$$n = N / 1 + Ne^2$$

Where;

n = Sample Size

N = Population size (number of households from)

e = Confidence interval (0.05).

In summary, overall sample size is **382** individuals from the refugee settlement community at **95%** level of confidence and **5%** margin of error.

### Data Collection

A blend of several data collection methods were used. This is aimed at triangulating and authenticating the data collected as indicated in the study design. These were able to overcome the intrinsic biases that emerge as a result of application of a single method. The following are key data collection methods that were employed in the end line study.

### **Household surveys**

A semi-structured quantitative household survey tool was self-administered by a team of competent enumerators. The tools were pre-tested before the actual administration in the data collection exercise. Pre-testing facilitated fine-tuning the tools to ensure relevance, consistency, completeness and coherency of all questions in the tool.

### **Focus Group Discussions**

FGDs was conducted with selected participants. This helped to authenticate the quantitative data on the key project indicators. Purposive sampling technique was used to determine the number of focus group discussions to be conducted. This was based on the fact that; the targeted groups were able to provide an in-depth information that provided a comprehensive understanding of the indicator status. In particular, FGDs targeted WUC, Refugee Welfare Council members, each FGD constituted of 10-12 participants for easy moderation and management.

### **2.5 Recruitment and Training of Data Collectors**

The project recruited data enumerators with previous research experience and the ability to speak the local dialects. Translation with cushion of transcription errors were considered since the Southern Sudan dialects are diverse. 10 interviewers for quantitative data were recruited. The project also recruited an addition of 2 Research Assistants well versed in qualitative data to conduct focus group discussions while the WMU M&E staff conducted the key informant interviews.

Enumerators in particular were trained in data collection techniques, mastery of the data collection tools before field data collection exercise. During the training, the field team was also be briefed on the objectives of the End line, how to identify the appropriate respondents at various levels and how to fill in the



questionnaire appropriately. Emphasis was put on research ethics, accuracy, completeness and the importance of rapport, dress code in data collection.

### **Quality Assurance and Control**

Quality control is a process that was insured right from recruitment of competent enumerators, training, pretest, back stopping and close supervision. In this particular review, it was achieved through the following;

- Competent Data enumerators were carefully selected and preference for enumerators that had previous research experience in mixed research methodology (qualitative and quantitative research)
- A one-day comprehensive training was conducted to orient the enumerators of the data collection tools.
- A pre-test was conducted to evaluate the enumerators comprehension of the both the qualitative and quantitative tools and correction done prior to commencement of the actual data collection. The pre-test determined the average number of questionnaires that could be done in a day without constraining the data.
- The M&E Officer supervised the data enumerators throughout the entire fieldwork period
- The research team kept notebooks to record any events and were encouraged to take photos that seemed important in the interpretation of the findings.

- The team conducted daily de-briefing among the research team. The errors found were discussed with the Research Assistants before proceeding to do more field work activities the next day. This procedure helped to effectively identify mistakes during recording of responses and rectify the mistakes.

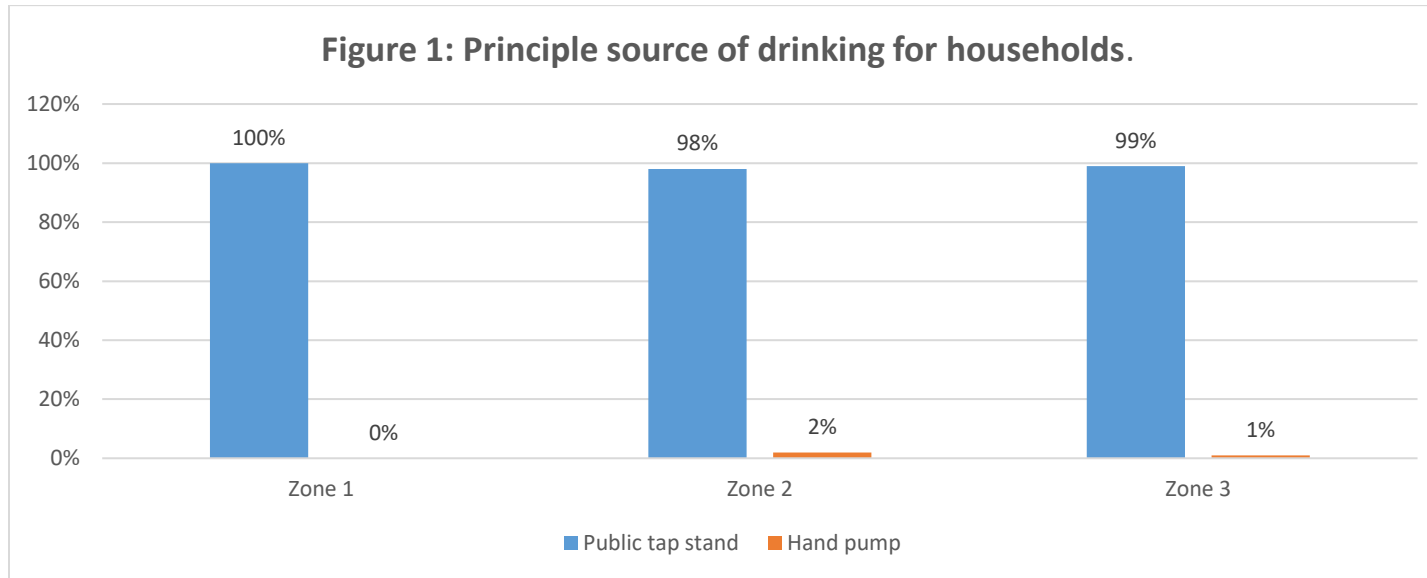
#### **Validation of Results, Reporting and follow up**

Data triangulation and validation is an integral part of the exercise and therefore the Initial findings were contained in the draft report and under the guidance of the M&E Officer. The team used the feedback provided in the compilation of the final report.

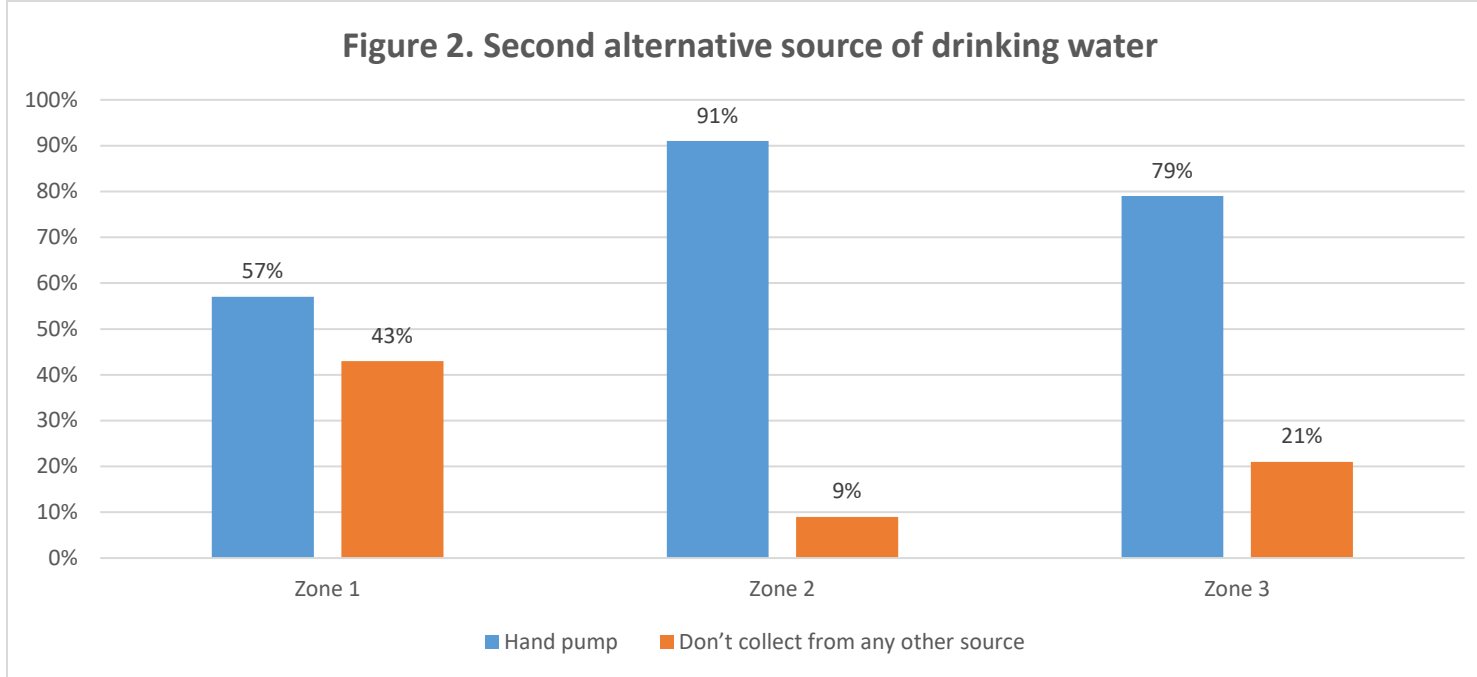
#### **Ethical Considerations**

Participation in this End line exercise was voluntary and a consent form that was signed by the respondent. Although, respondents/participants were encouraged to participate, they were free to turn down the invitation if they so wish. All information collected was treated as confidential and was used for its intended purpose only.

**Key findings**

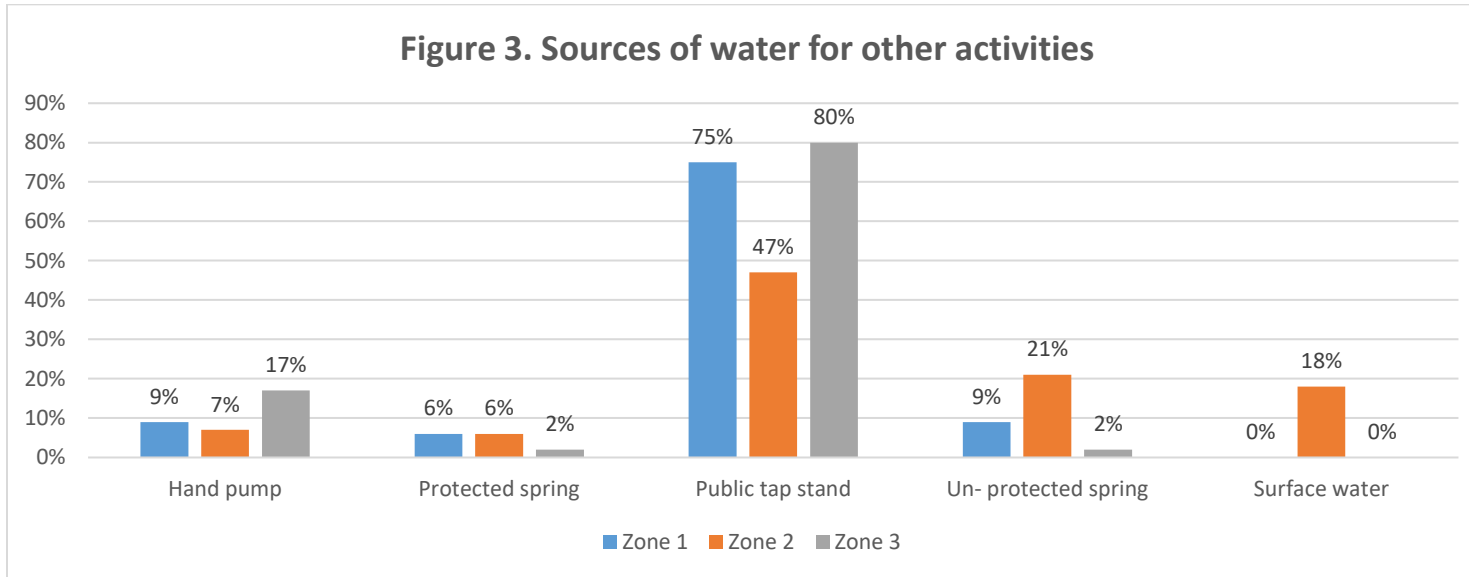


The principle source of drinking water most commonly used by all respondents across the 3 zones from the above figure 1 is (99%) Public tap stand as it is clearly shown. Many partners motorized high yielding bore holes and ground water potential is generally high in Ivempi settlement.



(75.6%) average findings showed that respondents cited that the second alternative to public tap stands was bore holes / hand pumps as clearly indicated above. Reasons for their choice is that Bore holes / hand pumps are more reliable since their water is always available and that they neither depend on solar or fuel in order to pump their water. Zone 1 (57%), zone 2 (91%) and zone 3(79%).

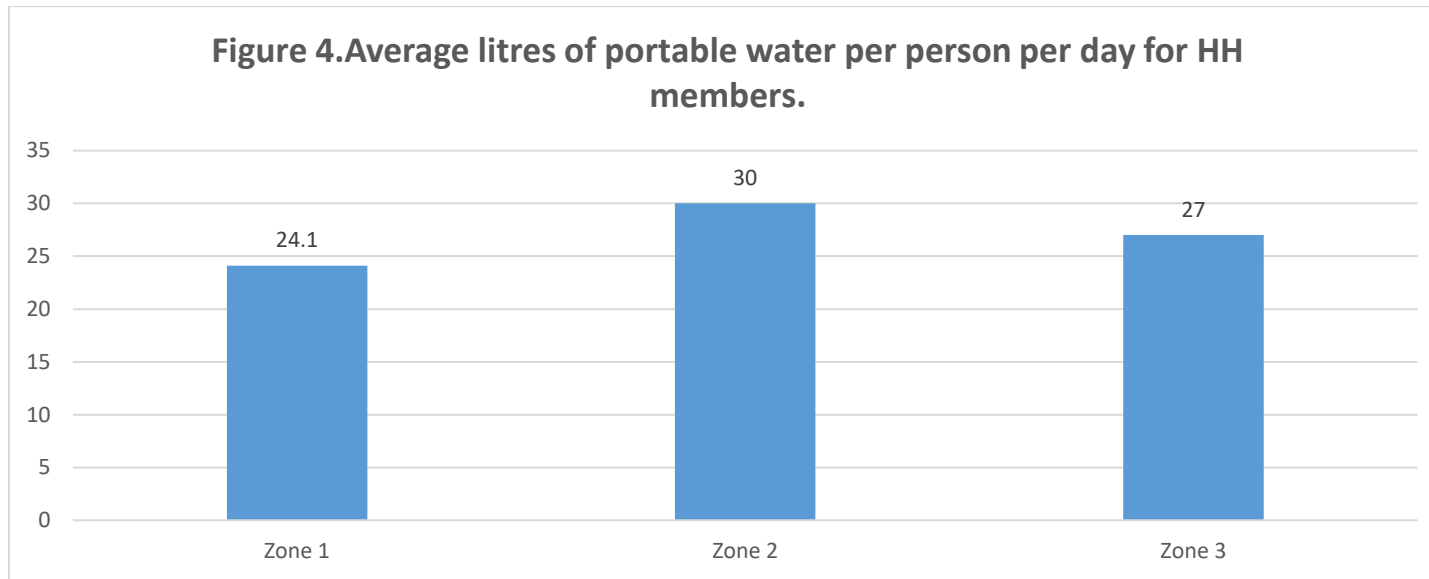
### Source of water for other activities



Survey findings revealed that HHs use Hand pumps and Public tap stands as their sources of water for other activities like gardening and brick laying. This because the protected sources are more accessible.

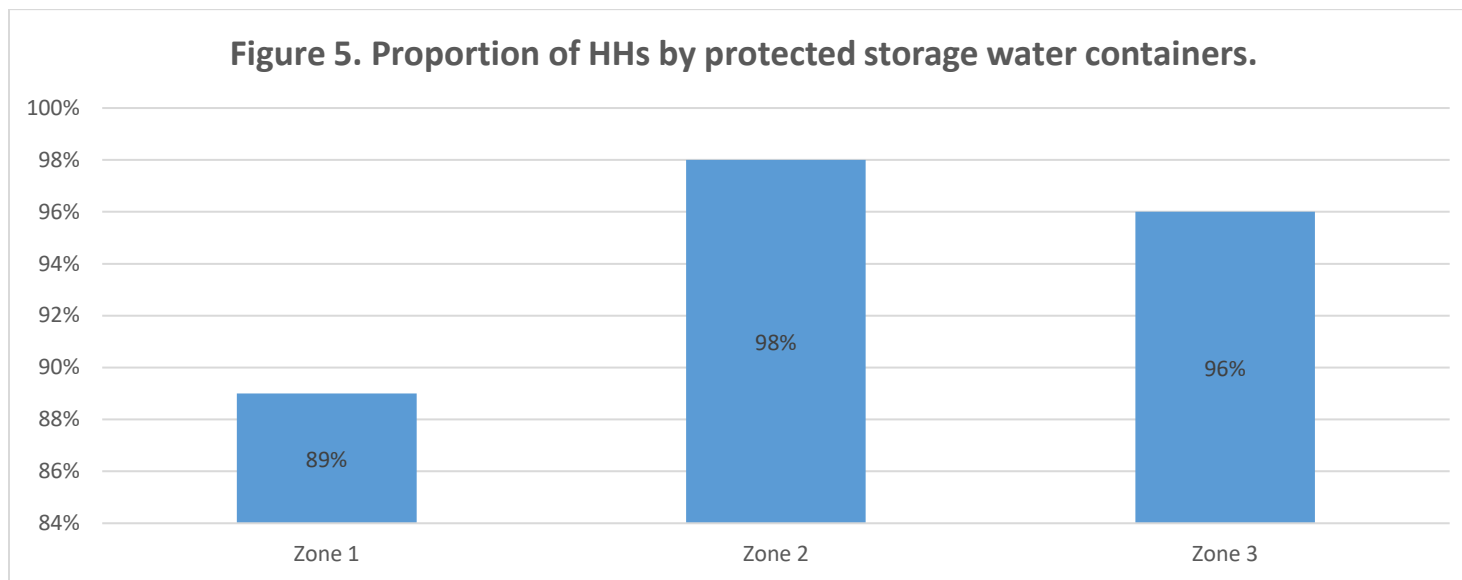
It further indicates that the protected sources for domestic drinking water are being encroached on for other activities. On average Hand pump (11%), Public tap stand (67.3%), protected spring (4.6%), and (9%). The tap stand water source preference for other activities were recorded as: - Zone 1 (75%), zone 2 (47 %) and zone 3 (80%).

### Water per capita per zone



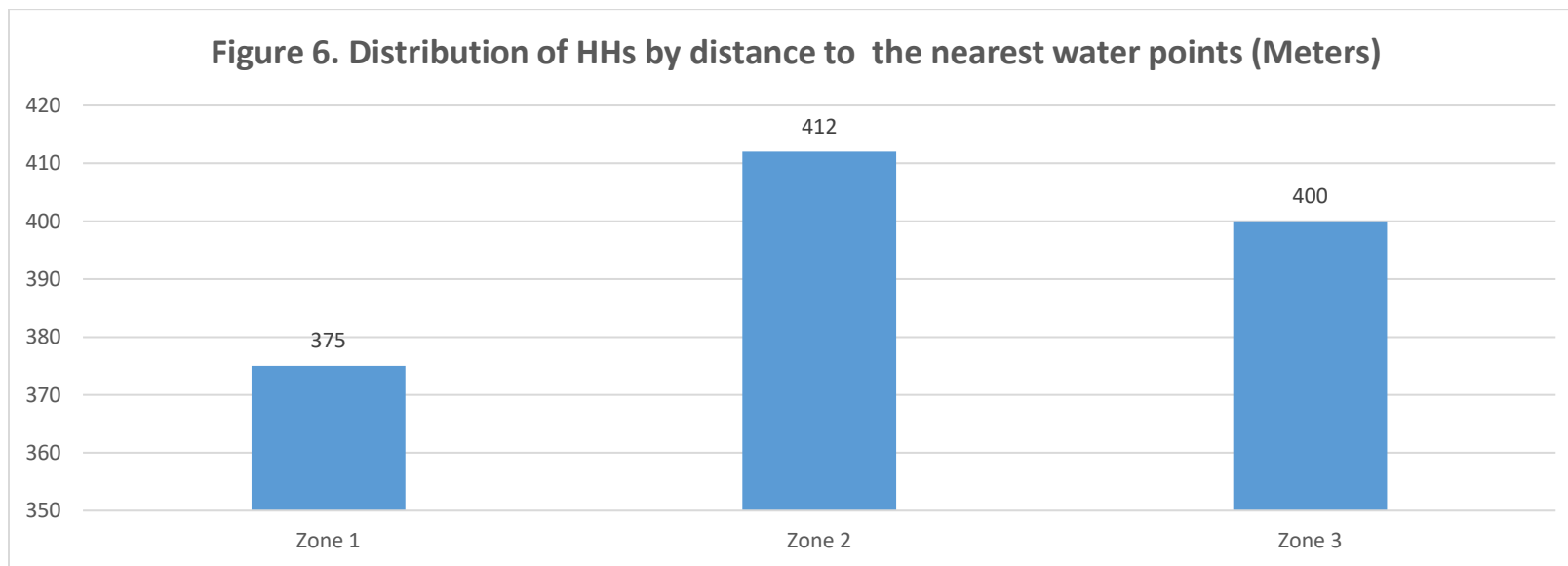
From the findings, the average liters of portable water for HHs is 27 l/p/d. zone 1 at 24.1 l/p/d, zone 2 at 30 l/p/d and zone 3 at 27 l/p/d. Imvepi settlement beats the UNHCR standard sphere of 20 l/p/d. The Increase in portable water in zone 2 is particularly on the partners that were under reporting. Imvepi is naturally gifted with water since its water levels are low.

### Protected water storage container



On inspection by the survey Enumerators, (94%) average HHs at least had 10 liters per day covered their storage water containers. zone 1 (89%), zone 2 (98%) and zone 3 (96%). This is a good indication that HHs have learnt the importance of covering (protecting) drinking water containers.

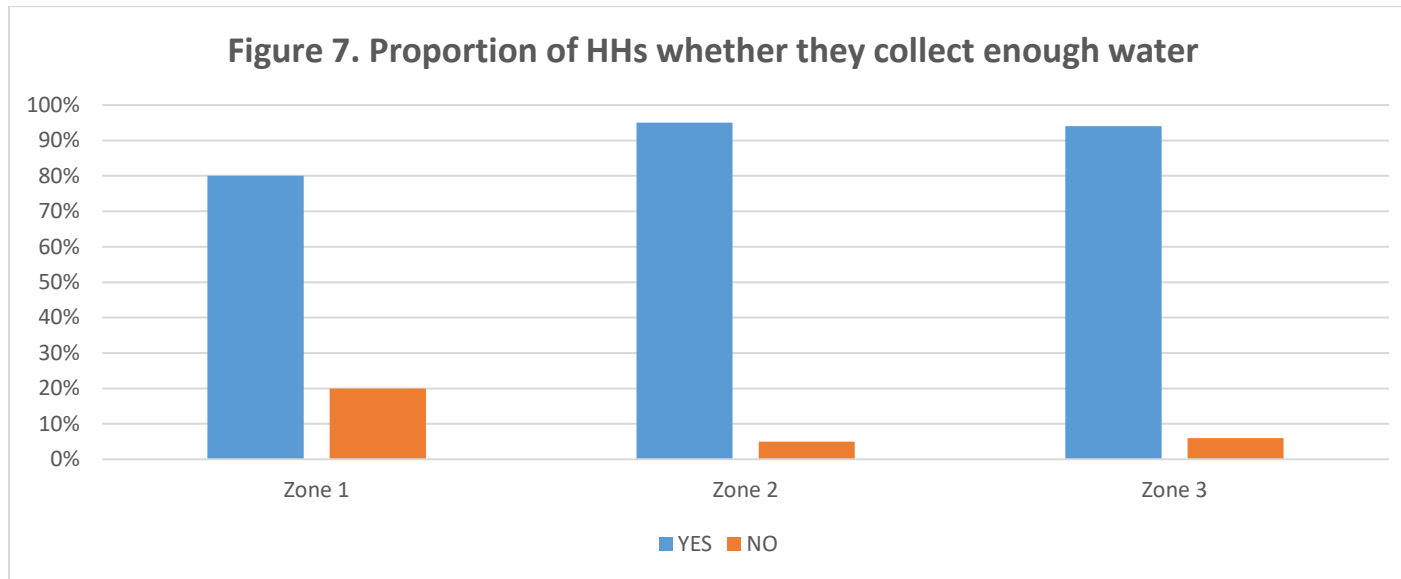
### Distance to the nearest water point



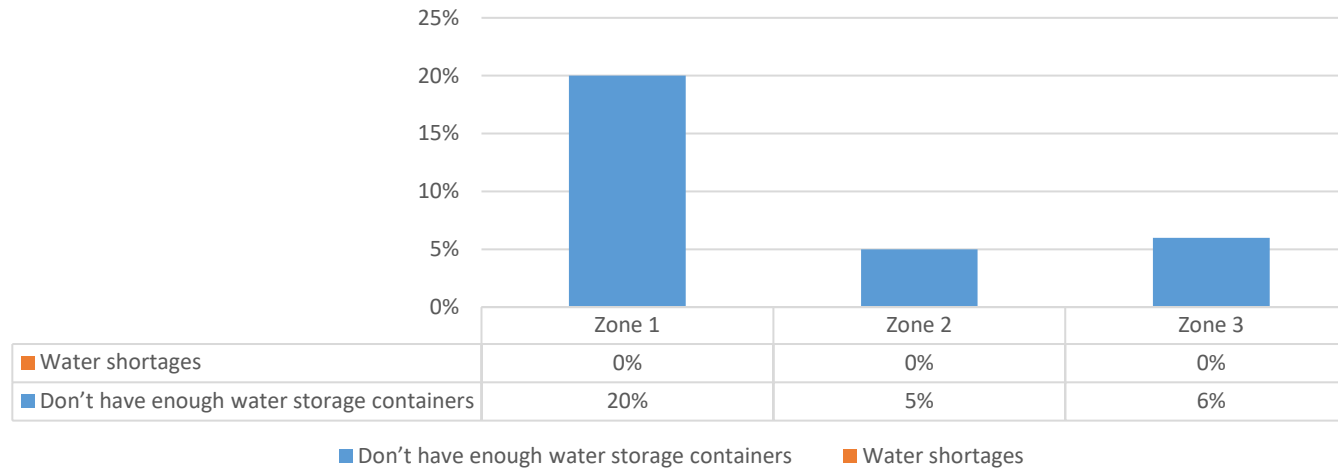
Findings show that the average walking distance to the nearest water point is 395m. Zone 2 HHs walk for 412 meters which is understandable since zone 3 has sparsely dispersed water points. Zone 1 HHs walk for 375 m, zone 2 - 3412m m and zone 3- 400m. The findings further revealed that water points are within reach of the PoCs. No HH walks beyond 15 minutes to get water



**Amount of water collected for HH use.**



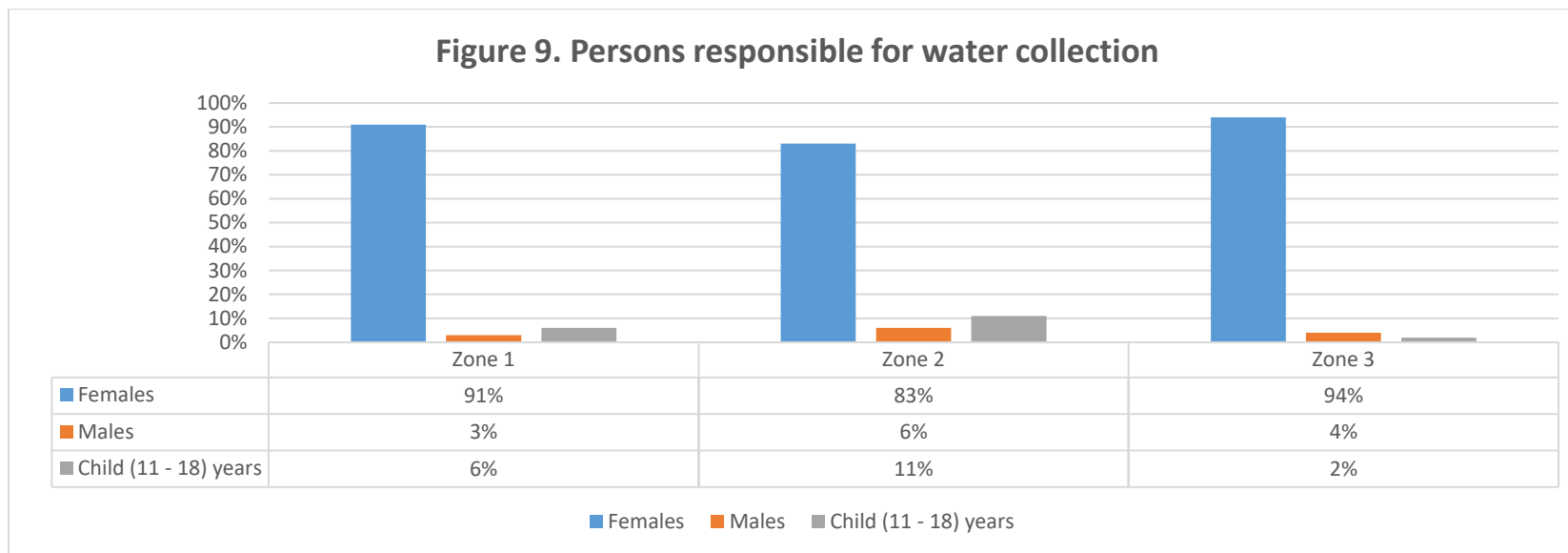
**Figure 8. Reasons why HHs dont collect enough water.**



The survey also sought to know as to why HHs don't collect enough water to meet their domestic needs. Only 10% of HHs don't have enough storage containers. Zone 1 having the least water storage containers. There's a great improvement of (44%) as compared to the Baseline findings. The need for distribution of water storage containers to the PoC.

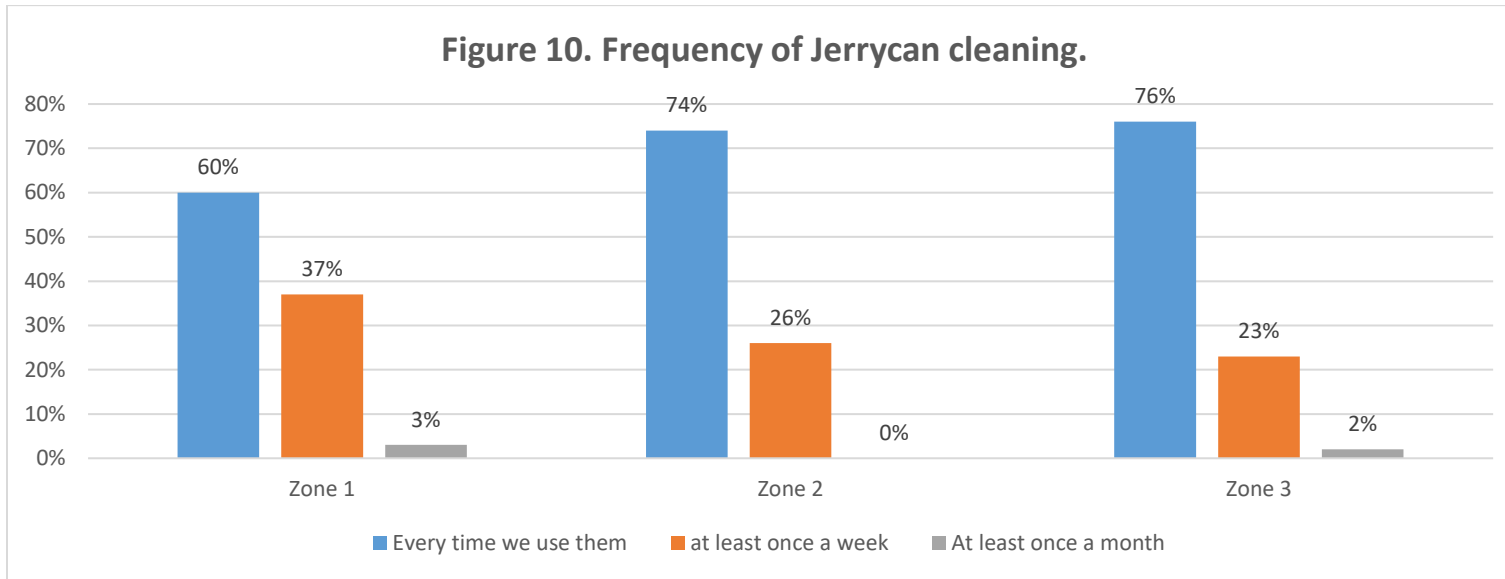
WMU has ensured that issues related with water supply are reduced in the settlement. Issues like water shortages, limited volume and water points being too far. During the baseline survey, some HHs were citing that the reasons for less water collection were associated with water supply which WMU has ensured that are no longer the reasons for less water collection.

**Persons who collect water for HHs.**



On who usually collects water for HHs ( 89%) of adult females are responsible for collecting domestic (6.3%) of children (11 - 18) years also participate in water collection for HHs, while (4%) adult males take part in water collection at a smaller percentage. Further with the FGD held, the burden of water collection lies on women with just a few exceptions of men who give a helping hand. The children aged (11 – 18) are just learning from their mothers.

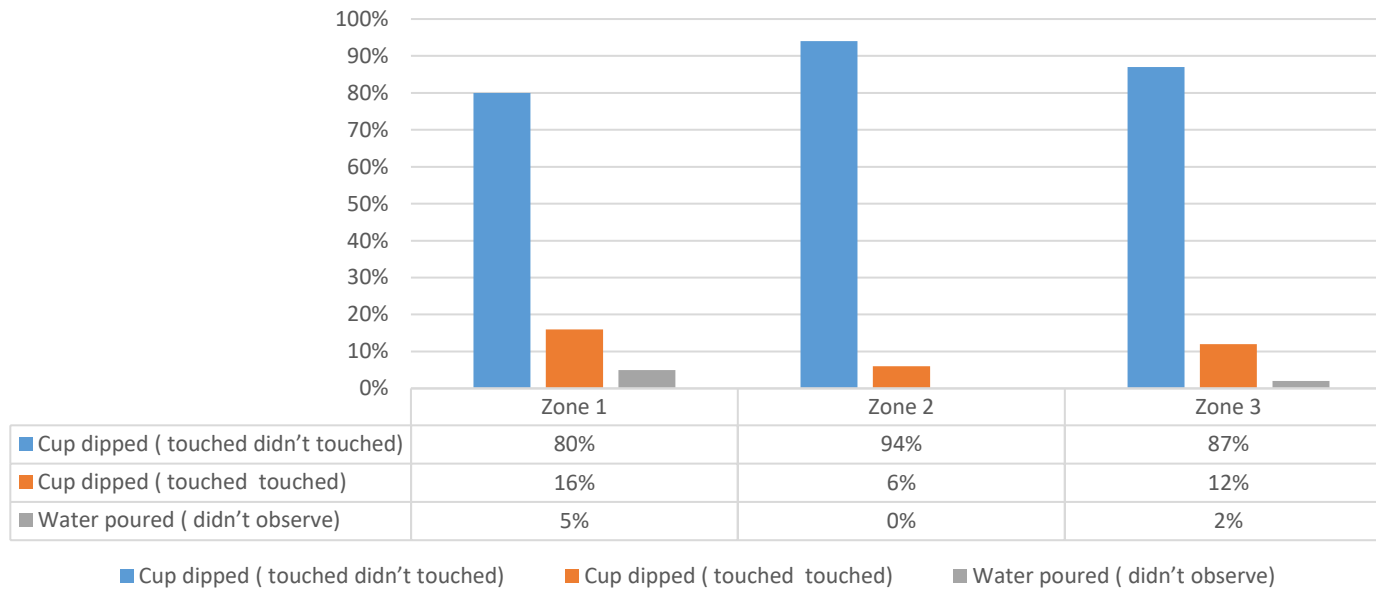
**Cleaning water collection container**



From figure 10 above, (28.3%) of respondents clean their water at least once a week, (70%) clean their water containers every time they use them and (1.6%) clean their water containers at least once a month. There’s an improvement in Jerrycan cleaning of 8% of HHs who cited cleaning their jerrycans every time they use them. Zone 2 (74%) had the most respondents that clean their water storage containers every time they use them. Zone 1 (60%) and lastly zone 3 (76%).

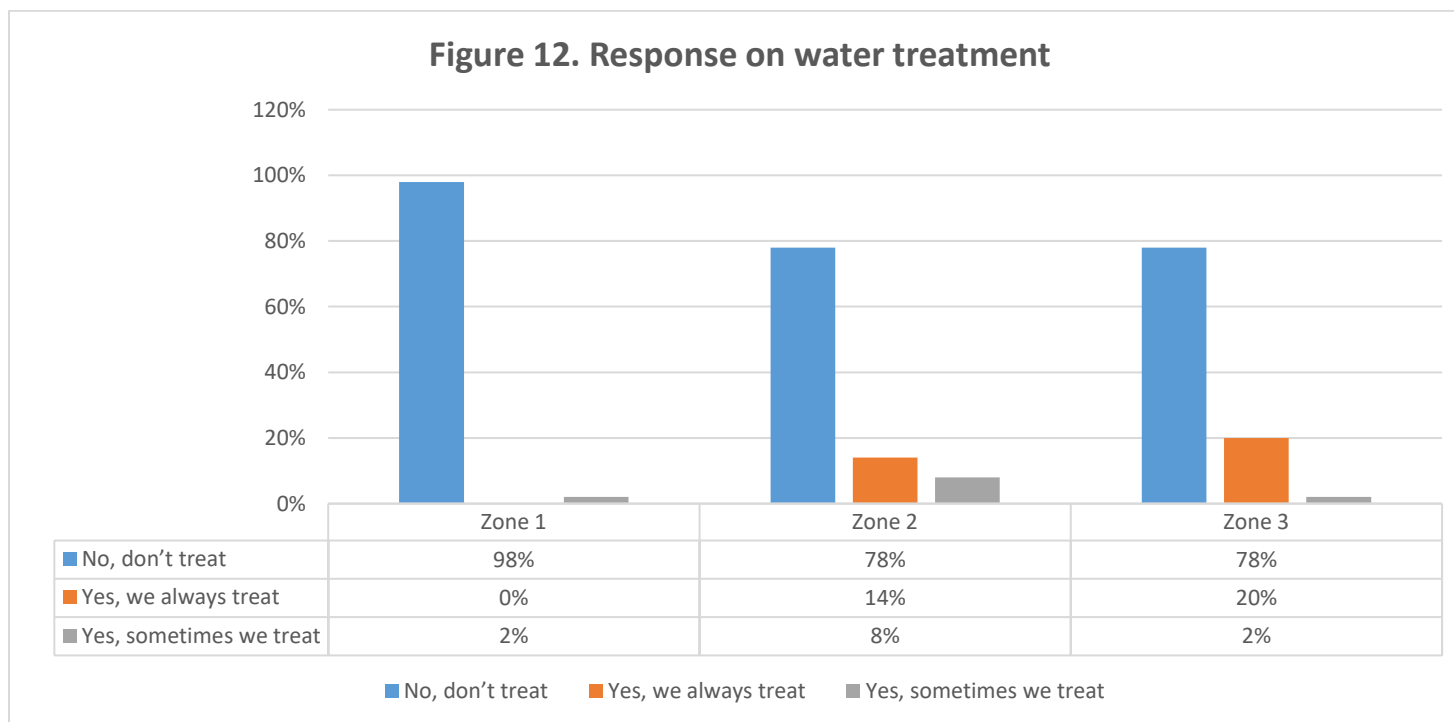
### Water contamination at Households

**Figure 11. How respondents remove water from storage water containers**



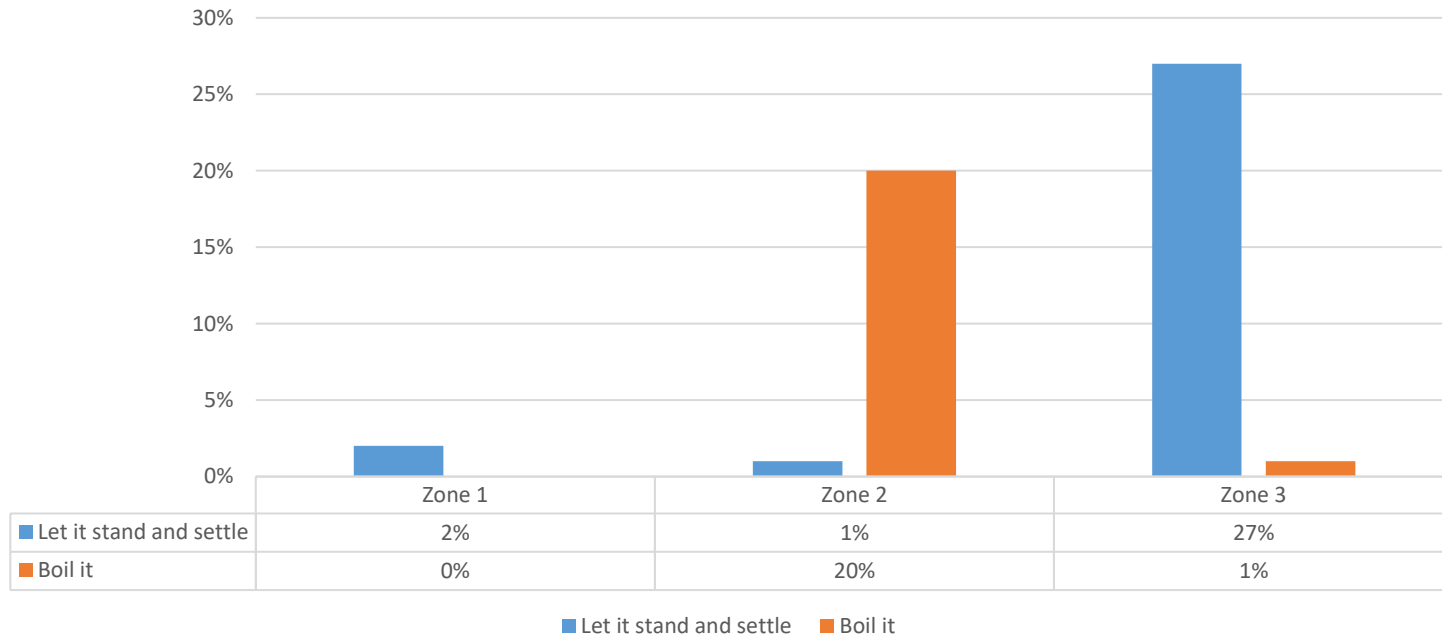
Further findings from research indicated that (87%) of HHs are observing the two cup system which eliminates water contamination. (10%) did not observe the two cup system while (2.3%) respondents either didn't participant or water poured.

## Water treatment

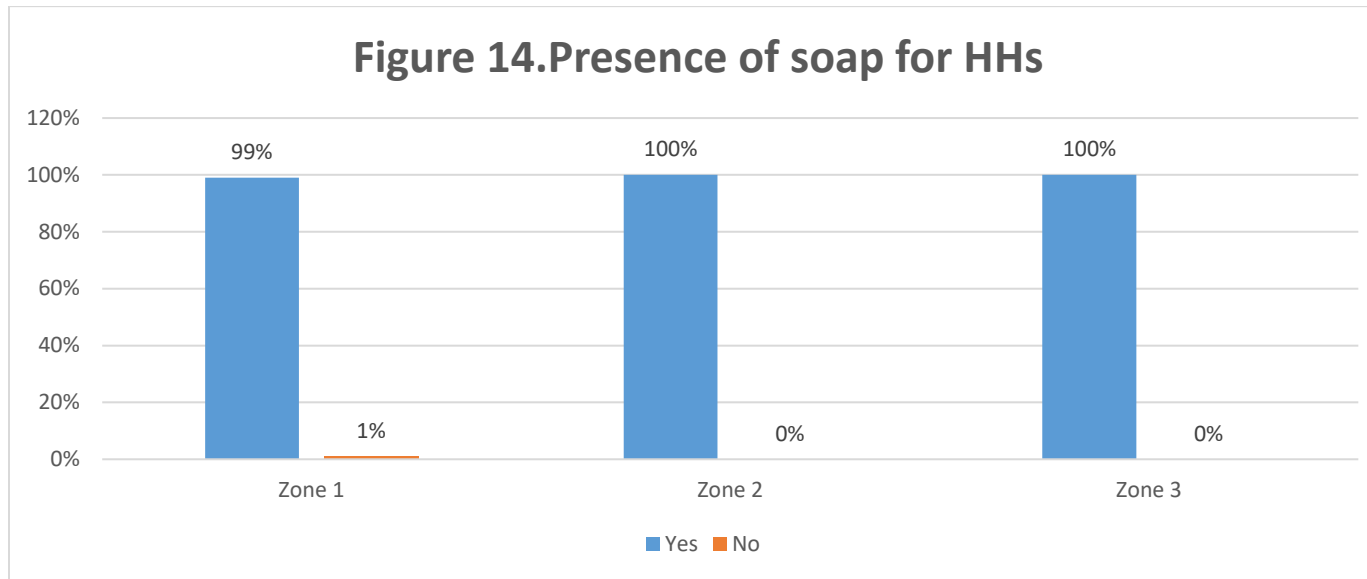


Survey findings show that (84%) do not treat their drinking water. This is because they get water from protected water sources. Findings showed that zone 1 has the highest number of HHs that don't treat with (98%) while zone 2&3 (78%) has the least HHs that cited not treating their drinking water. (11.3%) reported that sometimes they treat water before drinking, while (4%) reported that they always treat their water before drinking.

**Figure 13. Methods of water treatment at HHs**



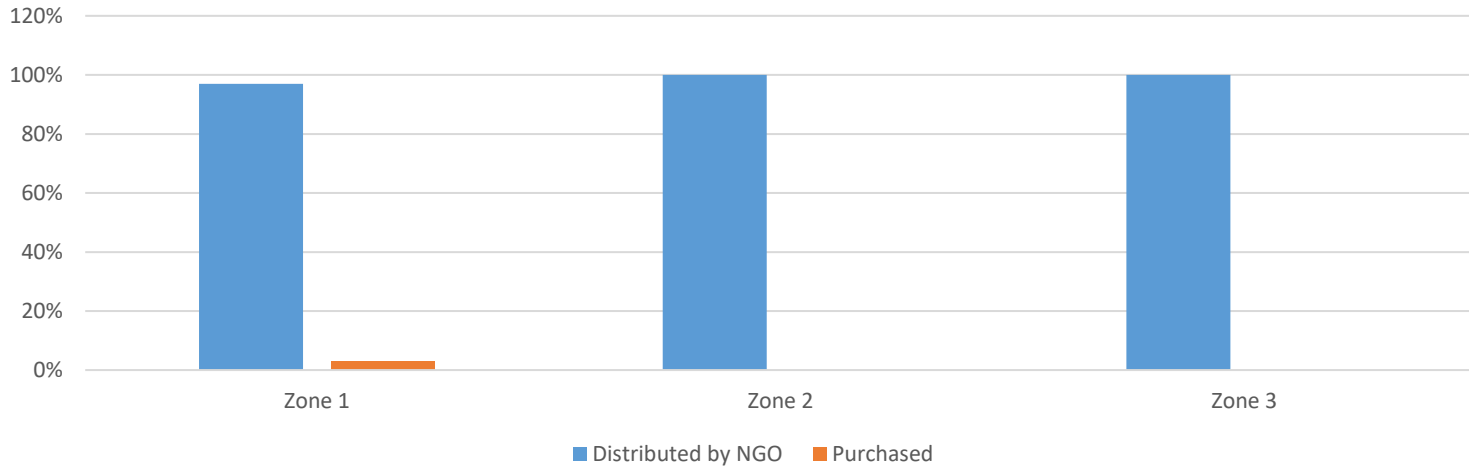
With water treatment, (12%) mostly boil their water as a method of water treatment. Zone 2 having the most HHs that boil their water with (10%). According to findings, Zone 1 hardly uses any water treatment methods. Zone 3 has the biggest HHs that treatment their water.



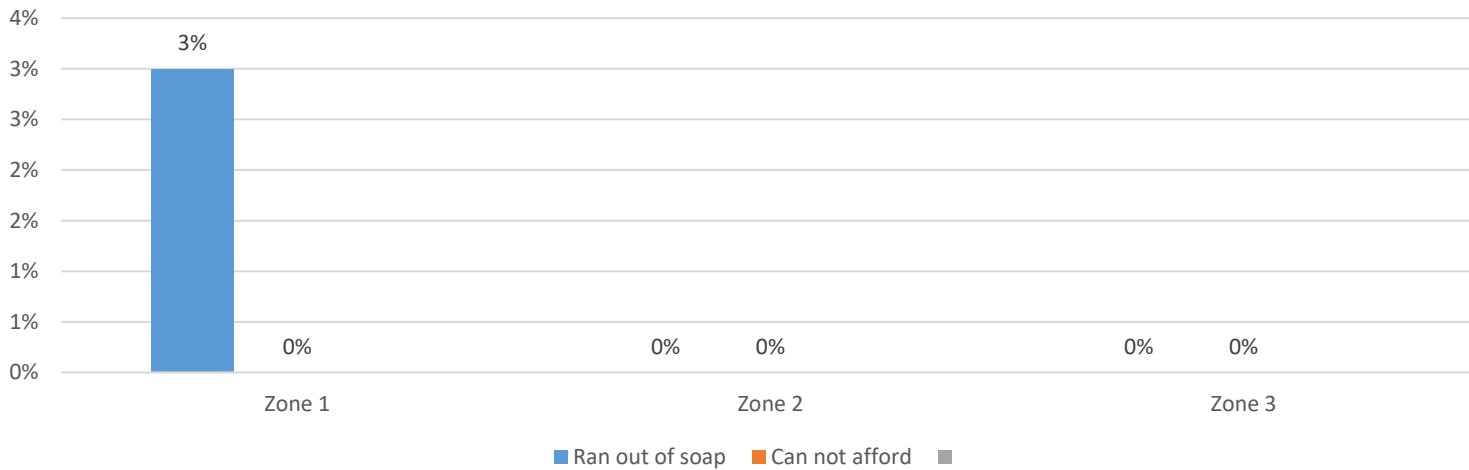
Survey showed that ( 99%) had soap zone 1 (99%), zone 2 (100%) and zone 3 (100%). The reason for the soap increase amongst HHs is because of the ongoing soap distribution to stop the spread of COVID 19



**Figure 15. Where HHs get soap**



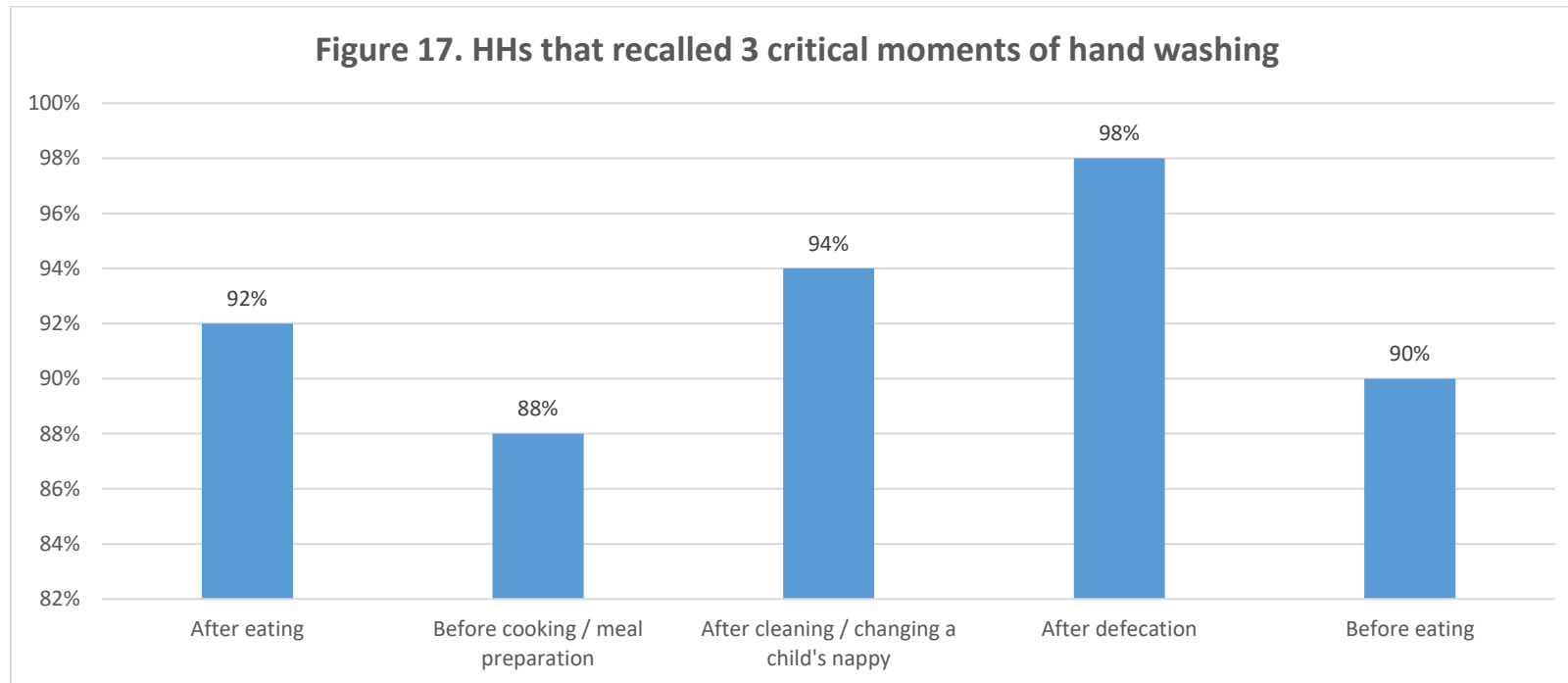
**Figure 16. Reasons as why HHs dont have soap.**



The reasons for HHs not soap was (3%) had run out of soap. Zone 1&2 HHs both had soap during the observation.

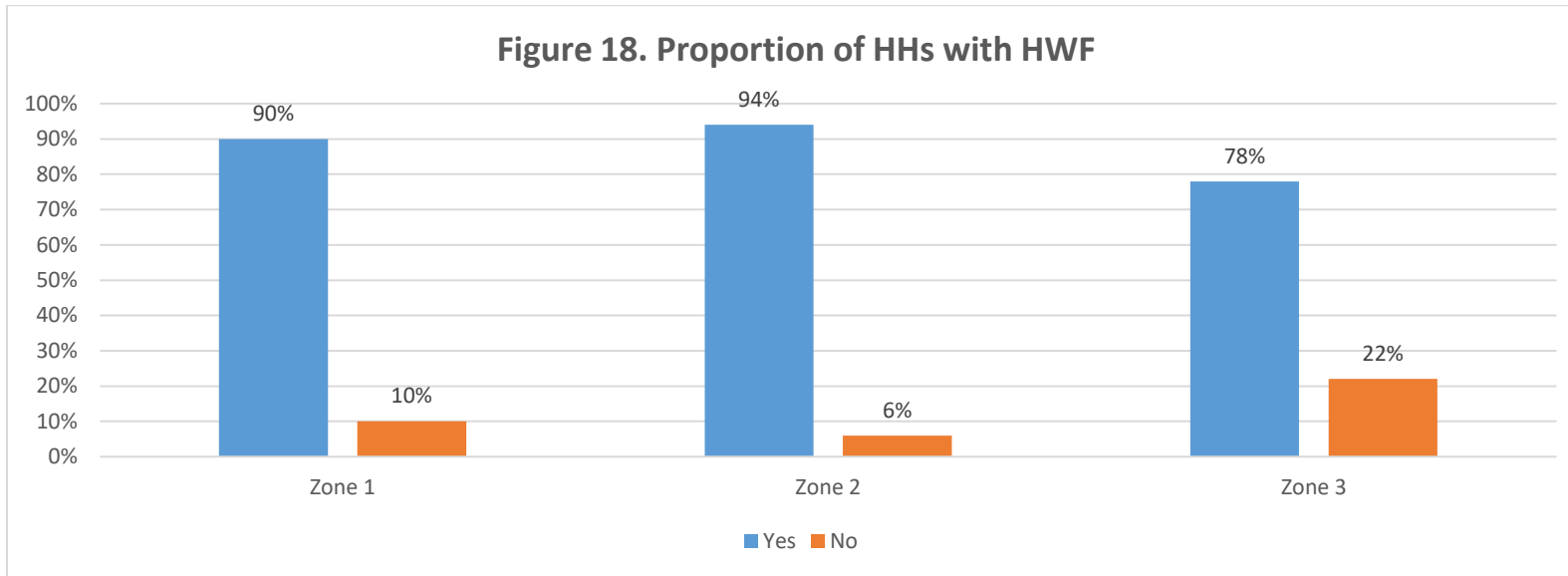
### Critical Hand washing moments

One of the most critical hygiene behaviors which prevents diarrheal diseases is that of washing with soap or ash at the 5 critical moments throughout the day.



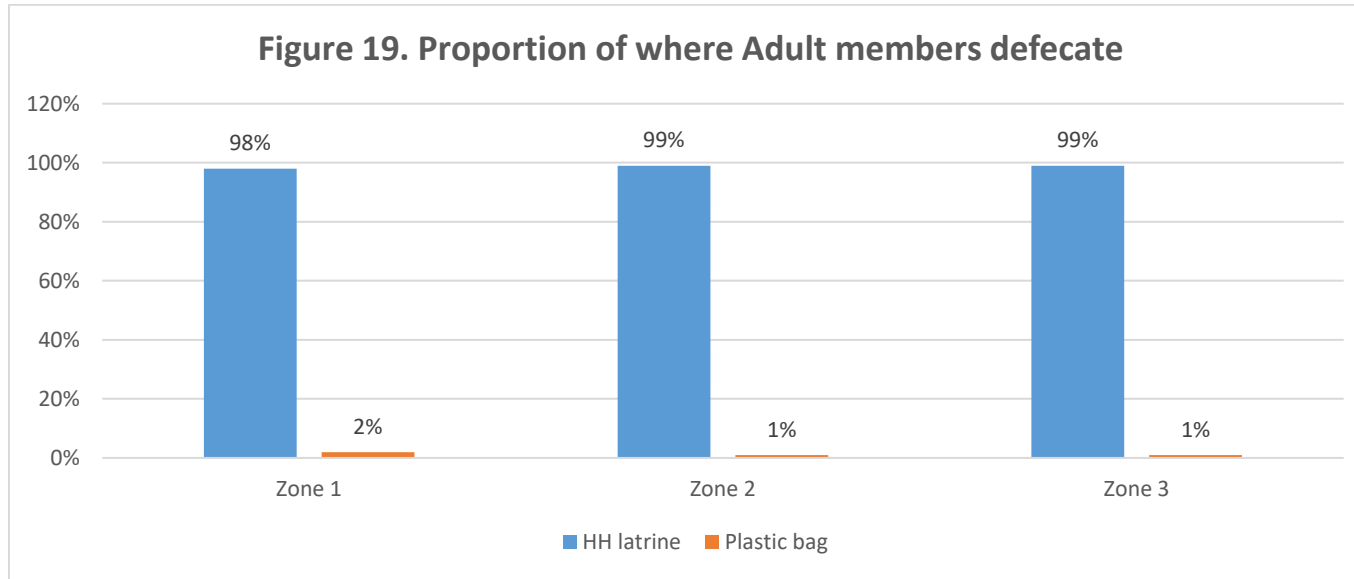
From figure 17 above, the most mentioned time for hand washing was (98%) after defecation, (92%) Before eating, After cleaning / changing a child's nappy (94%) Before cooking (90%). Most HHs were in position to mention the 3 critical hand washing moments.

**Specific Hand washing station /Device at household.**



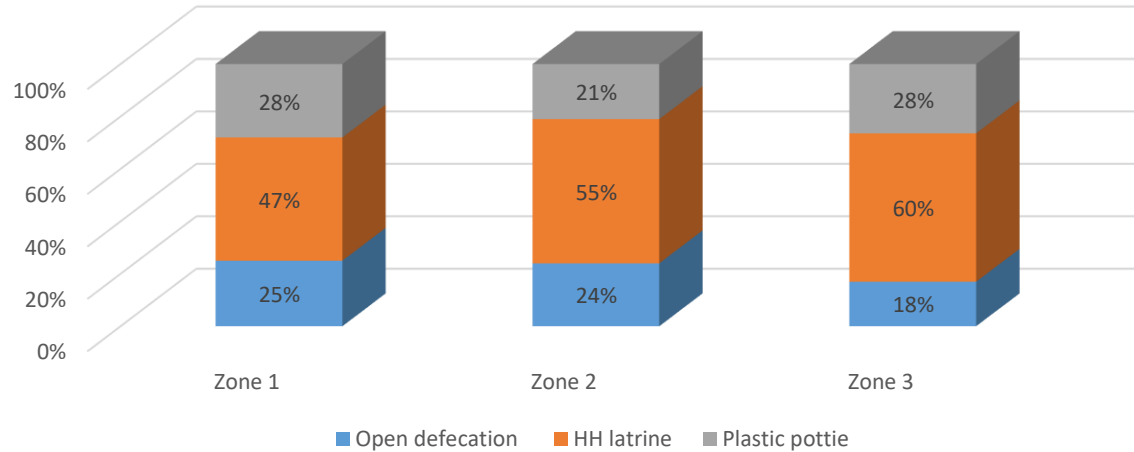
with regard to Hand washing stations at HH level, (87.3%) had hand washing devices (12.6%) did not have hand washing devices. Emphasis should be put on HHs to ensure that they all have HWFs installed in their HHs. There’s a 65% improvement of HHs with HWFs. This is because of the many HWF distribution that were done because of the COVID 19 Pandemic to enhance hand washing.

**Where HH members excluding children under 5 years defecate.**

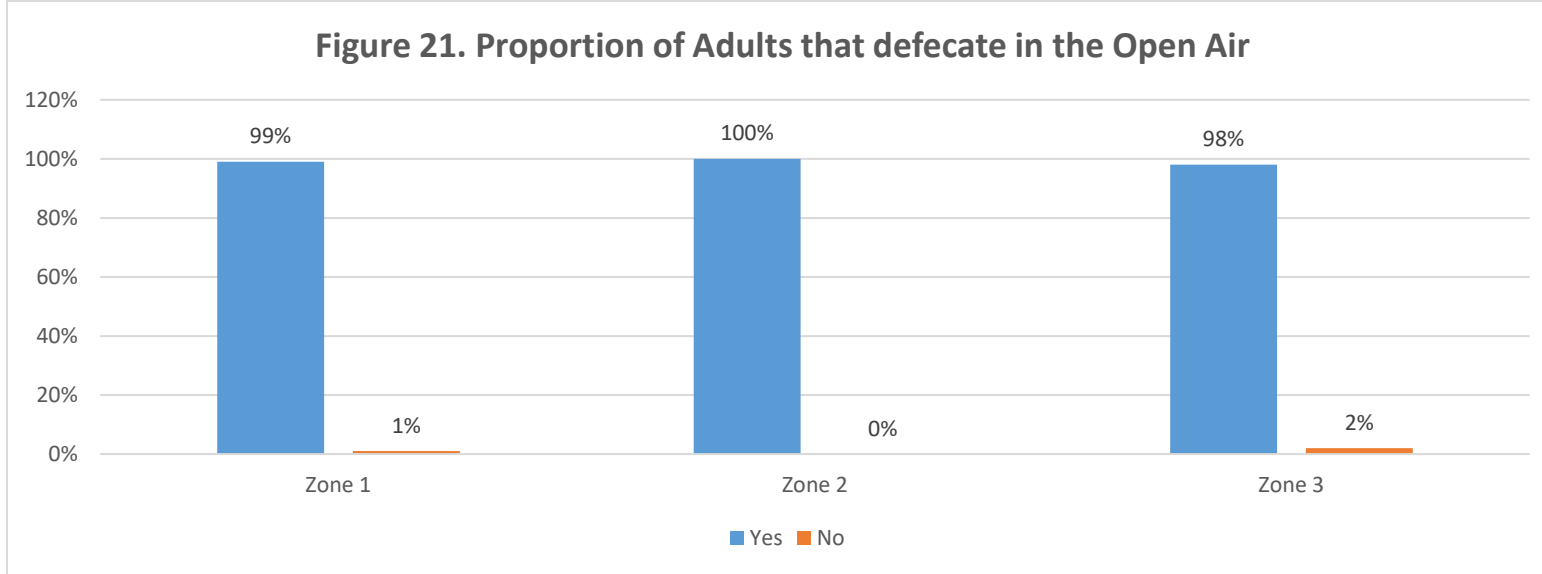


According to findings, (98.6%) HHs across all the zones defecate in HH latrines while (3%) practice open defecate and ( 1.3%) defecate in plastic bags.

**Figure 20. Where children below 5 years defecate**

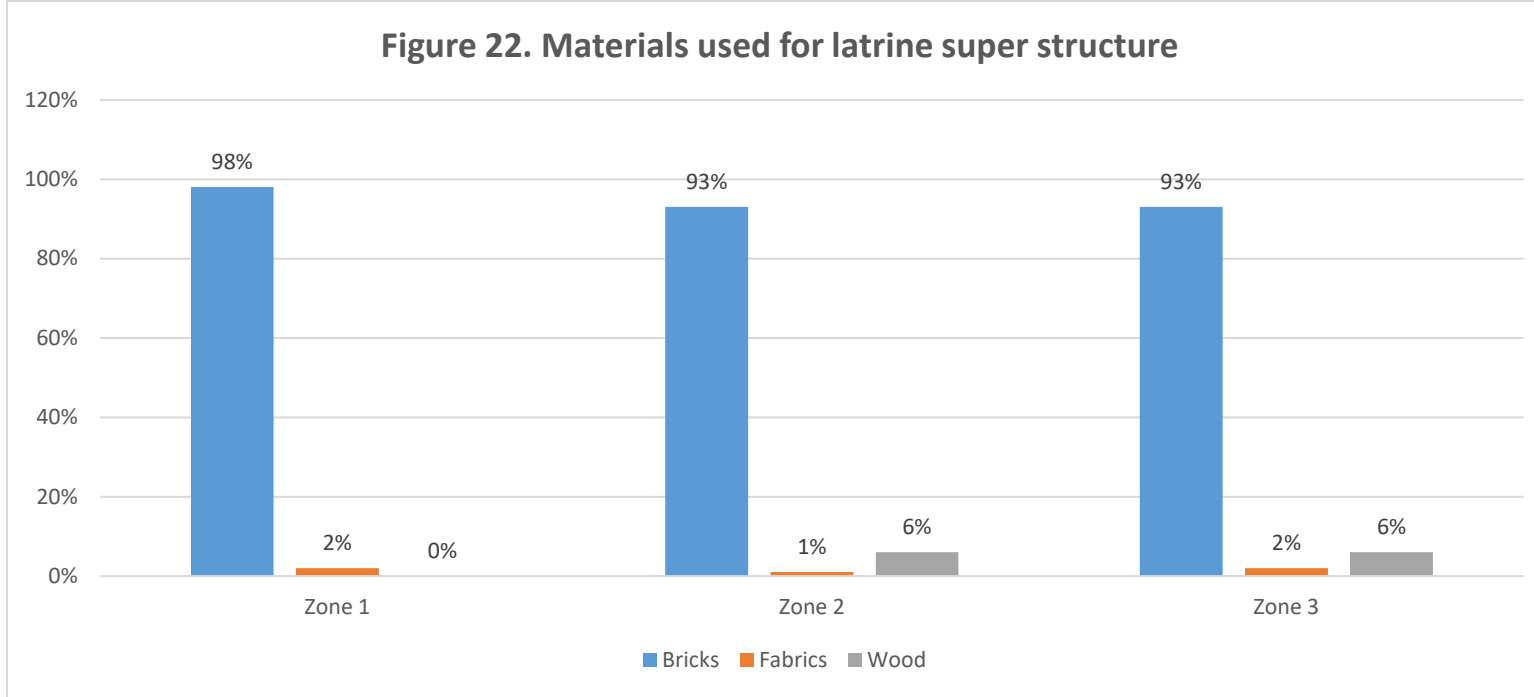


Findings show that (54%) of children below 5 years defecate in HH latrines. 22% of children under 5 years practice open defecation while 25% defecate in plastic potties. For children who practice open defecate the faeces are either buried or thrown into HH latrines.



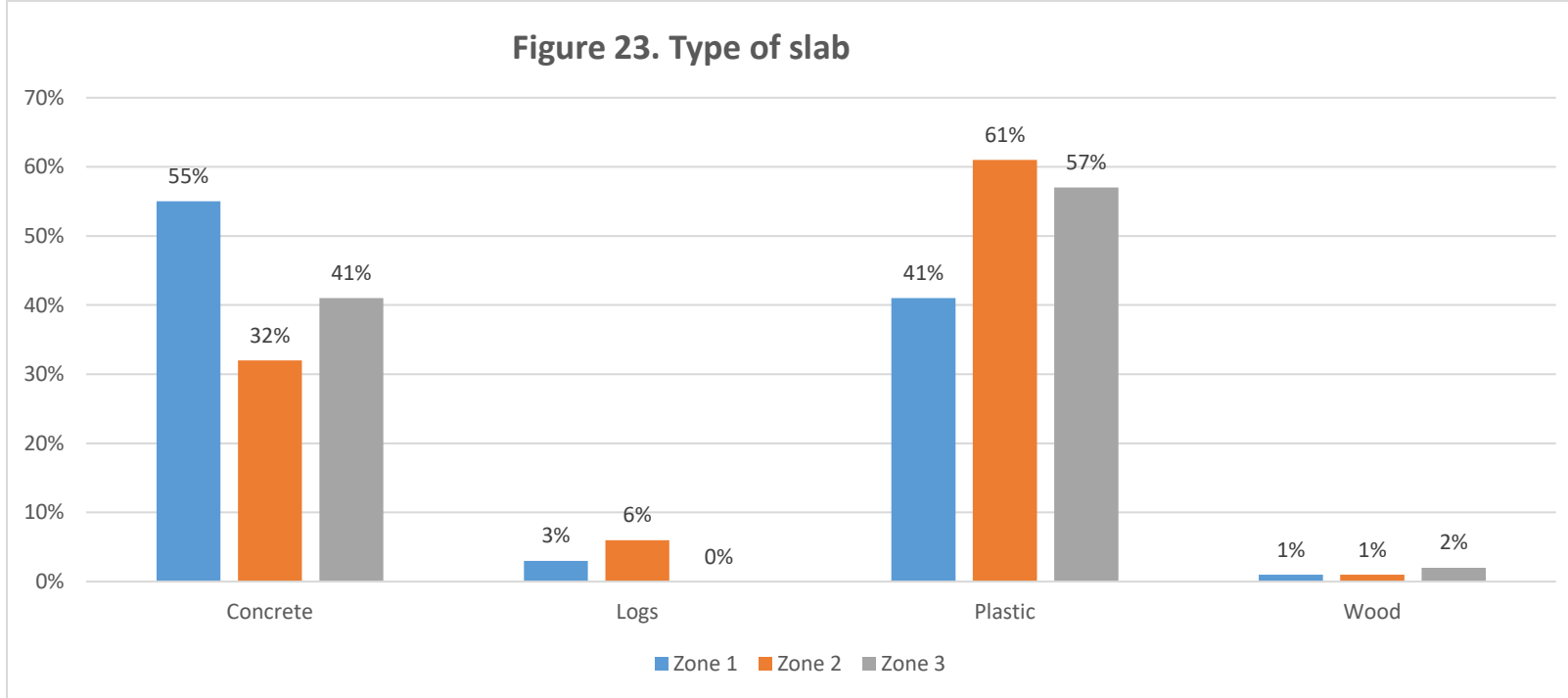
Only 1% of adults still practise open defecation with reasons of that its too dark at night. There's a 8% decrease in open defecation. Credit goes to our Hygiene promoters who done continuous sensitization to community members.

**Figure 22. Materials used for latrine super structure**



94% of HHs use building Bricks for their latrine super structure. Followed by 4% wood and 1% that stated Fabrics.

**Figure 23. Type of slab**



(56.3%) HHs use concrete as slabs for their HH latrines. (53%) HHs use plastic slabs for their slabs. (3%) use logs. (1.3%) HHs use wood for their HH latrine slabs. Findings reveal that most HHs use concrete for their slabs.

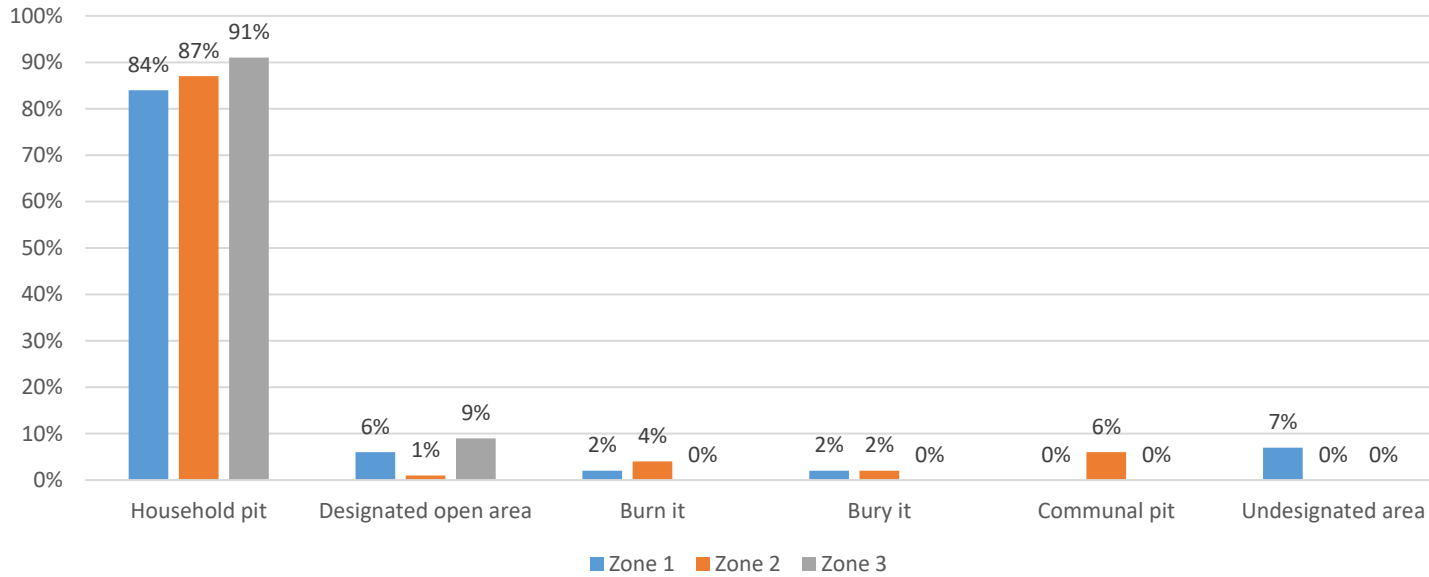


### **Waste management**

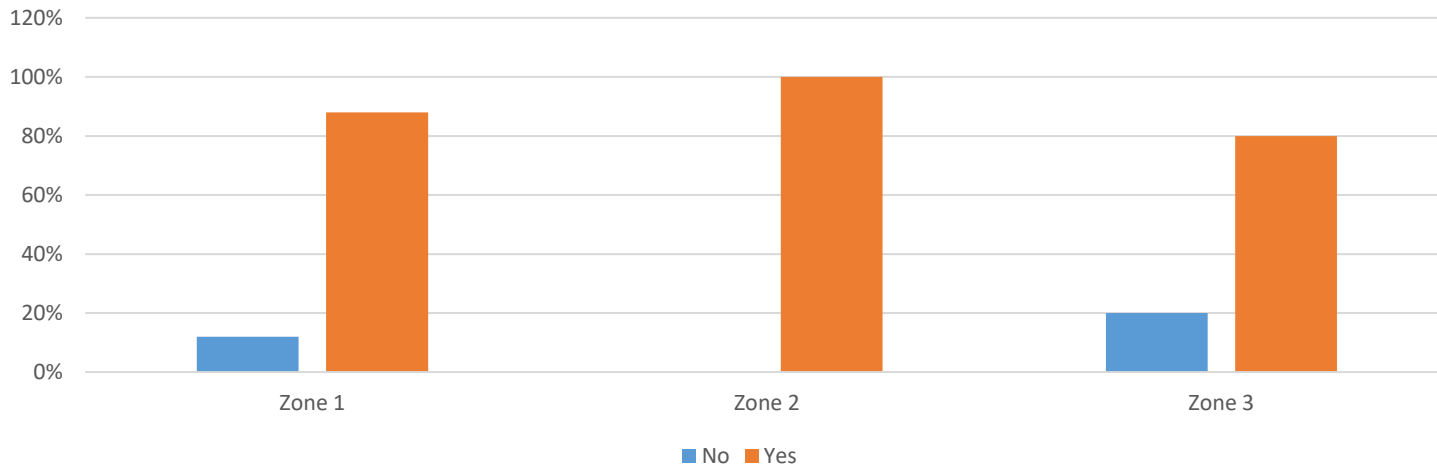
According to survey, (87.3%) of respondents reported that they have solid waste disposal facilities.

(87.3%) dispose off in HH pits, (5.3%) designated areas, (3%) burn it and (2%) burry it and 7% undesignated area. There is good waste management in Imvepi settlement.

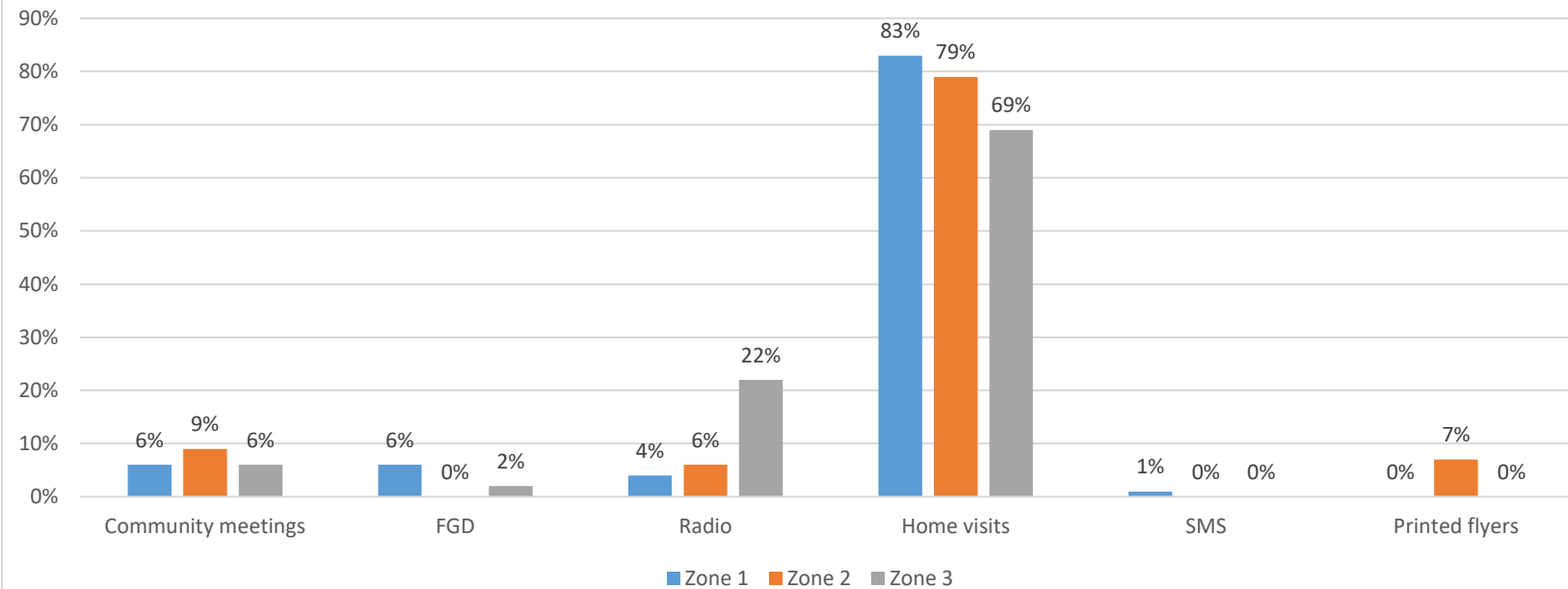
**Figure 24. Propotion of HH waste management**



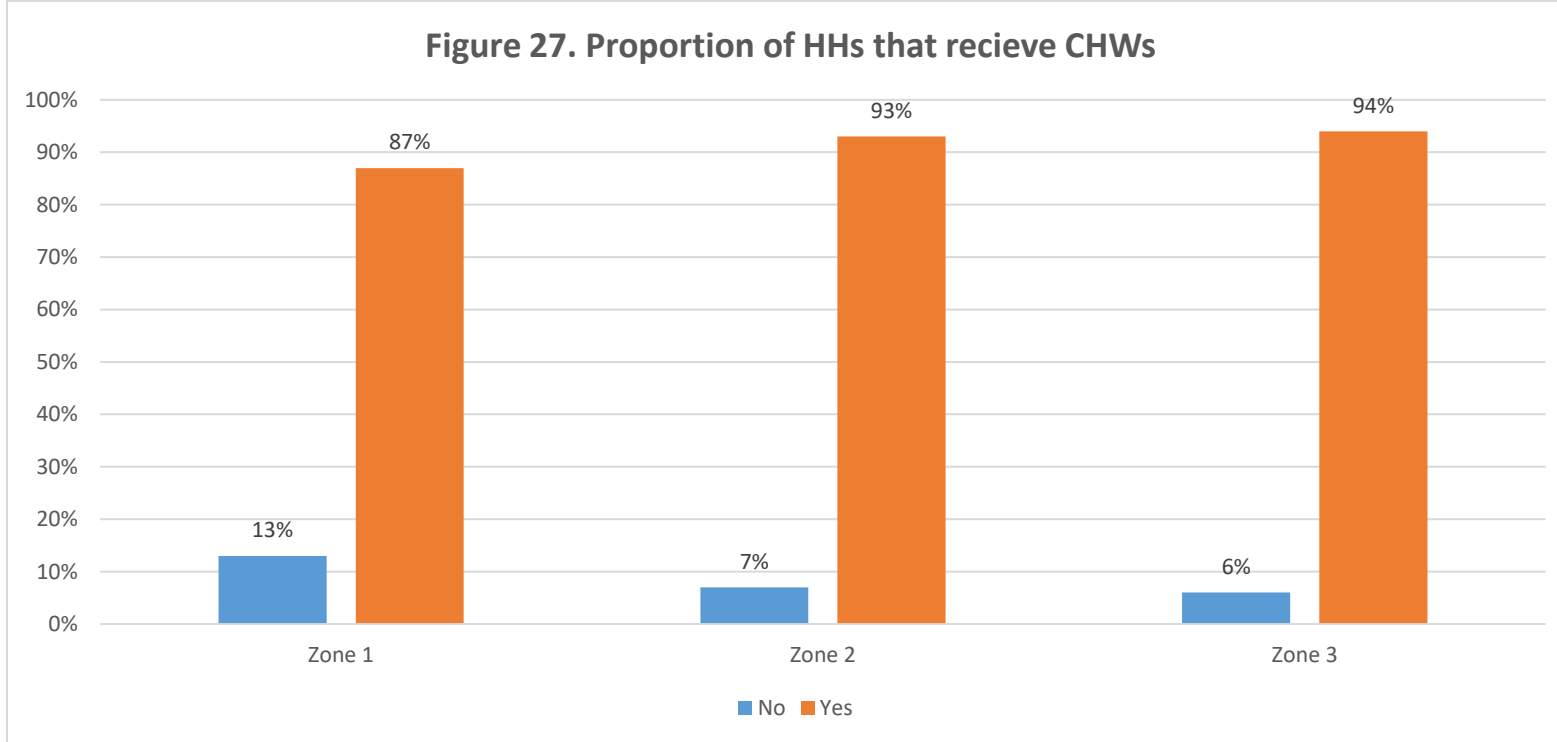
**Figure 25. Proportion of HHs by cleanliness of courtyards.**



**Figure 26. Proportion of HHs responding to best messaging ways**

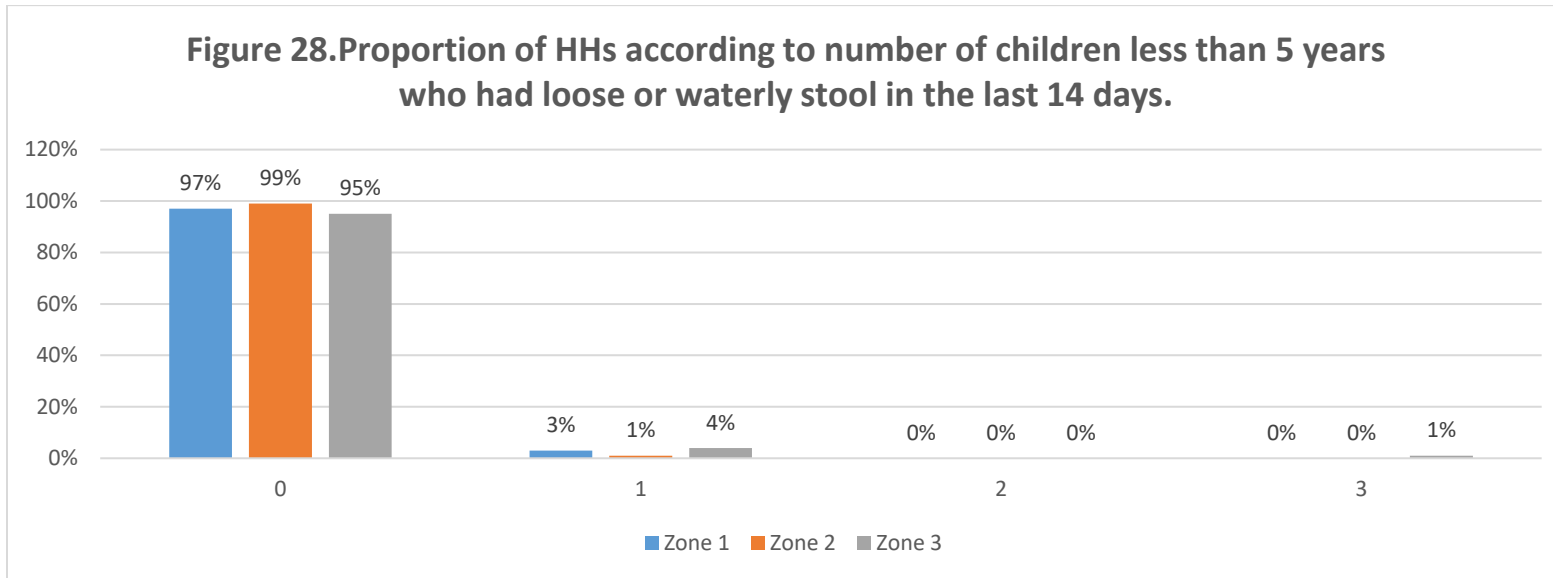


Of the households reported that most effective way of receiving hygiene messages, the sampled households cited (77%) Home visits from CHWs, followed by 2.3% community meetings, (7% ) FGDs and lastly (2.6% ) radio. Zone 2&3 has no response that preferred SMS as a communication means for Hygiene messages. Zone 1 and 3 also didn't have any response for printed flyers.



Furthermore findings revealed that (91.3%) receive visits from CHWs. There's a great improvement of 47% of Home visits made from HPs to PoCs. A lot of emphasis has to be put on to the Hygiene promoters to ensure PoCs are frequently visited and reminded about hygiene and sanitation.

**Diarrhoea prevalence knowledge and health Behaviour**



From the survey findings, majority of the respondents 97% reported not having children under five who had had watery stool in the previous 14 days. 2.6% of the respondents reported having at list one child having watery stool, 1% reported more than 3 children under five, had more than three children suffering from watery stool.

### **Recommendations for the End line.**

Some support is still required for the water user committees. Most of the water users committee members are doing work on their own especially for fencing areas around the water points.

It is without a shadow of doubt that the project has made tremendous impact in eradicating open defecation amongst the persons of concern. However there are still some zones that still need sensitizations to end open defecation. They should be encouraged on the benefits on proper latrine usage.

There is need to consider viable options for financing communally owned tools to support Pump Mechanics by empowering more Mechanics so that each zone has its own fully functioning Hand pump mechanic.

Provision of water storage containers so that each household is in position to reserve enough water for domestic use.

We appreciate the soap distribution to the PoCs but there's need to issue out more quantities of soap to enhance hand washing since we are in the COVID 19 Era .

With the distribution of the Dome shaped slabs, households should be encouraged to come up with super structures as a result of the slabs. In so doing the sanitation coverage will improve across Imvepi.

The need to motorize some hand pumps for the host community so as to forge more peaceful co- existence.

Model homes should be always rewarded as a way of encouraging others to emulate them.

Trade fairs should be encouraged amongst the persons of concern so that trade initiatives are encouraged and hence competition.

