



Water, Sanitation and Hygiene Promotion Programme

Baseline survey Report



Wundwin & Myittha townships,

Mandalay region.

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LIST OF ABBREVIATIONS

CBHFA	Community-Based Health First Aid
HH	Household
IFRC	International Federation of Red Cross and Red Crescent Societies
MRCs	Myanmar Red Cross Society
PHAST	Participatory Hygiene and Sanitation Transformation
RCRC	Red Cross and Red Crescent

Executive Summary

Behavioral change is a key ingredient for successful adoption of better sanitation practices in rural Myanmar. Sanitation programs have, for some time now, incorporated the need to raise awareness and emphasize the benefits of latrine usage. These endeavours, often combined with subsidies linked to toilet construction by households, seek to create a demand for sanitation goods. Yet, progress in securing the desired outcomes from sanitation programs has been slow. Moreover, benefits of sanitation largely take the form of externalities, which individuals do not take into account when making their own decisions about investments. This makes sanitation promotion at the household level particularly challenging.

This baseline report was prepared as part of the Water, Sanitation and Hygiene (WASH) Project, funded by Korean Red Cross/Samsung and technically supported by International federation of Red Cross and Red Crescent societies. Field survey by Using RAMP was conducted in late July 2015 and aimed to collect information on the current situation in the WASH in project target area. The research had two primary objectives:

- To understand the perceptions, desires, practices, motivations and constraints of households in the target area with respect to sanitation, hygiene and water in order to inform the development and implementation of project and
- To establish baseline levels of WASH coverage and behavioural indicators of household consumer demand for WASH products prior to launching project activities.

Given the high prevalence of Participatory Hygiene and Sanitation Transformation [PHAST] villages in the target area, a third objective was also explored, namely:

To understand village and household sanitation situations in villages and empower communities to identify their WASH needs.

The survey involved a village-level investigation of sanitation and water coverage rates for a randomly selected sample of villages in the WASH target area, as well as a household-level investigation of demand behaviour, practices and preferences for a choice-stratified random sample

of 'latrine owner' and 'non-owner' households within the sample villages.

The household survey investigated current sanitation, hygiene and water technologies and practices; perceptions, preferences and awareness of latrines and water products; motivations and drivers of latrine and water product purchase; decision making, purchase and construction process for latrine and water products; upgrading and maintenance of latrine products; and channels of communication for finding out about sanitation and water issues

1.0 BACKGROUND

Access to adequate clean drinking water, basic sanitation and hygiene, are widely recognized as pivotal to realizing poverty reduction and economic transformation outcomes, because of the strong links with health, education and human productivity. These links form the basis for the Sustainable Development Goals (SDG) post 2015 of 3, 5, 6 and 13. The desired overall programme outcome of 'saving lives, as well as the core outcomes of increasing sustainable access to safe water, sanitation and hygiene behaviour are outcomes desired under this fund but also IFRCs strategic outcomes outlined in Strategy 2020¹ and specific WASH outcomes under the GWSI². This programme therefore seeks to address the needs of targeted communities with regards to low cost sustainable water schemes, appropriate improved sanitation, and behaviour change through improved hygiene practices and most importantly community empowerment.

Myanmar Red Cross Society, with support of International Federation of Red Cross and Red Crescent Societies and with financial support from Korean Red Cross/Samsung supported water, sanitation and hygiene promotion programme in the dry zone of Myanmar.

The objective of the project is to improve the health of the target population in 6 townships by improving sustainable water supply systems, sanitations and hygiene practices till 2015-2017.

This baseline survey report presents the finding and analysis of the demographic condition, accessibility of improved water and sanitation services to the community. The survey findings is one of the means which will be used for village selection, monitoring and evaluation benchmark. Based on its findings, several recommendations on fine-tuning the project can be done for implementation purpose.

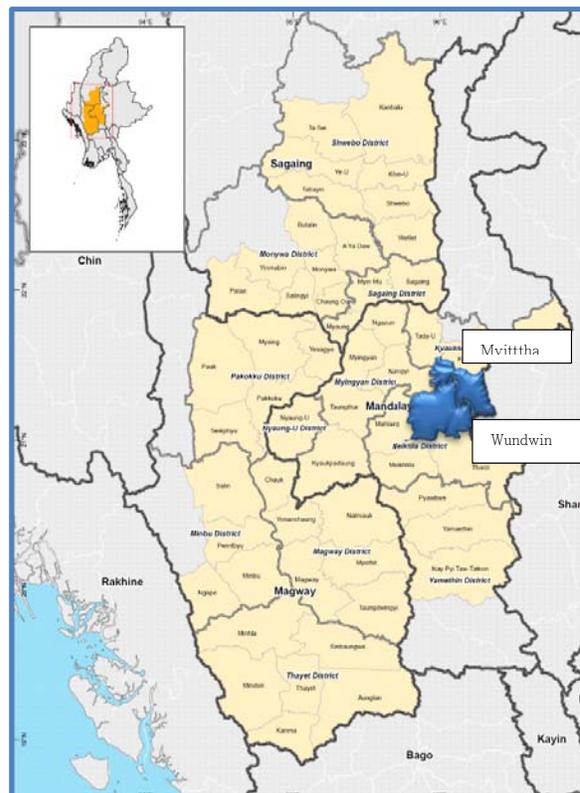
2.0 METHODOLOGY

A quantitative household Survey of water, sanitation and hygiene knowledge, attitudes and practices in 15 villages in two townships Wundwin and Myittha Townships in Mandalay Divisions respectively. Over 477 Household and 30 official interviews were performed by trained MRCS volunteers. The volunteers attended two intensive training at township levels, whilst 2ICs and selected active volunteers were given additional training as they are nominated as team leaders.

Each household interview was conducted by using RAMP application a group of two volunteers (male &

female) considering gender balance, while official' s interview was performed by two volunteers and a team leader.

To supplement the Household survey data, both transect walks and Focus Group Discussions with target beneficiaries were performed to provide qualitative insight to the data set for analysis and comparison with the quantitative findings.



3.0 DESIGN AND ANALYSIS OF SURVEY RESULTS

The baseline survey forms, household and official, were derived from the RCRC PHAST household baseline survey and adaptations were made to suit programme local context.

The survey form translated into Burmese and cross check technical terminologies related to language.

The survey was conducted in June and July month and data collected by RAMP had been examined by the Dy Director of Health/WASH Team; consequently, remedies, data validation was conducted at HQs for high level of trustworthiness.

4.0 SAMPLING METHOD

The survey sample was calculated to cover 15 to 20% of the target populations as indicated in table 1. The sampling plan was developed on advice obtained, with some modifications,

¹ IFRC Strategy 2020

² Global Water and Sanitation Initiative, IFRC, 2005-2015

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The sample size was calculated using the formula below:

$$n \geq \frac{Z^2 \cdot p \cdot q}{D^2}$$

Therefore, we could survey up to 440 households.

Z = parameter related to the risk of error = 1.96 for a risk of error of 5 percent

p = expected prevalence in the population. This value was estimated at 50 percent (extreme Value)

$$q = 1 - p$$

$$d = 5\% = 0.05, \text{ absolute accuracy desired.}$$

The sample consists of 177 households. This sample allows us to draw statistically make significant conclusions from general observations of the targeted communities. The collected data allowed the team to better understand the situation of households in the areas targeted by the study. All of the questions that were asked in the quantitative study have been analysed. To ensure the effectiveness of the fieldwork, more than 9 enumerators including Red Cross volunteers were completed the survey.

Participants in the focus group discussions on the other hand were selected purposively, given the respondents were selected on the basis of their pre-eminent roles in the community, and, or their generally acknowledged understanding and custodianship of the community values, norms, heritage and knowledge.

The sampling plan was chosen carefully to represent all community criteria, including poorest people may live on the edge of villages. However, all schools' principal, health workers, and villages' leader within the target area were interviewed without exception.

5.0 SURVEY PROCEDURE

During the actual survey enumerators walked in pairs while sampling households. From the starting point identified by the supervisors, they moved in opposite directions. Before commencement of interviews in the villages, while accompanied by the supervisors, they presented themselves to the area chief or village elders. Although the local authorities had been informed, the enumerators explained again the purpose and procedure of the survey sought the consent of these leaders to conduct interviews.

To assure standardization, in the use of language, interviewers read the questionnaire in the language in which it was printed (Myanmari). However, where respondents had problems with either of the languages, the enumerator used the local language.

6.0 Possible bias and methodological limitations

1. "No response bias." The fact that household interviews were conducted from 9 a.m. to 4 p.m. meant

that some heads of household were not at home during the survey and thus were not included in the study.

2. "Despite the high number of surveys" that have taken place in the targeted areas, "refusal to participate bias" was not observed in all visited communities and the enumerators were generally well received. This demonstrated the will of the population to work closely with the team during future programs.

3. "Translation bias." Interpretation of questions may be different in Kiswahili or the local language compared to the original question in English. Accordingly, during the training session the survey team took sufficient time to translate the questionnaire into Kiswahili and the local language. The enumerators had the translated text in Kiswahili next to the questions in English.

4. "Enumerator bias." The opinions of the enumerators and their supervisors can skew the results. For example, when enumerators show verbal or non-verbal responses to what is "correct" during the interview. The team tried to minimize this bias during training through role playing.

5. "Respondent bias." Respondents may have an interest in providing incorrect answers because they think that they may benefit later, especially in the event that their responses lead to support from donors. In each household, the enumerators explained the objectives of the study to avoid this bias.

6. "Privacy bias." In order to ensure the respondents' confidentiality, the enumerators were advised to make certain that crowds are not present during the interview.

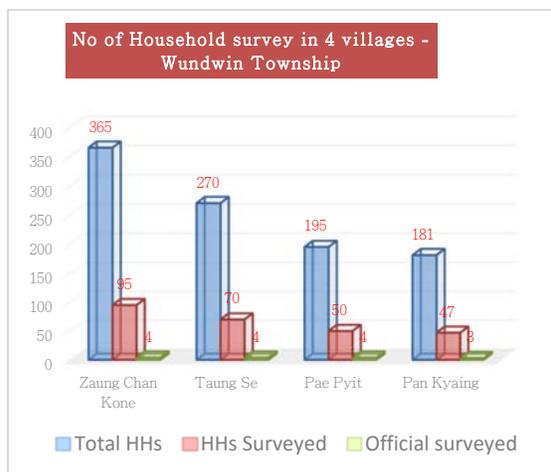
To reduce the risks of bias following measures was taken:

- Dedicated time and effort to select experienced enumerators.
- Started with a pre-survey (pilot test) and supervised enumerators during the study.
- Verified the completed questionnaires each day and provided feedback to the enumerators before conducting fieldwork the next day
- The survey sample was calculated to cover 25-30 % of the target populations of villages as indicated in table 1. The sampling plan was developed on advice obtained, with some modifications, from IFRC, MRCS with consultation of Health departments of MRCS.
- The sampling plan was chosen carefully to represent all community criteria, including vulnerable people, gender, elder and single head households. However all schools' principal, health workers, and villages' leader within the target area were interviewed without exception.

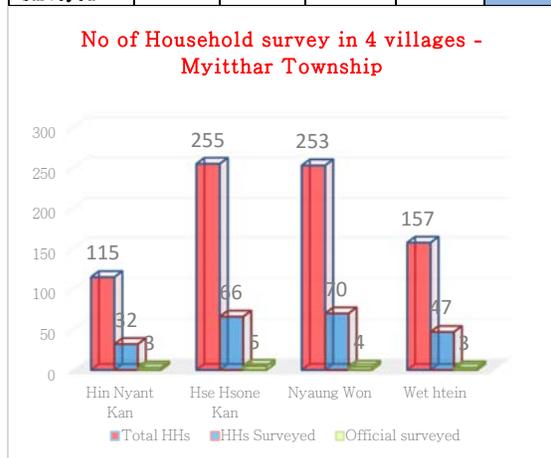
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Table: 1 Households and Officials Surveyed in Two Townships

Wundwin township [26% Sample size]					
#	Zaung Chan Kone	Taung se	Pae Pyit	Pan Kyaing	Total
Total HHs	365	270	195	181	1011
HHs Surveyed	95	70	50	47	262
Official surveyed	4	4	4	3	15



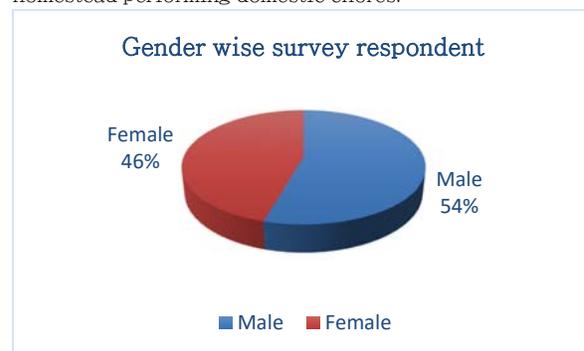
Myittha township [28-% Sample size]					
#	Hin Nyant Kan	Hse Hsone Kan	Nyaung Won	Wet htein	Total
Total HHs	115	255	253	157	780
HHs Surveyed	32	66	70	47	215
Official surveyed	3	5	4	3	15



7.0 Characteristics of Surveyed Households

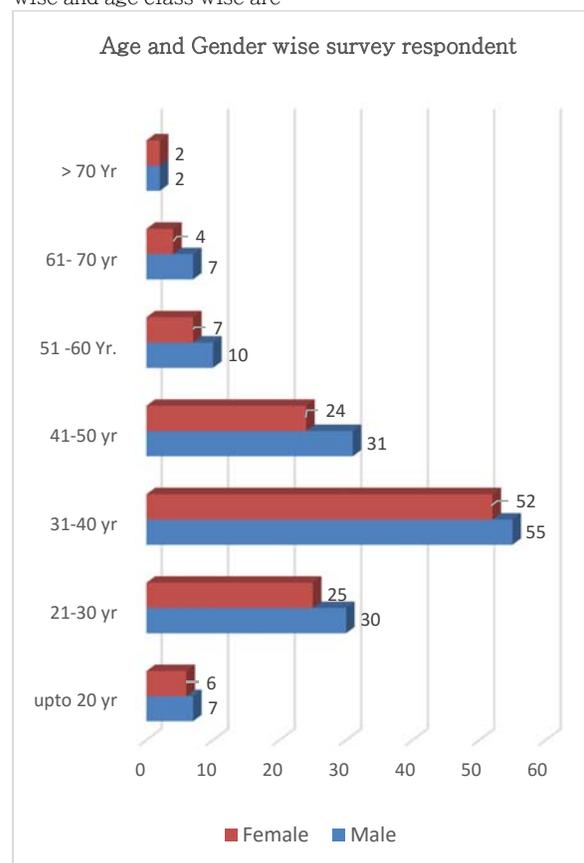
Females (48%) constituted almost half of the respondent survey samples, while the survey protocol selected respondents on the criteria of adult residents in

household with preference for the household head. The larger number of female respondents is due to the greater likelihood of finding women in the household during daytime hours as women spend more time in the homestead performing domestic chores.



Respondent- Age and gender wise

The surveyed respondent further analyse by gender wise and age class wise are



8.0 Vulnerability of Wundwin and Myittha Township related to WASH infrastructure

The two townships have been facing spells of draughts and floods in the recent decades in which tens of villages suffered the consequences. The immediate effects of

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these onset adversities manifest in shortage of water and irregularity of replenish traditional water sources (ponds, dug and tube wells, rain harvesting systems). The aforementioned phenomena have influenced not only drinking water quality and quantity, but daily hygiene of people through insufficiency of water for domestic usage.

9.0 SURVEY HIGHLIGHTS

10.0 General Information about Wundwin Township and surveyed villages:

1. Profile of Wundwin township and accessibility

Wundwin township is located 61 miles to the southeast of Mandalay in the dry zone of Myanmar.

2. Accessibility:

The 4 sample villages are surveyed are 8 to 32 miles away from town. The survey shows that motorcycles are used as the main transportation mode to reach to these villages, although two of the villages can be reach by bus or car. However, because of road problems during the rainy season some of areas could not be accessible.

3. Religion and Household Size

The numbers of households in these villages range from 90 to 262 households, the average being 282. There are 1 to 12 members per household. On average, there are about 5 members per household. All of the households surveyed are also known to be 100% Bamars of Buddhist faith. Most of them live in wooden or bamboo houses. According to the data collected, 36.4% of the houses are made of bamboo, 48% of wood, 14% of bricks, and 1.2% small huts with the ground as the floor.

4. Livelihood

The major livelihoods of these people are: agriculture (56.3%), casual labor (34.1%), livestock (4.6%), and petty trading (2.9%). When asked what they need most currently, most of them (42.2%) said livelihood, 39.8% food, 13.8% health, 2.8% education, and only 1.4% shelter.

5. Occupation and poverty level

Survey also shows that 50% of the populations are poor. And out of those poor people, 3% of them are the very poor and vulnerable people, which included female-headed households, households with only aged people, households with children as main income earners, and households headed by disabled people. Most of these poor people do not even get enough income for food. The rest of the populations consider themselves as middle

class people (39%) and rich people (11%). The middle class people only get income that barely covers their cost of living. The rich people though get adequate income for their costs of living in the community.

As for the average monthly income of each family, survey shows that out of all the families surveyed, 17.6% get less than 50,000 kyats, 31.6% between 50,000-75,000 kyats, 36.8% between 75,000-150,000 kyats, and the rest 14% between 150,000-300,000 kyats. With those incomes they earn, more than half of the population (64.4%) spend their money on food, 27% on livelihood, 4.6% on health, and the remaining 4% on education (formal).

6. Household Fuel consumption

Three quarters of the households (75.2%) use firewood/straw/ dung for cooking, 24.8% use charcoal from wood. Typical of pastoralist communities most households use firewood as the main source of fuel. This in some instances has devastating effect on the environment for such sources of energy are not sustainable and they destabilize the ecosystem. The households should be encouraged to use more environmentally friendly energy sources including cow dung and harnessing solar energy

7. Access to Education and health facility

It is found that out of the 4 villages, 3 of them have primary schools, and 1 villages (Pe Pyit) have no school at all and as for the medical places, all villages have access for health center/clinic outside the villages.

Living in the dry zone, people tend to suffer from shortage of water. However, starting from 1990 government has provided irrigated water from Kinda Dam to certain parts of Wundwin Township for agriculture use, alleviating the water problem to some extent.

8. Housing Characteristics:

From observations of Surveyor it is found that 87% of selected respondent mention have detached house with private yard and Animal pen in the vicinity of house. 16% mention they have only Animal Pen in the vicinity of house and 2% household only detached houses. Most of house are single storied only 1% (13 Household) found double story or G+1 structure.

11.0 WATER coverage:

1. Main source of Drinking water

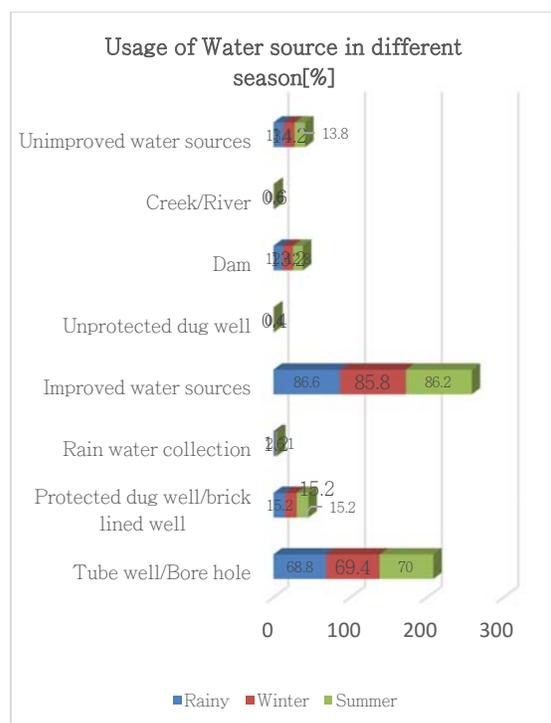
Overall, the three main sources of water which all the 4 sample villages rely on for drinking are tube wells, brick-lined wells and dam. The other smaller sources are unprotected dug wells, creek, and protected ponds.

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The table below shows the utilized water sources for each of the three seasons. In all three seasons, an average of 180 households (86.2%) of the sample household's use improved water sources for drinking purposes. Average 36 households (13.8%) use surface water during all three seasons. There is not much variation in utilizing the sources of water among the three seasons.

2. Water Source (Drinking water)

	Rainy		Winter		Summer	
	count	%	count	%	count	%
Tube well/Bore hole	180	68.8	185	69.4	186	70.0
Protected dug well/brick lined well	40	15.2	40	15.2	40	15.2
Rain water collection	7	2.6	3	1.2	3	1.0
Improved water sources	227	86.6	228	85.8	229	86.2
Unprotected dug well	1	0.4	1	0.4	1	0.4
Dam	34	12.4	37	13.2	34	12.8
Creek/River	1	0.6	1	0.6	1	0.6
Unimproved water sources	36	13.4	39	14.2	36	13.8



3. Domestic water [Kitchen and other use]

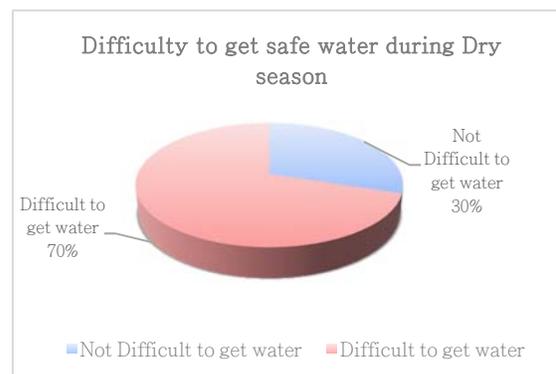
Households relying on improved water sources for kitchen and other uses constitute more than 80% (average 406 households) and unimproved sources, 17% to 19% (average 94 households).

4. Difficulty in getting water

Altogether 78 households (30%) of households reported that they did not have difficulty in getting water for drinking and kitchen purposes, especially during summer—March, April and May

	Count	Percent
Not Difficult	78	30%
Difficult	184	70%
Total		100%

Of the 184 households that said they have difficulty in getting water, 78 households (78.8%) mentioned the reason that water source is depleted while the remaining 30 households (21.2%) attributed the difficulty to the damage of the water source.



Of the 184 households, 70 households (35.3%) go outside the residential quarters to fetch water, e.g. at springs where water is slowly trickling out, while 54 households (29.4%) use alternative sources in the village. 36 households (19.6%) use the reserved water and 22 households (11.8%) have the water shared by neighbours or the monastery. Only 7 households (3.9%) went to other villages for this purpose.

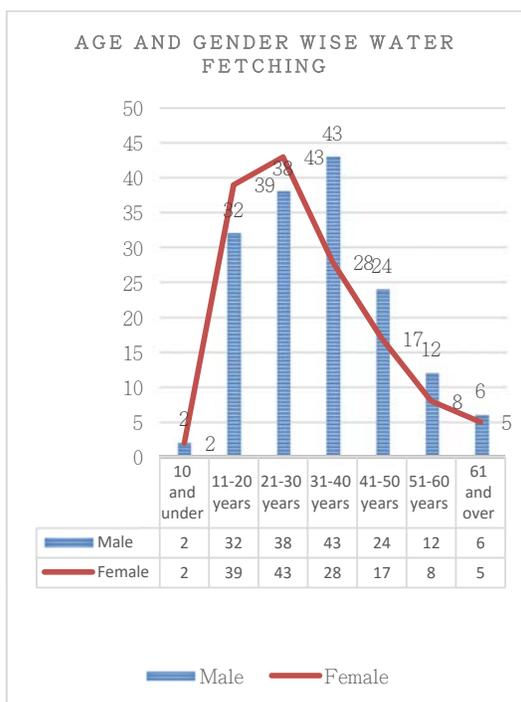
5. Responsibility of fetching water and storage

In the 4 villages of Myitthar Township under survey, about 262 households (80.6%) 211 households said they need to fetch water while the remaining 51 households (19.0%) do not need to.

6. Need to fetch water:

By gender, the number of female water fetchers is greater than that of male water fetchers. According to age groups, those in the 21-30 age bracket constitute the largest number (27.1%), followed by those in 11-20 and 31-40 age brackets at the same percentage (23.7%). The third largest group belongs to 41-50 age group (13.7%), followed by the 51-60 age group (6.7%). Children (10 and under) and elderly persons (61 and above) account for the least percentages, 1.3% and 3.7% respectively.

7. Water fetchers in different age groups and gender

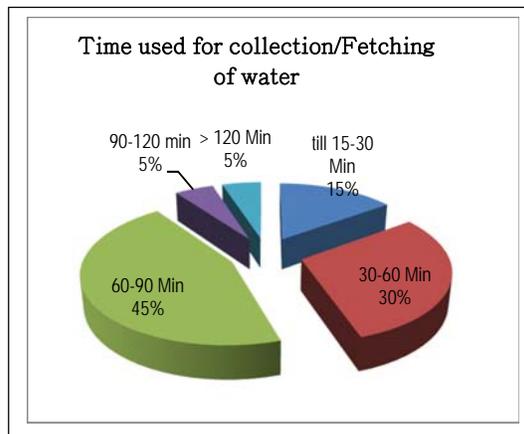


Water Fetching by age and gender wise				
	Male	Female	Count	%
10 and under	2	2	4	1.3%
11-20 years	32	39	71	23.7%
21-30 years	38	43	81	27.1%
31-40 years	43	28	71	23.7%
41-50 years	24	17	41	13.7%
51-60 years	12	8	20	6.7%
61 and over	6	5	11	3.7%
Total	157	142	299	100.0%

8. Time used for Collection/ Fetching of Water:

53% of respondent mentioned that the average time for collection of water during normal (winter and Rainy) season is range from 15 min to 30 min. 43% of

respondent mentioned that the average time for collection of water during normal (winter and Rainy) season is range from 1-2 hrs. 4% of respondent mentioned that the average time for collection of water during normal (winter and Rainy) season is range from more than 1- 2 hrs

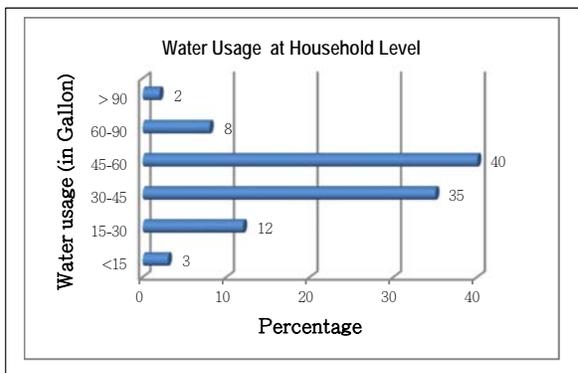


During Dry season most of current water sources in village become dry or the water table level depleted. Women’ s mentioned some time in rainy season water quality become worse of some sources and during dry season most of time they go for fetching of water 2-3 times, as some of them are lacking of transportation and they have to carry water on their shoulders. Some of respondent mentioned that during dry season most of villagers faced following issues are:

- Sharp Depletion in water table level.
- Water Recharge take long time and lacking in sufficient quantity and quality.
- New source is not sufficient for villagers.
- Travel time to fetch water increase (3-4 times) as compare to normal time.
- Water quality is worse and muddy and yellowish in nature.
- Lack of fuel wood for treating/ boiling of water.

9. Water usage per Household

At least 47 percent of the household use 30-90 gallon and 46% percent of the household use over 90 gallon of water perday for their domestic and personal hygiene which indicate an average of 12-20 gallon per person per day. Only 7 percentage use less than 8-10 gallon [30 litres] of water per family for their daily usage



10. Treatment of Water: (Treatment of Water to make it safer)

Water treatment is considered key in ensuring that water is clean and safe. However, an overwhelming 81.5% of households do not treat their drinking water. The proportion of households that do not treat their drinking water is significantly high suggesting a high level of exposure to water borne diseases. Those households who do not treat their drinking water cited several reasons, notable was that the water is already safe (59.0%), too expensive to treat

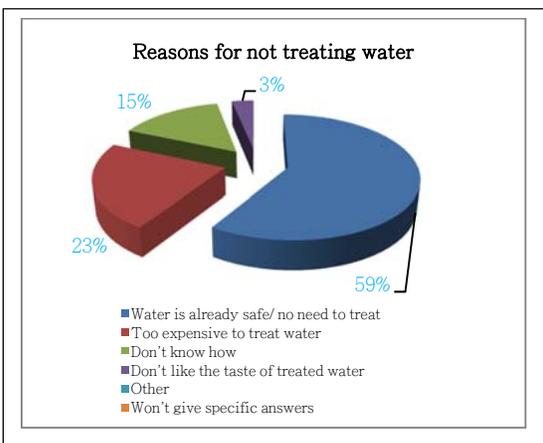
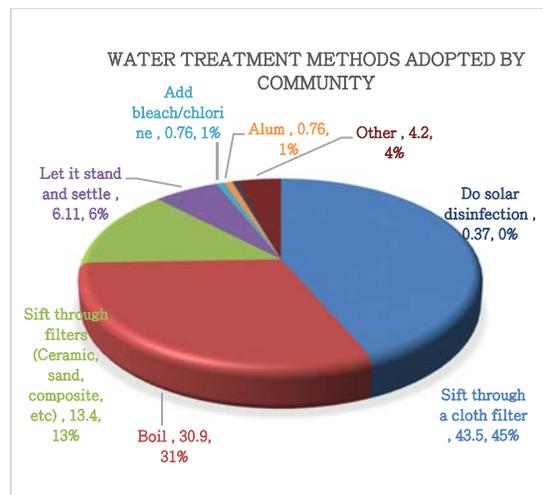
11. Treatment of water: Methods and approaches

Treatment of water to make it safe for drinking

Asked if water is treated to make it safer for drinking, they gave multiple responses. Most of the respondents said they treat water to make it safe for drinking. The common method of treating water is using a cloth filter (80.9% of the 419 households) followed by boiling (70.2%) and using other filters (ceramic, sand, composite, etc) (8.4%). The percentages of using bleaching powder and solar disinfection are very small, being 0.5% and 0.2% respectively. There is a small group of respondents who use alum for purifying water (0.5%).

12. Water Treatment Methods for Drinking

	Count	Percent (Of 262 HHs)
Sift through a cloth filter	114	43.5%
Boil	81	30.9%
Sift through filters (Ceramic, sand, composite, etc)	35	13.5%
Let it stand and settle	16	6.11%
Add bleach/chlorine	2	0.76%
Alum	2	0.76%
Do solar disinfection	1	0.38%
Other	11	4.1%



13. Water for Kitchen use

Conversely, the percentages of treating water for kitchen use are very small. Overall, only 10 households (2%) treat water for kitchen use. Their methods of treatment are using a cloth filter (40%), using composite filter (40%) and sedimentation (30%).

14. Treatment of water to make it safer for kitchen use

	Count	Percent
Treat the water	10	2.0%
Do not treat the water	252	98.0%
Total	262	100.0%

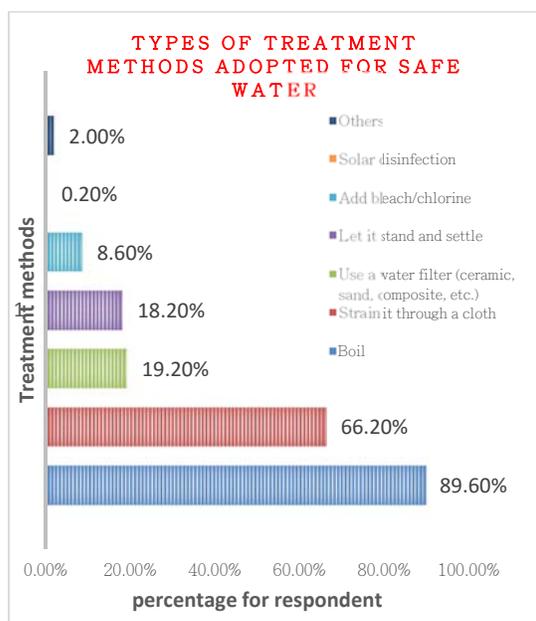
Perception about the treatment of water to make it clean/safe to drink

	Count	Percent (Of 500 HHs)
Boil	234	89.60%

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Strain it through a cloth	173	66.20%
Use a water filter (ceramic, sand, composite, etc.)	50	19.20%
Let it stand and settle	47	18.20%
Add bleach/chlorine	23	8.60%
Solar disinfection	1	0.20%
Others	5	2.00%
Total (Multiple answers)	500	

About 173 households (66.2% of 262 households) of respondents assume that water can be treated by straining it through a piece of cloth to make it safe to drink while 234 households (89% of 500 households) of them think that water can be boiled to make it safe.



In the perception of the respondents, 367 households (73.4% of the 500 households) assume that the treated water is –clean while 109 households (21.8%) think it is not so clean. Altogether 20 houses (4%) believe that the water they have treated is –absolutely clean. One household (0.2%) did not give answer.

15. Problems relation to drinking water quality

During the survey respondent mentioned that the problems related to water are :

Water quality	%	Reason
Dirty/ Brackish water	8	Village water source installed by Govt /private owners providing brackish water with mild salinity level. During water quality check we find the range are 1000 ppm to 1200 ppm in

		some of villages. And if the boil, there is not sufficient firewood available
Bad taste	13	Some village beneficiary mention the taste of water is not good due iron presence in water. And some time if they drink they become sick etc. Some of respondent mentioned that during cooking with rice the water turn in yellowish colour
Disrupted supply / not enough for fulfilling present needs	43	This is normal problem of respondent , they mention that during dry season the water sources become dry and water scarcity arises
Difficulty to collect	34	Most of people responded mentioned that they have to travel 30-60 min or more to collect the water during dry season and during normal time its 1-2 hrs.
High Water Cost	1	During dry season the cost of water become high due to unavailability of drinking water ,in normal time 10-15 kyat per gallon become 20-25 kyat, due to vender also has to collect water from far sources and travel time increases
Others	1	Some people mentioned that maintenance cost of tube well running is high, and some time owner cannot afford to repair.

16. Attitude towards present water supply (only for drinking purpose):

The Attitude of respondent is presented in following ways as per seasonality. The combined response for Myitthar Township for surveyed villages are:

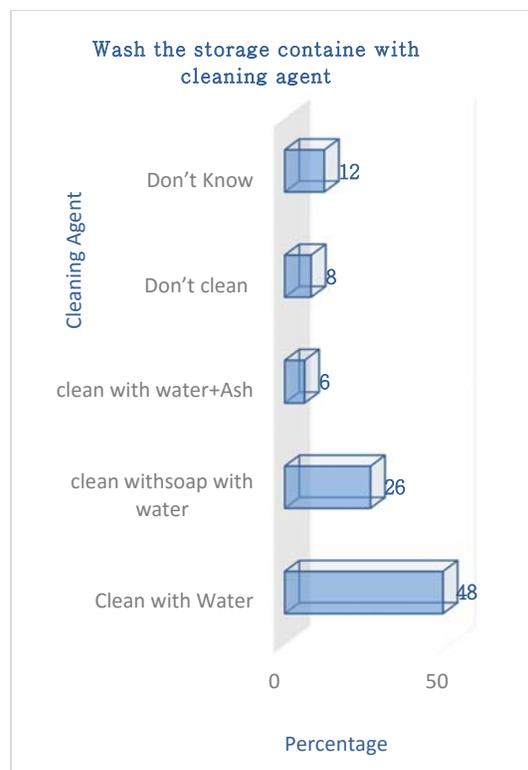
	Dry	Rainy	Normal
Water Quality and Quantity	9% agreed that water is available during dry season and quality is good and 91% mentioned that quantity is not enough due to some of sources become dry.	10% agreed that water is available in the season and 45% mentioned quality is not good as the current sources become	24% mention that water is available in the season and some of water source quality is good and sufficient

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		muddy in the season.	
Water delivery / Collection is good and enough are available With 10-30 min walk	60-70% of respondent mention that nearest collection point for water become dry i.e. well etc. and they travel 1-2 hrs to collect water	65% mention that during this season water is available at nearest point	65% mention that during this season water is available at nominal cost and at their nearest water Source in village.
Enough Water but quality is Concerned .	80-90% responded that water quality is brackish where water is fetched through tube well.	30-60% mention that enough water, if good rain, but annual precipitation is decreasing in recent years	65% respondent mentioned that water is available and quality is good related to wells.

17. Water storage container -cleaning agent

48% of respondent mentioned that they wash container with water, but used the same water which may be mild salinity. 26% respondent mentioned that they clean the container with soap and water and 6% with water and ash or mud. No one responded that they wash the container with clean and safe water.



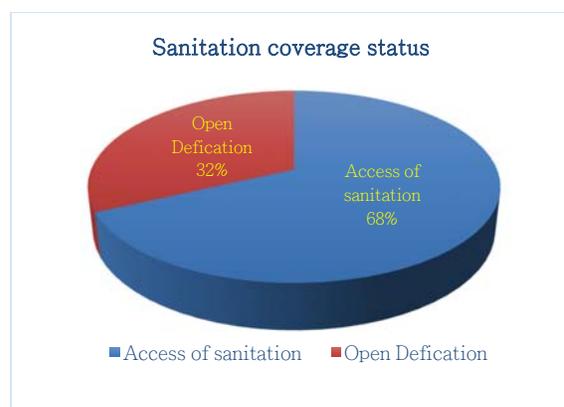
12.0 SANITATION Coverage

1 Access to Sanitation:

Majority of both men and women own latrine and only 68.29% percent have their own latrine but during the feedback session and focused discussion on access to latrines they reported the access was lower with only about 50 percent having own latrines. What they reported was the most commonly used neighbor and relatives latrines. However the survey data indicates at least 60-68 % use neighborhood or families sharing latrine. 32% of household adopts the open defecation practices. The open defecation ratio is varies in all surveyed villages.

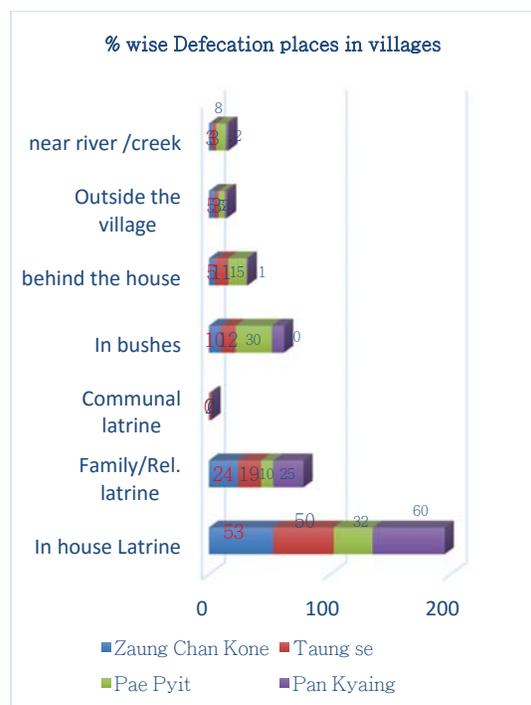
Wundwin township					
#	Zaung Chan Kone	Taung se	Pae Pyit	Pan Kyaing	Total
Total HHs	365	270	195	181	1011
Sanitation %	77	71	42	80	68
Open Defecation %	23	29	58	20	32

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2 Defecation Places in surveyed villages

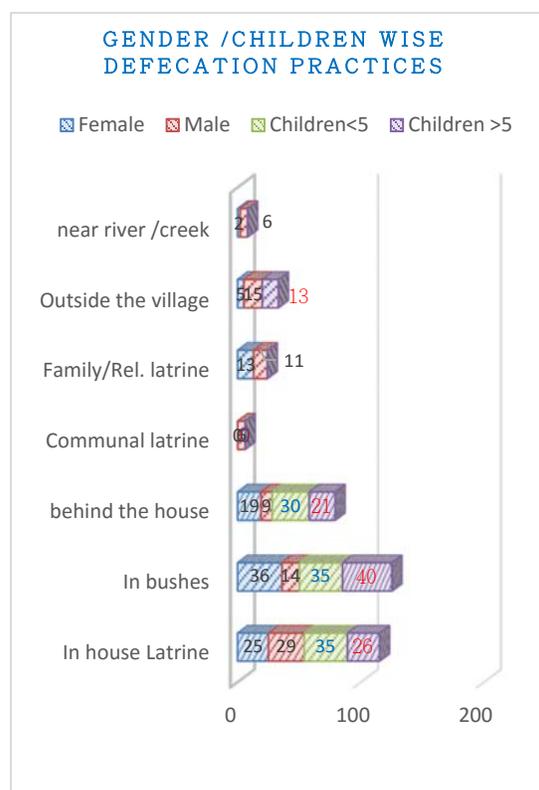
Defecation Places	Zaung Chan Kone	Taung se	Pae Pyit	Pan Kyaing
	%	%	%	%
In house Latrine	53	50	32	60
Family/Rel. latrine	24	19	10	25
Communal	0	2	0	0
In bushes	10	12	30	10
behind the house	5	11	15	1
Outside the village	5	3	5	2
near river /creek	3	3	8	2



49% of respondents mentioned they defecate inside the house latrine. 32% people go for open defecation. 19.5% of people use their neighbor, relative or family latrine for

defecation and 0.5% of people use village communal latrine, but this is not available in all survey villages and issue related to cleanliness is major concern of villagers. The gender and children wise segregation are shown in graph below and percentage wise in table below

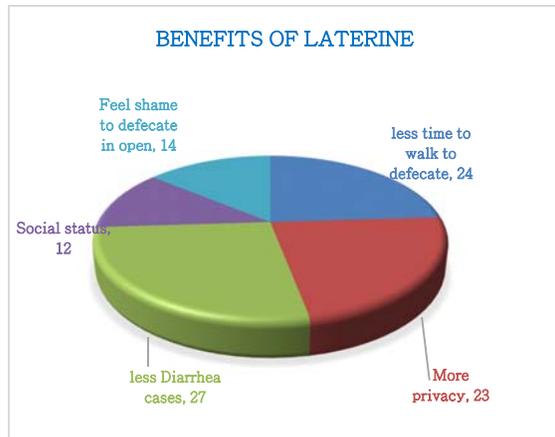
Defecation Place	Female	Male	Children<5	Children >5
	In percentage			
In house Latrine	25	29	35	26
In bushes	36	30	35	40
behind the house	15	18	20	21
Communal latrine	0	0	0	0
Family/Rel.	13	11	0	0
Outside the	5	15	0	0
near river /creek	2	6	0	0



3 Benefits of Latrine:

The latrine owner responded that there are benefits of having latrine. The response for benefits of latrine are:-

Benefits for Latrine	%
less time to walk to defecate	24
More privacy	23
Decrease in Diarrhea	27
Social status	12
Feel shame to defecate in open	14



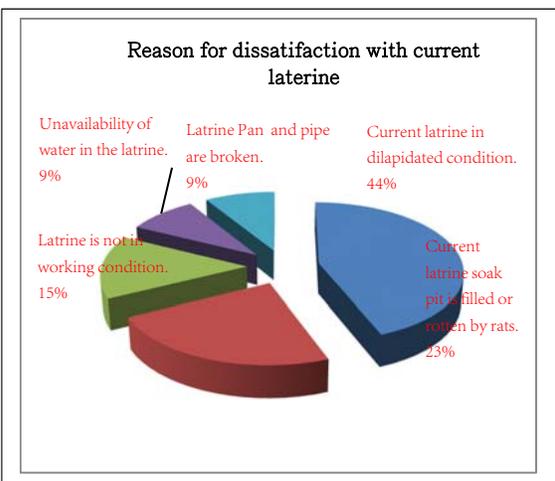
14% of respondent mention they feel shame to defecate in open place. 27% of respondent that not defecating in open mentioned that by having latrine the risk of diarrhea in their family is decreasing.

Nearly all latrine owners reported that adults and children usually use the household latrine for defecation, although children are slightly more likely to continue the practice of open defecation. Almost 95% of latrine owners indicated that they would defecate in the field or forest if they did not have a household latrine

4 Satisfaction level with present Latrine

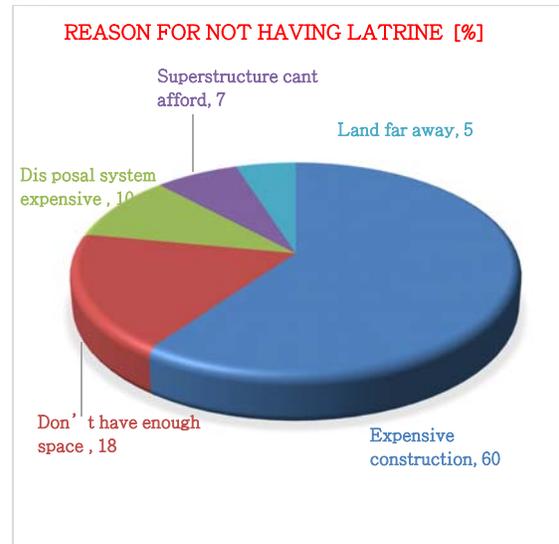
Out of 30% people who had latrine in their house or vicinity of houses .66% respondent mentioned that they satisfy with their latrine and 34% mention that they are not satisfy with present latrine. The reason for dissatisfaction are follows:-

- Current latrine in dilapidated condition.
- Current latrine soak pit is filled or rotten by rats.
- Latrine is not in working condition.
- Unavailability of water in the latrine.
- Latrine Pan and pipe are broke



5 Reason for not Having Latrine

Approximate 60% of respondent mentioned that construction of latrine is expensive and they cannot afford, some of respondent mentioned that they can afford superstructure by using old material of houses but cannot afford regular excreta disposal system. 18% of respondent mentioned that they don't have enough space for construction of latrine in their present land and their farmland is far away from their house.



6 Age group of Children's to start using Latrine

49% of respondent mentioned that their children's start using the latrine at the age of 4-6 yrs.

7 Place for Children's Stool disposal

34% respondent mentioned that they mixed children stool with cattle dung in same area where they collect cattle dung. 28% respondent mentioned that they throw stool in latrine. 36% mentioned that they throw children stool either in behind the house or bushes- forest areas. 2% mentioned they left children stool in courtyard and when they clean they through outside courtyard

8. The observation are:

		No	%
A	Availability of latrine and type	233	100%
1	Pit latrine	38	16.7%
2	Fly-Proof latrine with bamboo Soak pit	184	78.9%
3	Fly-Proof latrine with Con. Ring Soak pit	11	4.4%
B	Condition of latrine (super Structure and soak pit)	233	100%

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1	Good Condition	38	16.7%
2	Dilapidated Condition-(Privacy issue)	90	39.8%
3	Bad condition- (Need repair)	101	43.4%
4	Latrine has Concrete slab	4	0.17%
C	Distance of latrine from house	233	100
1	Inside house	75	32%
2	Within 10-20 mts.	42	18%
3	Within 20-150 mts	48	20%
4	Within 150-250 mts	18	8%
5	250 mts	23	10%
6	500mts	27	12%
D	Latrine Clean(No faecal Matter & urine on the floor)	233	100
1	Is latrine has Smell	115	49%
2	Soak pit full	40	17%
3	Visible waste	24	11%
4	Human faeces visible in yard	9	4%
5	Animal faeces visible in yard	3	1%
6	Open sewage/stagnant water	42	18%

13.0 SOLIDWASTE DISPOSAL

1 Household Waste

There are two types of HH waste categorised are hazardous and non-hazardous waste seen in surveyed villages. Hazardous waste is used battery, fluorescent lamps and some insecticide material lying at corner of houses. Non- hazardous waste is kitchen waste, leftover food and vegetable, plastic bottles etc. are mixed with hazardous waste and found most of surveyed household. Most of Kitchen wastes are combined with water and humidity more than 50%. These factors produce unpleasant smell and make waste degradable seen in surveyed villages

21% respondent mentioned that they throw HH waste near to house, village road and 16% mentioned at farm land. A small 14% HH mentioned that they throw HH waste in refuge pit; most of HH mentioned small location called a refuge pit surrounded or vicinity of houses. 18% respondent said that they mixed with animal waste without reusing the plastic material

Disposal of Animal/ cattle Waste and issue

In villages, communities have less choice and techniques to dispose animal waste properly specially in regards to who has less land. The villagers are disposal animal and cattle waste in following areas:-

Location	%	Reason
----------	---	--------

1	At refuse Pit	7	Respondent mention they owned large courtyard so end of vicinity of house they make refuse pit for waste.
2	At Bush	14	11% out of 14 mentioned that they don' t own agriculture land so they throw near bushes. 3 % mention that they throw other people farm land if they agree either they throw
3	Drying for reuse (fertilizer) at farmland	48	Farm land is nearby so can collect near farm land and when dry use for fertilizer.
4	Drying for reuse (fertilizer) at surrounding	20	Due to the farm land is far away from house and they collected at surrounding at then transfer to Farm land one in week.
5	Drying and using for cooking purpose	5	Respondent mention they own less quantity of cattle mostly buffalo and goat so they make waste dry and use for cooking purpose.
6	Burying	6	Most of respondent mentioned that they owned goat and they clean vicinity they burying waste near house.

2 Issue related to Animal waste:

31%of respondent (20% drying at surrounding of house, 5% drying for cooking purpose and 6% are burying) said that animal waste become dirty and give unpleasant smell and flies always present on waste in all season, the most problem happen during rainy season, area become muddy and flies and mosquito make them sick. They cannot throw the waste outside their Farm land due to far from house and they don' t have refuse pit. A combined 70-80% respondent mentioned following issue related to Animal waste and HH Garbage are:

- Flies land on garbage and germs cling to its' feet, then the fly lands on food or drinking glass and you pick up another germ.
- Rats get into the garbage- then into house and walk all over everything in home- helping to spread disease. Mice do about the same thing as rats-they are just Smaller and able to enter areas through smaller openings
- Cockroaches breed and feed in the garbage- then spread out from there, infesting the area

3 Observation for Household Waste:

HHs waste location	Y(%)	N(%)	Reason
Household pit	7	93	Most of HHs dedicated the location in their courtyard and called
Clean Courtyard	30	70	House wife clean the courtyard once or twice in days.
Unpleasant Smell	82	18	As cattle dung lying on courtyard since morning start giving bad smell in
Flies on Animal waste	92	8	Un-cleaned courtyard and no proper disposal of Animal waste invite flies, ants and cockroaches.

14.0 HEALTH

1 Information on Hygiene Awareness

According to the latest WHO data published in April 2014 Diarrhoeal diseases Deaths in Myanmar reached 13,919 or 2.62% of total deaths. The age adjusted Death Rate is 28.97 per 100,000 of population ranks Myanmar 56 in the world.

44% mentioned that cause of diarrhoea and stomach upset are eating unhygienic dirty foods. 18% out of 44% said primarily they unable to recognise the importance of clean food and sometime they eat uncovered food which may be contaminated and then they suffer from Stomach ache.

Many people do not make the link between poor water quality and diseases such as diarrhoea, intestinal worms and skin diseases. Dirty hands and unsanitary waste disposal perpetuate the cycle of disease and poverty

2 Cause of Diarrhoea and Stomach upset

19% of respondent don't know the cause of diarrhoea, which shows lack of knowledge of other vector borne diseases. Risk factors that were associated with persistent diarrhoea and malnutrition included low family income, low education of mothers, unhygienic latrines, flies in the house and on the child, dirty appearance of child and mother, mother not using soap and water when washing child's stools, defecation of

child on floor, breastfeeding on demand, child eating food from floor, not feeding recommended weaning foods, and lack of knowledge by mother about causes of diarrhoea and about foods that prevent malnutrition. These results indicated that persistent diarrhoea and malnutrition in surveyed areas are caused by a complex of several interrelated socioeconomic factors, unsanitary behaviour pertaining to personal hygiene, the practice of demand breastfeeding and lack of certain weaning foods, and low education of mothers who showed less knowledge about causes of diarrhoea and prevention of malnutrition.

3 Diarrhoea cases in Family in past weeks

10% house hold mentioned that they commonly have problems of stomach upset and loose motion, which may be diarrhoea, as they don't know symptoms of diarrhoea. 20-30% reported that they not aware about diarrhoea cases in family. 10-12% reported that their children face some loose motion problem in current and past weeks also.

4 About diseases: - MALARIA

Understanding of the aetiology of Dengue, Malaria and Chikengunya is better than that for diarrheal diseases. This statement is made in light of the comparison of those who correctly identified what causes vector borne diseases 79 percent (mosquito bites) with those who listed germs 12 percent and 9 percent who don't know and those who listed the correct answer in respect to malaria.

5 About diseases: - How Malaria Spreads

However, the understanding of how these diseases can be prevented is majored on environmental actions such as clearing stagnant water and bushes. Notable is the 7 percent who don't know what to do.

6 About diseases: - How Disease prevented

However, the understanding of how these diseases can be prevented is majored on environmental actions such as clearing stagnant water and bushes .Notable is the 7 percent who don't know what to do.

7 About diseases:-Mosquito related Disease Control

Some of Beneficiary has knowledge for prevention of malaria related control methods through awareness from township level health department and from radio but applicability for using of the information still lacking due to skill and resources.

8 Self-Reported Disease incidence and Health Care Options

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The most prevalent diseases are water related, the highest reported household incidence being for diarrhoea at 13 percent, vector borne (12 percent) and skin diseases at 12 percent. Three of the top four diseases affecting households

are therefore water and vector related. Skin diseases, being largely water washed are a reflection of water scarcity while diarrhoea reflects in part the effects of poor water quality, hygiene and sanitation.

15.0 AWARENESS OF DISEASE AETIOLOGY

Poor understanding of disease aetiology contributes to poor understanding and practice in hygiene and sanitation thereby perpetuating a disease friendly living environment. Only 68 percent of respondents made the association between dirty food, dirty water and diarrheal diseases, added to the poor association between hygiene and these class of diseases, it is clear that poor awareness on hygiene and disease aetiology make individuals and communities susceptible to disease outbreaks.

16.0 HEALTH CARE OPTIONS

There is access to free medical care with an average of 150 patients attended to by MOH2 clinic which are mainly for prenatal and ante natal care. While the District general hospital provides medical care for an average of 350 patients daily. From the Ministry of Health the Public health inspectors conduct community and school health education program reaching approximately 59 percent of the population with 44 percent information on water and sanitation.

17.0 AWARENESS AND PRACTICE OF HYGIENE

The survey found that the link between disease and hygiene (hand washing) is very weakly appreciated , asked why it is important to wash hands , only 47 percent of respondents said this helps remove germs , on the other hand 45 percent said it simply removes dirt. While 2 percent didn' t know.6 percent was for other reasons such as religious reasons .Further, it was established that consistent hand washing is highest before eating and when hands are dirty , both 22 percent followed by before handling food or cooking 18 percent and after handling infant faeces 12 percent . It is therefore clear there is little regard for the primary barriers to the spread of faecal borne pathogens but most people make observance of secondary barriers to the spread of faecal borne pathogens.

The efficacy of hand washing is further diluted by the cleaning agent used; 65 percent use water only and 31

percent use water and soap, the rest use water and abrasives, mainly ash. The main reason for this is low level is lack of awareness.

To achieve the desired hygiene transformations, PHAST trainers will have to reach over 50 percent of households in the intervention area through direct dissemination of messages on better hygiene behaviour practices and also the link with safe water chain.

17.0 HYGIENE INDEX [observation +BLS]

1. Overall situation of Hygiene Index:

The village level hygiene index derived on the basis of 45 indicator breakdown in the scoring of 0-2 in range [0 show fully achieved the indicator 1 achieved but needs improvement 2 not achieved]

The hygiene Value defined for indicator in range of 0-10 based on scoring indicator range 7-10 fully achieved 3-7 need to achieve and 0-3 not achieved for hygiene in respect to Knowledge attitudes and practices.

The scoring value index based on scoring indicator in percentage wise representation on scoring assigned to respective indicator.

Hygiene index categorised in 1-10 index range. And grouped in following way

Hygiene Index	Type
10	LOW
9	
8	
7	Moderate
6	
5	
4	High
3	
2	
1	

The detail combination of Hygiene value range, scoring value. Scoring indicator and hygiene Index are as bellows

2. The selected indicators and scoring description are shown below

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Hygiene Value range [KAP]	Scoring value Index [%]	Scoring Indicator Range	Hygiene Index
0-1	100%	2	10
1-2	90-99%		9
2-3	70-79%		8
3-4	60-69%	1	7
4-5	50-59%		6
5-6	40-49%		5
6-7	30-39%	0	4
7-8	20-29%		3
8-9	10-19%		2
9-10	0-9%		1

Indicators and Scoring description				
1	WASH coverage	Distance		
		within 500 mts	500-1000mts	>1000mts
	Water source Accessibility	0	1	2
	Available improved water source	0	1	2
2	Water Quality	good	Bad	poor
	Taste of water	0	1	2
	Color- transparent	0	1	2
3	Water Quantity- for all use	30 Gall	10-30Gall	< 10 Gall
	Available quantity HHS level	0	1	2
4	Accessibility of unimproved water source for domestic use	Distance		
		within 500 mts	500-1000mts	>1000mts
	Water source Accessibility	0	1	2
	Available improved water source	0	1	2
5	Water Quality	good	Bad	poor
	Taste of water	0	1	2
	Color- transparent	0	1	2
6	HHS water treatment methods [affordable]	local	less costly	Expensive
	Households level	0	1	2
	School level	0	1	2
	Mode for water collection	Distance		
		<5 Mts 15-30min	5-50/30-60min	500or more mor than 60min
Water Fetching	0	1	2	
Total time for fetching	0	1	2	
7	Water storage facility	<5 Mts	5-500	500or more

	water storage availability	0	1	2
8	Water storage containers	>500 gal	50-500 gal	<50 Gal
	Storage capacity	0	1	2
9	Sanitation	HHS level	community	open defecation
	Defecation place	0	1	2
	Excreta disposal system	0	1	2
	faecal free envt	0	1	2
10	Hygiene knowledge and practices	available in house	available <50 mts	not available
	Handwashing Place in home	0	1	2
11	Cleaniness	clean	clean but dusty	not clean
	Kitchen Hygiene	0	1	2
	Kitchen floor cleanliness	0	1	2
12	storage food and utensil	covered/ not available	not properly covered	not covered/available
	Food storage [covered]	0	1	2
	utensil	0	1	2
	Presence of leftover food, infant bottle	0	1	2
	Presence of unwashed dishes	0	1	2
	Presence of washing water	0	1	2
	Storage container	0	1	2
13	Cleaniness of yard/compound	no faces /swept yard no litter	no faces but not clean/scrubbed	faces in and around/dirty/unswept
	faecal free envt	0	1	2
	Liiter free envt/yard	0	1	2
	Animal dropping	0	1	2
	Refuse pit	0	1	2
	yard clean	0	1	2
	Animal in compound	0	1	2
14	strom water cleanliness	available in house	available outside	not available
	Availability of strom water draingage	0	1	2
	15	condition of strom water	not spillin g/ not block	not spiling/bl ock
strom wateroverspilling		0	1	2
16	cleaniness of mother, child , sibling			

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Children condition	washed and clean	washed but not clean	not cleaned/ dirty
cloths, soiled diaper toys	0	1	2
children faces	0	1	2
hands, face, Nails	0	1	2
Mother condition	0	1	2
cloths	0	1	2
mother faces	0	1	2
hands, face, Nails	0	1	2

18.0 HYGIENE INDEX OF WUNDWIN [observation +BLS]

WUNDWIN

The details Hygiene index for villages of wundwin township are :

Hygiene Index of surveys villages [WUNDWIN]					
Indicators for Hygiene Index Measurement	Wundwin TSP.				
Villages	Taung se	Pae Pyit	Zaung Chan Kone [N]	Pan Kyain g	
WASH coverage	0	1	1	4	
1 Water source Accessibility	0	0	0	2	
2 Available improved water source	0	1	1	2	
Water Quality	0	0	0	0	
3 Taste of water	0	0	0	0	
4 Color-transparent	0	0	0	0	
Water Quantity-for all use	1	0	1	0	
5 Available quantity HHS level	1	0	1	0	
Accessibility of unimproved water source for domestic use	2	2	2	4	
6 Water source Accessibility	1	1	1	2	
7 Available unimproved water source	1	1	1	2	
Water Quality-unimproved	2	2	2	4	
8 Taste of water	1	1	1	2	
9 Color-transparent	1	1	1	2	
HHS water treatment methods [affordable]	3	3	2	3	
10 Households level	2	1	1	2	
11 School level	1	2	1	1	

	Mode for water collection	4	3	4	4
1	Water Fetching	2	2	2	2
2					
1	Total time for fetching	2	1	2	2
3					
	Water storage facility	0	0	0	0
1	water storage availability	0	0	0	0
4					
	Water storage containers	1	1	1	1
1	Storage capacity	1	1	1	1
5					
	Sanitation	4	3	4	3
1	Defecation place	1	1	1	1
6					
1	Excreta disposal system	1	1	1	1
7					
1	faecal free envt	2	1	2	1
8					
	Hygiene knowledge and practices	1	1	1	1
1	Handwashing Place in home	1	1	1	1
9					
	Cleanliness of areas	2	2	1	1
2	Kitchen Hygiene	1	1	1	0
0					
2	Kitchen floor cleanliness	1	1	0	1
1					
	storage food and utensil	10	11	11	12
2	Food storage [covered]	0	1	1	2
2	utensil	2	2	2	1
3					
2	Presence of leftover food, infant bottle	1	1	1	1
4					
2	Presence of unwashed dishes	0	2	1	2
5					
2	Presence of washing water	2	1	2	1
6					
2	Storage container	2	1	1	2
7					
2	Kitchen vessel	1	1	1	2
8					
2	water storage cover	2	2	2	1
9					
	Cleanliness of yard/compound	12	11	11	10
3	faecal free envt	1	1	2	1
0					
3	Liiter free envt/yard	1	1	2	1
1					
3	Animal dropping	2	1	1	1
2					
3	Refuse pit	2	2	2	1
3					
3	yard clean	2	2	1	2
4					
3	Animal in compound	2	2	2	2
5					
3	Garbage in living area	2	2	1	2
6					
	strom water cleanliness	2	2	2	1

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37	Availability of storm water drainage	2	2	2	1
	condition of storm water	2	2	2	1
38	storam wateroverspillin g	2	2	2	1
	cleaniness of mother, child , sibling	11	7	10	7
39	Children cloths, soiled diaper toys	1	1	1	1
40	children faces	2	1	2	1
41	Children hands, face, Nails	2	1	2	1
42	Mother condition	1	1	1	1
43	Mother cloths	1	1	2	1
44	Mother faces	2	1	1	1
45	hands, face, Nails	2	1	1	1
	Total	57	51	55	56
	Hygiene Value [KAP]	1.27	1.13	1.22	1.24
	Average Scoring in %	80.3	88.2	81.8	80.3

Indiators for Hygiene Index Measurement	Wundwin TSP.			
	Taung se	Pae Pyit	Zaung Chan Kone [N]	Pan Kyaing
Hygiene Value [KAP]	1.2	1.1	1.2	1.2
Average Scoring in %	80.3	88.2	81.8	80.3
Hygiene Index	9	9	9	9
Type	Low	Low	Low	Low

The current hygiene index for surveyed village are 9 represents Low group.

TOWNSHIP: MYITTHA



19.0 SURVEY HIGHLIGHTS : Myittha TSp

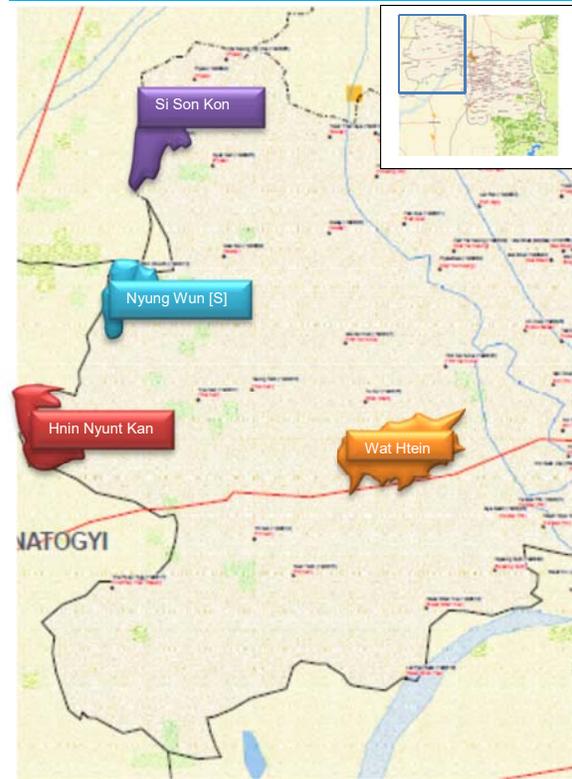
General Information about Myittha Township and surveyed villages:

1 Profile of Myittha Township and accessibility

Myittha Township is a township of Kyaukse District in the Mandalay Division of Burma. The capital is Myittha and consists of 6 wards, 227 villages. With total Area: 890.31 km² — Density: 219.7 km² [2014] Myittha township is located 12.7 miles [20.4 kms] to the south of Mandalay in the dry zone of Myanmar.

The 4 sample villages are surveyed are 8 to 28 miles away from town. The survey shows that motorcycles are used as the main transportation mode to reach to these villages, although three of the villages can be reach by car. However, because of road problems during the rainy season some of areas become inaccessible.

Location of surveyed villages of Myittha Township



2 Religion and Household Size

The numbers of households in these villages range from 115 to 255 households, the average being 190. There are 1 to 8 members per household. On average, there are about 5 members per household. All of the households surveyed are also known to be 100% Bamars of Buddhist faith. Most of them live in wooden or bamboo houses.

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According to the data collected, 25.6% of the houses are made of bamboo, 52% of wood, 14% of bricks, and 1.2% small huts with the ground as the floor.

3 Livelihood

The major livelihoods of these 25.4% of the houses are made of bamboo, 57% of wood, 16% of bricks, and 1.6% small huts with the ground as the floor people are: agriculture (62.2%), casual labor (33%), livestock (3.2%), and petty trading (1.6%). When asked what they need most currently, most of them (36.2%) said livelihood, 33.4% food, 26.5% health, 2.2% education, and only 1.7% shelter.

4 Occupation and poverty level

Survey also shows that 54% of the populations are poor. And out of those poor people, 7% of them are the very poor and vulnerable people, which included female-headed households, households with only aged people, households with children as main income earners, and households headed by disabled people. Most of these poor people do not even get enough income for food. The rest of the populations consider themselves as middle class people (30%) and rich people (9%). The middle class people only get income that barely covers their cost of living. The rich people though get adequate income for their costs of living in the community.

As for the average monthly income of each family, survey shows that out of all the families surveyed, 27.6% get less than 50,000 kyats, 28.2% between 50,000-75,000 kyats, 30.2% between 75,000-150,000 kyats, and the rest 14% between 150,000-300,000 kyats. With those incomes they earn, more than half of the population (66.4%) spend their money on food, 25% on livelihood, 4.2% on health, and the remaining 4.4% on education (formal).

5 Household Fuel consumption

Three quarters of the households (75.2%) use firewood/straw/ dung for cooking, 24.8% use charcoal from wood. Typical of pastoralist communities most households use firewood as the main source of fuel. This in some instances has devastating effect on the environment for such sources of energy are not sustainable and they destabilize the ecosystem. The households should be encouraged to use more environmentally friendly energy sources including cow dung and harnessing solar energy

6 Access to Education and health facility

It is found that out of the 4 villages, 3 of them have primary schools, and 1 villages (Hse Soen Kan) have no school at all and as for the medical places, all villages have access for health center/clinic outside the villages.

Living in the dry zone, people tend to suffer from shortage of water. However, starting from 1990 government has provided irrigated water from Kinda Dam to certain parts of Myitthar Township for agriculture use, alleviating the water problem to some extent.

7 Housing Characteristics:

From observations and analysis of Survey it is found that 76% of selected respondent mention have detached house with private yard and Animal pen in the vicinity of house. 27% mention they have only Animal Pen in the vicinity of house and 2% household only detached houses. Most of house are single storied only 1% (22 Household) found double story or G+1 structure.

20.0 WATER Coverage

1 Main source of Drinking water

Overall, the three main sources of water which all the 4 sample villages rely on for drinking are and ponds with hand pump, river, spring with gravity flow line and deep tube well facility. The other smaller sources are unprotected dug wells, creek, and ponds outside the village boundaries are also exist.

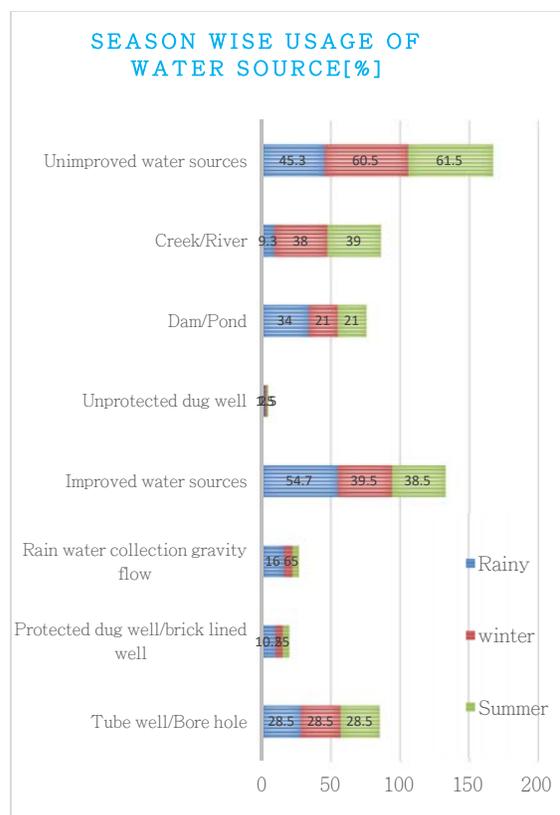
The table below shows the utilized water sources for each of the three seasons. In all three seasons, an average of 117households (55%) of the sample household' s use improved water sources for drinking purposes. Average 97households (45%) use surface water during Rainy season during summer most of well dry up and the ration increase45 to 61% for unimproved water sources. There are more than 15% variation in utilizing the sources of water among the three seasons.

2 Water Source (Drinking water)

	Rainy		Summer		winter	
	count	%	count	%	count	%
Tube well/Bore hole	61	28.5	61	28.5	61	28.5
Protected dug well/brick lined well	21	10.2	10	5	10	5
Rain water collection gravity flow	35	16	15	6	10	5
Improved water sources	117	54.7	91	39.5	84	38.5
Unprotected dug well	6	2	5	1.5	5	1.5

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Dam/Pond	70	34	44	21	44	21
Creek/River	21	9.3	80	38	80	38
Unimproved water sources	97	45.3	128	60.5	129	61.5



3 Domestic water [Kitchen and other use]

Households relying on improved water sources for kitchen and other uses constitute more than 55% (average 117 surveyed households) and unimproved sources, 45% in rainy season and 61% in summer (average 97 -129 households).

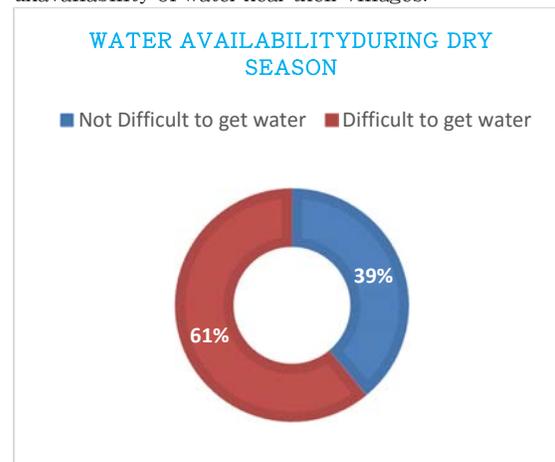
4 Difficulty in getting water

Altogether 129 households (61%) of households reported that they have difficulty in getting water for drinking and kitchen purposes, especially during summer—March, April and May

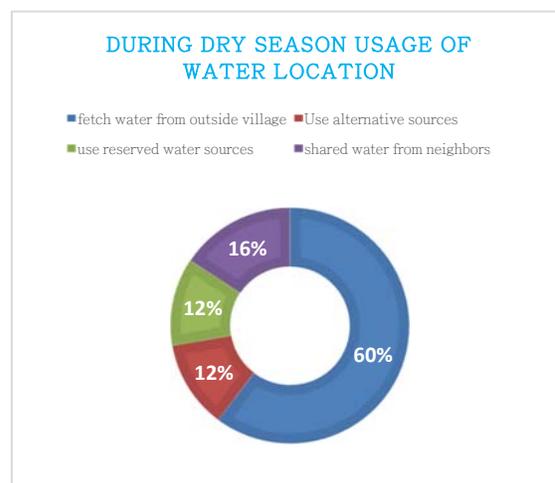
	Count	Percent
Not Difficult	86	39%
Difficult	129	61%
Total		100%

Of the 129 surveyed households that said they have difficulty in getting water, 110 households (86%)

mentioned the reason that water source is depleted while the remaining 19 households (14%) attributed the difficulty to the damage of the water source and unavailability of water near their villages.



Of the 129 households, 80 households (60.3%) go outside the residential quarters to fetch water, e.g. at springs where water is slowly trickling out, while 15 households (12%) use alternative sources in the village. 15 households (12%) use the reserved water and 19 households (15.7%) have the water shared by neighbours or the monastery or. went to other villages for this purpose.



5 Responsibility of fetching water and storage

In the 4 villages of Myittha Township under survey, about 163 households (75.7%) said they need to fetch water while the remaining 52 households (24.3%) do not need to.

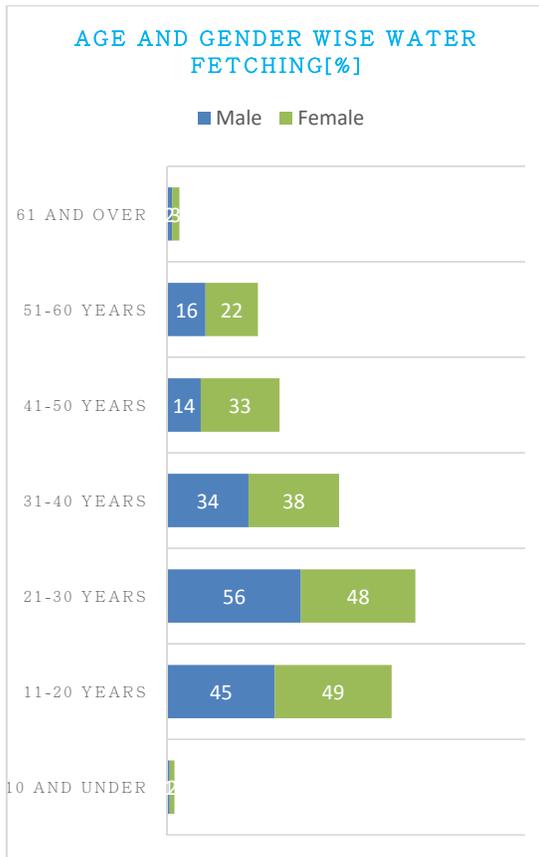
6 Need to fetch water:

By gender, the number of female water fetchers is greater than that of male water fetchers. According to age groups, those in the 21-30 age bracket constitute the

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largest number (28.7%), followed by those in 11-20 and 31-40 age brackets at the percentage (25.9%) and 19%. The third largest group belongs to 41-50 age group (13%), followed by the 51-60 age group (10%). Children (10 and under) and elderly persons (61 and above) account for the least percentages, 1.3% and 0.8% respectively.

7 Water fetchers in different age groups and gender



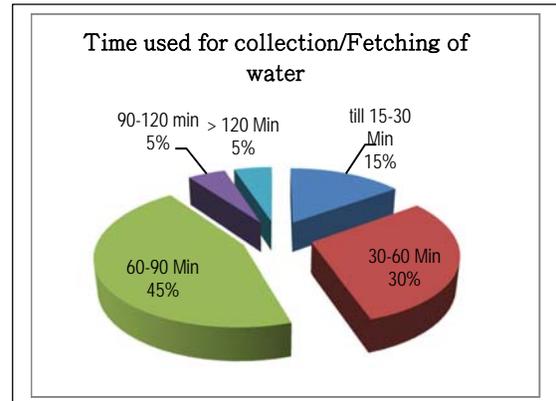
Water Fetching by age and gender wise [Multiple Ans.]

	Male	Female	Count	%
10 and under	1	2	3	0.82
11-20 years	45	49	94	25.90
21-30 years	56	48	104	28.70
31-40 years	34	38	72	19.90
41-50 years	14	33	47	12.92
51-60 years	16	22	38	10.46
61 and over	2	3	5	1.30
Total	168	195	363	100

Time used for Collection/ Fetching of Water:

15% of respondent mentioned that the average time for collection of water during normal (winter and Rainy) season is range from 15 min to 30 min. 30% of respondent mentioned that the average time for collection of water during normal (winter and Rainy) season is range from

30-60 min. 45% of respondent mentioned that the average time for collection of water during normal (winter and Rainy) season is range from more than 60-90 min. and 5% mentioned is some time more than 2 hr.

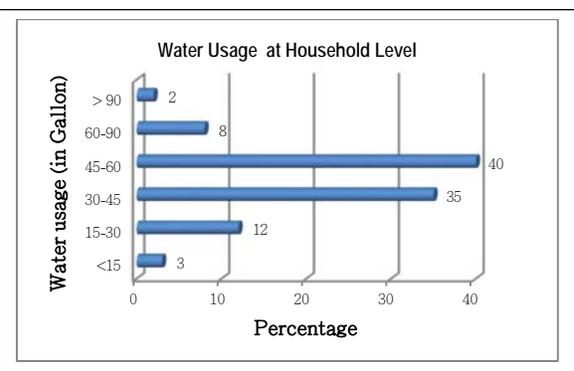


During Dry season most of current water sources in village become dry or the water table level go. Women's mentioned some time in rainy season water quality become worse of some sources and during dry season most of time they go for fetching of water 3-4 times, as some of them are lacking of transportation and they have to carry water on their shoulders. Some of respondent mentioned that during dry season most of villagers faced following issues are:

- Sharp Depletion in water table level in the water sources.
- Water Recharge take long time and quantity is not sufficient
- New source is not sufficient for villagers.
- Travel time to fetch water increase (3-4 times) as compare to normal time.
- Water quality is worse and muddy and yellowish in nature.
- Lack of fuel wood for treating/ boiling of water.

8 Water usage per Household

At least 47 percent of the household use 30-90 gallon and 46% percent of the household use over 90 gallon of water per day for their domestic and personal hygiene which indicate an average of 12-20 gallon per person per day. Only 7 percentage use less than 8-10 gallon [30 litres] of water per family for their daily usage



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households do not treat their drinking water. The proportion of households that do not treat their drinking water is significantly high suggesting a high level of exposure to water borne diseases. Those households who do not treat their drinking water cited several reasons, notable was that the water is already safe (59.0%), too expensive to treat

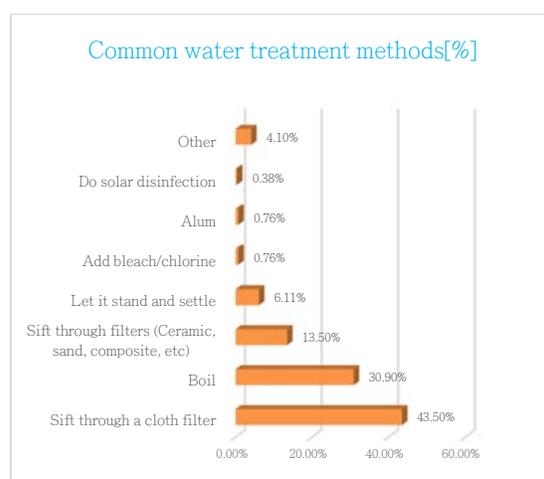
22 Treatment of water: Methods and approaches

Treatment of water to make it safe for drinking

Asked if water is treated to make it safer for drinking, they gave multiple responses. Most of the respondents said they treat water to make it safe for drinking. The common method of treating water is using a cloth filter (80.9% of the 215 households) followed by boiling (70.2%) and using other filters (ceramic, sand, composite, etc) (8.4%). The percentages of using bleaching powder and solar disinfection are very small, being 0.5% and 0.2% respectively. There is a small group of respondents who use alum for purifying water (0.5%).

23 Water Treatment Methods for Drinking

	Count	Percent (Of 215 HHs)
Sift through a cloth filter	114	43.5%
Boil	81	30.9%
Sift through filters (Ceramic, sand, composite, etc)	35	13.5%
Let it stand and settle	16	6.11%
Add bleach/chlorine	2	0.76%
Alum	2	0.76%
Do solar disinfection	1	0.38%
Other	11	4.1%



Kitchen use

Conversely, the percentages of treating water for kitchen use are very small. Overall, only 5 households

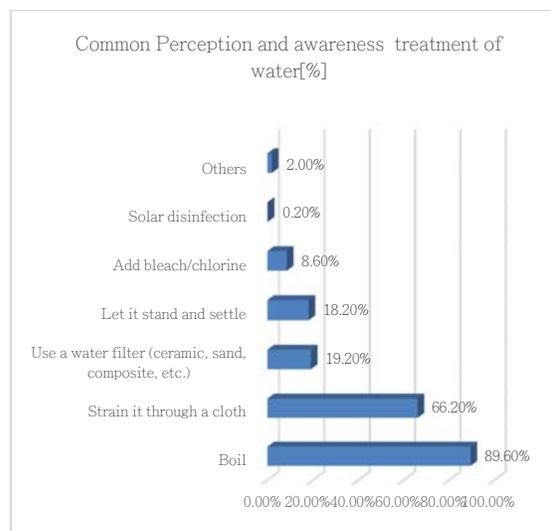
(2%) treat water for kitchen use. Their methods of treatment are using a cloth filter (40%), using composite filter (40%) and sedimentation (30%).

24 Treatment of water to make it safer for kitchen use

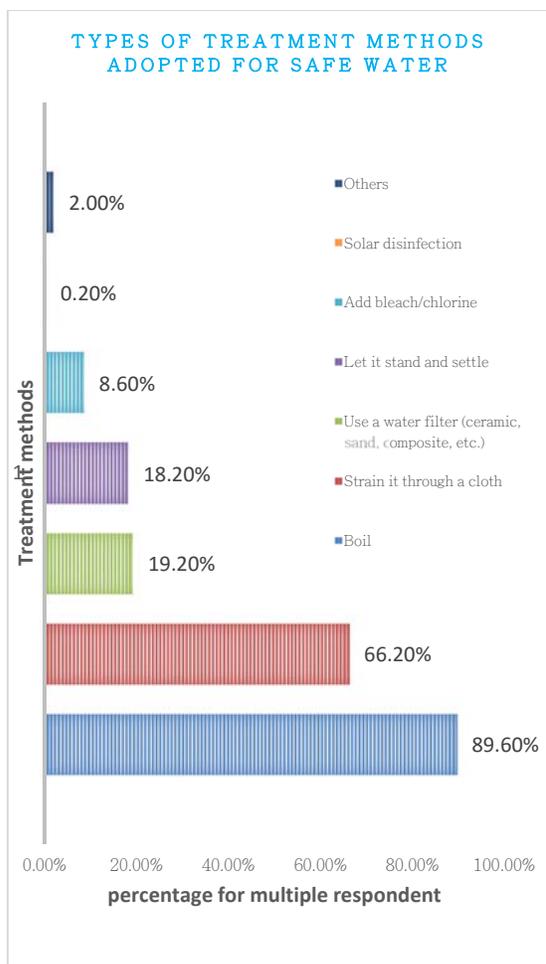
	Count	Percent
Treat the water	5	2.0%
Do not treat the water	210	98.0%
Total	262	100.0%

Perception about the treatment of water to make it clean/safe to drink

	Count	Percent (Of 215 HHs)
Boil	234	89.60%
Strain it through a cloth	173	66.20%
Use a water filter (ceramic, sand, composite, etc.)	50	19.20%
Let it stand and settle	47	18.20%
Add bleach/chlorine	23	8.60%
Solar disinfection	1	0.20%
Others	5	2.00%
Total (Multiple answers)	533	



About 142 households (66.2% of 215 households) of respondents assume that water can be treated by straining it through a piece of cloth to make it safe to drink while 234 households (89% of 533 multiple response of household households) of them think that water can be boiled to make it safe.



In the perception of the respondents, 367 households (73.4% of the 533 households) assume that the treated water is – clean while 109 households (21.8%) think it is not so clean. Altogether 20 houses (4%) believe that the water they have treated is –absolutely clean. One household (0.2%) did not give answer.

25 Problems relation to drinking water quality

During the survey respondent mentioned that the problems related to water are :

Water quality	%	Reason
Dirty/ Brackish water	15	Village water source installed by Govt /private owners providing brackish water with mild salinity level. During water quality check we find the range are 1000 ppm to 1200 ppm in some of villages. And if the boil, there is not sufficient firewood available
Bad taste	20	Some village beneficiary mention the taste of water

		is not good due iron presence in water. And some time if they drink they become sick etc. Some of respondent mentioned that during cooking with rice the water turn in yellowish colour
Disrupted supply / not enough for fulfilling present needs	45	This is normal problem of respondent , they mention that during dry season the water sources become dry and water scarcity arises
Difficulty to collect	18	Most of people responded mentioned that they have to travel 30-60 min or more to collect the water during dry season and during normal time its 1-2 hrs.
High Water Cost	1	During dry season the cost of water become high due to unavailability of drinking water ,in normal time 10-15 kyat per gallon become 20-25 kyat, due to vender also has to collect water from far sources and travel time increases
Others	1	Some people mentioned that maintenance cost of tube well running is high, and some time owner cannot afford to repair.

26 Attitude towards present water supply (only for drinking purpose):

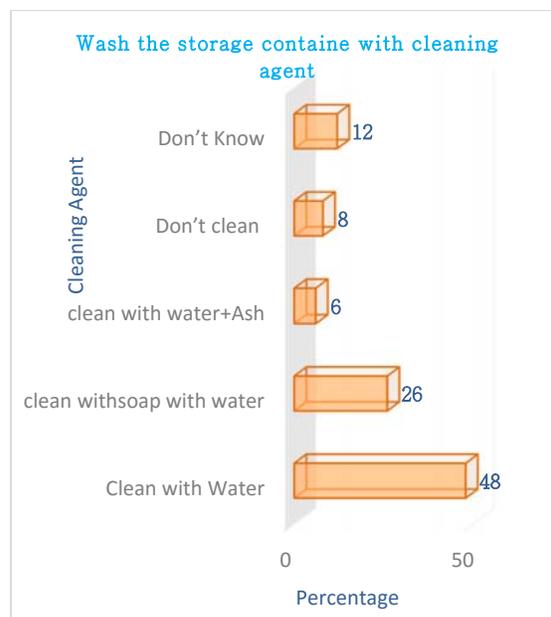
The Attitude of respondent is presented in following ways as per seasonality. The combined response for Myittha Township for surveyed villages are:

	Dry	Rainy	Normal
Water Quality and Quantity	10% agreed that water is available during dry season and quality is good and 90 % mentioned that quantity is not enough due to some of sources become dry.	15% agreed that water is available in the season and 40% mentioned quality is not good as the current sources become muddy in	25% mention that water is available in the season and some of water source quality is good and sufficient

		the season.	
Water delivery / Collection is good and enough are available With 10-30 min walk	45-50% of respondent mention that nearest collection point for water become dry i.e. well etc. and they travel 1-2 hrs to collect water	50-65% mention that during this season water is available at nearest point	60% mention that during this season water is available at nominal cost and at their nearest water Source in village.
Enough Water but quality is Concerned.	80-90% responded that water quality is brackish where water is fetched through tube well.	30-60% mention that enough water, if good rain, but annual precipitation is decreasing in recent years	60% respondent mentioned that water is available and quality is good related to wells.

27 Water storage container cleaning agent

48% of respondent mentioned that they wash container with water, but used the same water which may be mild salinity. 26% respondent mentioned that they clean the container with soap and water and 6% with water and ash or mud. No one responded that they wash the container with clean and safe water.



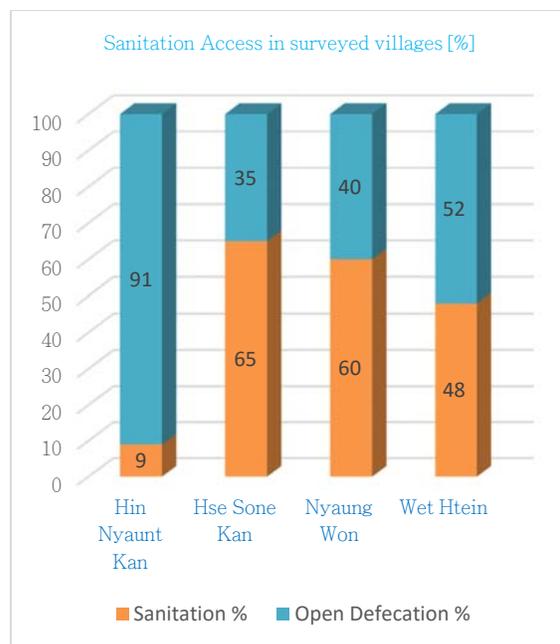
21.0 SANITATION

1 Access to Sanitation:

Majority of both men and women own latrine and only 68.29% percent have their own latrine but during the feedback session and focused discussion on access to latrines they reported the access was lower with only about 50 percent having own latrines. What they reported was the most commonly used neighbor and relatives latrines. However the survey data indicates at least 60-68 % use neighborhood or families sharing latrine. 32% of household adopts the open defecation practices. The open defecation ratio is varies in all surveyed villages.

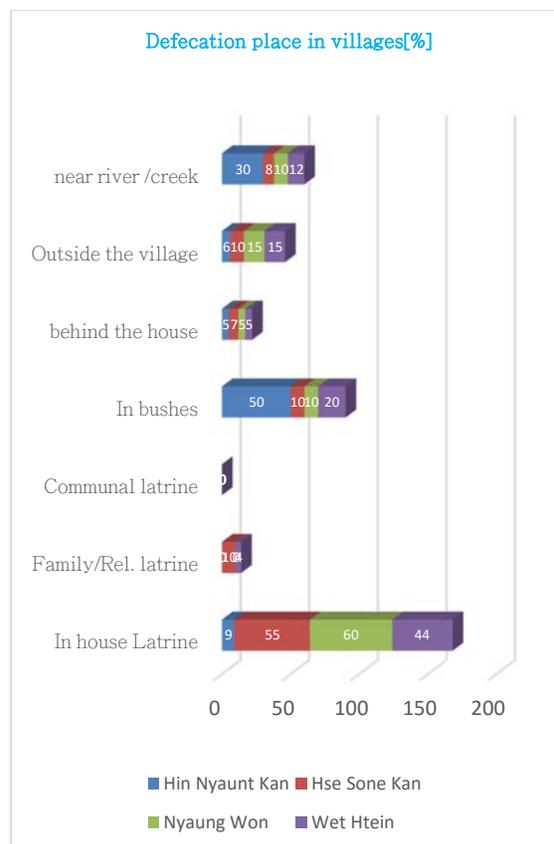
Myitthar township					
#	Hin Nyaunt Kan	Hse Sone Kan	Nyaung Won	Wet Htein	Total
Total HHs	115	255	253	157	780
Sanitation %	9	65	60	48	45.5
Open Defecation %	91	35	40	52	54.5

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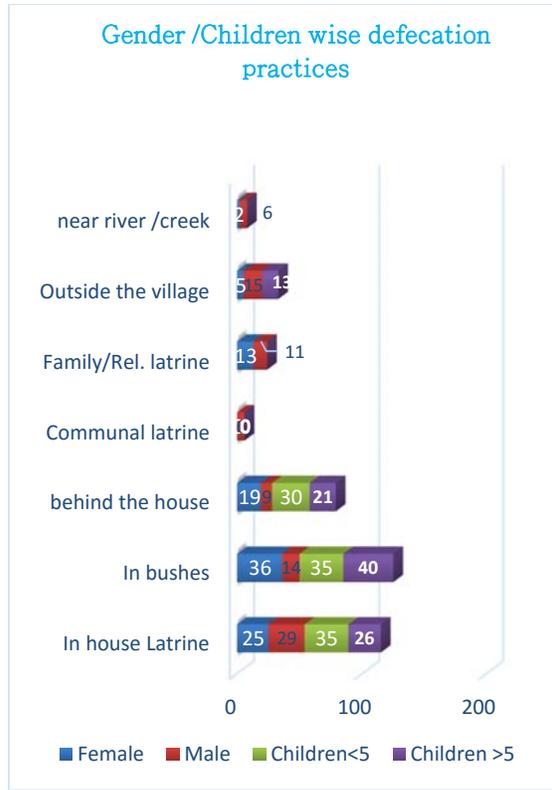
2 Defecation Places in surveyed villages

Defecation Places	Hin Nyaunt Kan [%]	Hse Sone Kan [%]	Nyaung Won [%]	Wet Htein [%]
In house Latrine	9	10	60	44
Family/Rel. latrine	0	10	0	4
Communal latrine	0	0	0	0
In bushes	50	10	10	20
behind the house	5	7	5	5
Outside the village	6	10	15	15
near river /creek	30	8	10	12



49% of respondents mentioned they defecate inside the house latrine. 32% people go for open defecation. 19.5% of people use their neighbor, relative or family latrine for defecation and 0.5% of people use village communal latrine, but this is not available in all survey villages and issue related to cleanliness is major concern of villagers. The gender and children wise segregation are shown in graph below and percentage wise in table below

Defecation	Female	Male	Children<5	Children
	In percentage			
In house Latrine	25	29	35	26
In bushes	36	30	35	40
behind the house	15	18	20	21
Communal latrine	0	0	0	0
Family/Rel.	13	11	0	0
Outside the	5	15	0	0
near river /creek	2	6	0	0



14% of respondent mention they feel shame to defecate in open place. 27% of respondent that not defecating in open mentioned that by having latrine the risk of diarrhea in their family is decreasing.

Nearly all latrine owners reported that adults and children usually use the household latrine for defecation, although children are slightly more likely to continue the practice of open defecation. Almost 95% of latrine owners indicated that they would defecate in the field or forest if they did not have a household latrine

4 Satisfaction level with present Latrine

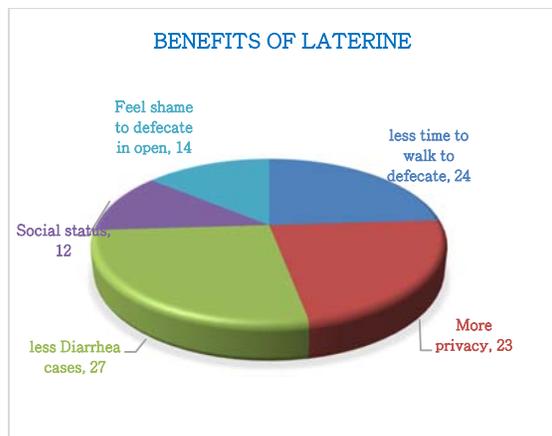
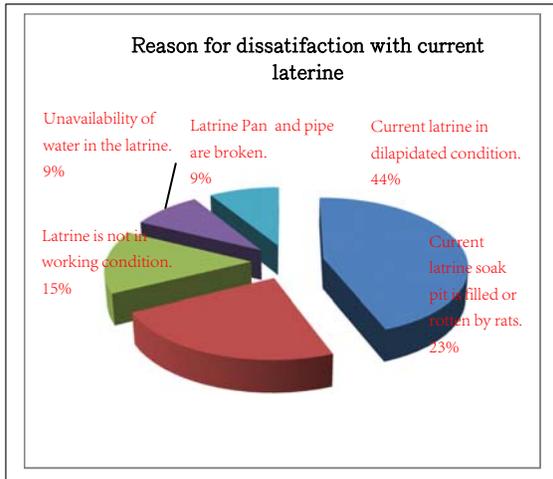
Out of 30% people who had latrine in their house or vicinity of houses .66% respondent mentioned that they satisfy with their latrine and 34% mention that they are not satisfy with present latrine. The reason for dissatisfaction are follows:-

- Current latrine in dilapidated condition.
- Current latrine soak pit is filled or rotten by rats.
- Latrine is not in working condition.
- Unavailability of water in the latrine.
- Latrine Pan and pipe are broke

3 Benefits of Latrine:

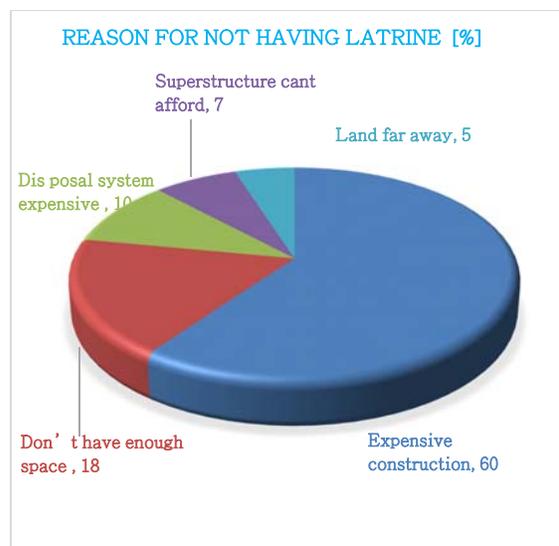
The latrine owner responded that there are benefits of having latrine. The response for benefits of latrine are:-

Benefits for Latrine	%
less time to walk to defecate	24
More privacy	23
Decrease in Diarrhea	27
Social status	12
Feel shame to defecate in open	14



5 Reason for not Having Latrine

Approximate 60% of respondent mentioned that construction of latrine is expensive and they cannot afford, some of respondent mentioned that they can afford superstructure by using old material of houses but cannot afford regular excreta disposal system. 18%of respondent mentioned that they don't have enough space for construction of latrine in their present land and their farmland is far away from their house.



6 Age group of Children's to start using Latrine

49% of respondent mentioned that their children's start using the latrine at the age of 4-6 yrs.

7 Place for Children's Stool disposal

34% respondent mentioned that they mixed children stool with cattle dung in same area where they collect cattle dung. 28% respondent mentioned that they throw stool in latrine. 36% mentioned that they throw children stool either in behind the house or bushes- forest areas. 2% mentioned they left children stool in courtyard and when they clean they through outside courtyard

8 The observation for sanitations are:

	Observations	Nos	%
A	Availability of latrine and type	400	100%
1	Pit latrine	55	13.7%
2	Fly-Proof latrine with bamboo Soak pit	327	81.9%
3	Fly-Proof latrine with Con. Ring Soak pit	18	4.4%
B	Condition of latrine (super Structure and soak pit)	400	100%
1	Good Condition	67	16.7%
2	Dilapidated Condition-(Privacy issue)	159	39.8%
3	Bad condition- (Need repair)	173	43.4%
4	Latrine has Concrete slab	1	0.17%
C	Distance of latrine from house	400	100%
1	Inside house	128	32%
2	Within 10-20 mts.	72	18%
3	Within 20-150 mts	80	20%
4	Within 150-250 mts	32	8%
5	250 mts	40	10%

6	500mts	48	12%
D	Latrine Clean(No faecal Matter & urine on the floor)	400	100%
1	Is latrine has Smell	196	49%
2	Soak pit full	68	17%
3	Visible waste	44	11%
4	Human faeces visible in yard	16	4%
5	Animal faeces visible in yard	4	1%
6	Open sewage/stagnant water	72	18%

22.0 SOLID WASTE DISPOSAL

1 HOUSEHOLD WASTE

There are two types of HH waste categorised are hazardous and non-hazardous waste seen in surveyed villages. Hazardous waste is used battery, fluorescent lamps and some insecticide material lying at corner of houses. Non- hazardous waste is kitchen waste, leftover food and vegetable, plastic bottles etc. are mixed with hazardous waste and found most of surveyed household. Most of Kitchen wastes are combined with water and humidity more than 60%. These factors produce unpleasant smell and make waste degradable seen in surveyed villages

11% respondent mentioned that they throw HH waste near to house, village road and 26% mentioned at farm land. A small 10% HH mentioned that they throw HH waste in refuge pit; most of HH mentioned small location called a refuge pit surrounded or vicinity of houses. 22% respondent said that they mixed with animal waste without reusing the plastic material

2 Disposal of Animal/ cattle Waste and issue

In villages, communities have less choice and techniques to dispose animal waste properly specially in regards to who has less land. The villagers are disposal animal and cattle waste in following areas:-

	Location	%	Reason
1	At refuse Pit	9	Respondent mention they owned large courtyard so end of vicinity of house they make refuse pit for waste.
2	At Bush	16	10% out of 16 mentioned that they don't own agriculture land so they throw near bushes. 6 % mention that they throw other people farm land if they agree either they throw

3	Drying for reuse (fertilizer) at farmland	45	Farm land is nearby so can collect near farm land and when dry use for fertilizer.
4	Drying for reuse (fertilizer) at surrounding	20	Due to the farm land is far away from house and they collected at surrounding at then transfer to Farm land one in week.
5	Drying and using for cooking purpose	5	Respondent mention they own less quantity of cattle mostly buffalo and goat so they make waste dry and use for cooking purpose.
6	Burying	5	Most of respondent mentioned that they owned goat and they clean vicinity they burying waste near house.

3 Issue related to Animal waste:

31% of respondent (20% drying at surrounding of house, 5% drying for cooking purpose and 6% are burying) said that animal waste become dirty and give unpleasant smell and flies always present on waste in all season, the most problem happen during rainy season, area become muddy and flies and mosquito make them sick. They cannot throw the waste outside their Farm land due to far from house and they don't have refuse pit. A combined 70-80% respondent mentioned following issue related to Animal waste and HH Garbage are:

- Flies land on garbage and germs cling to its' feet, then the fly lands on food or drinking glass and you pick up another germ.
- Rats get into the garbage- then into house and walk all over everything in home- helping to spread disease. Mice do about the same thing as rats-they are just Smaller and able to enter areas through smaller openings
- Cockroaches breed and feed in the garbage- then spread out from there, infesting the area

4 Observation for Household Waste:

HHs waste location	Y(%)	N(%)	Reason
Household pit	5	95	Most of HHs dedicated the location in their courtyard and called the refuse pit.

Clean Courtyard	20	80	House wife clean the courtyard once or twice in days.
Unpleasant Smell	85	15	As cattle dung lying on courtyard since morning start giving bad smell in environment.
Flies on Animal waste	95	5	Un-cleaned courtyard and no proper disposal of Animal waste invite flies, ants and cockroaches.

23.0 HEALTH AND HYGIENE

1 Information on Hygiene Awareness

According to the latest WHO data published in April 2014 Diarrhoeal diseases Deaths in Myanmar reached 13,919 or 2.62% of total deaths. The age adjusted Death Rate is 28.97 per 100,000 of population ranks Myanmar 56 in the world.1

46% mentioned that cause of diarrhoea and stomach upset are eating unhygienic dirty foods. 21% out of 46% said primarily they unable to recognise the importance of clean food and sometime they eat uncovered food which may be contaminated and then they suffer from Stomach ache.

Many people do not make the link between poor water quality and diseases such as diarrhoea, intestinal worms and skin diseases. Dirty hands and unsanitary waste disposal perpetuate the cycle of disease and poverty

2 Cause of Diarrhoea and Stomach upset

23% of respondent don't know the cause of diarrhoea, which shows lack of knowledge of other vector borne diseases. Risk factors that were associated with persistent diarrhoea and malnutrition included low family income, low education of mothers, unhygienic latrines, flies in the house and on the child, dirty appearance of child and mother, mother not using soap and water when washing child's stools, defecation of child on floor, breastfeeding on demand, child eating food from floor, not feeding recommended weaning foods, and lack of knowledge by mother about causes of diarrhoea and about foods that prevent malnutrition. These results indicated that persistent diarrhoea and malnutrition in surveyed areas are caused by a complex of several interrelated socioeconomic factors, unsanitary behaviour pertaining to personal hygiene, the practice of demand breastfeeding and lack of certain weaning foods,

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and low education of mothers who showed less knowledge about causes of diarrhoea and prevention of malnutrition.

3 Diarrhoea cases in Family in past weeks

12% house hold mentioned that they commonly have problems of stomach upset and loose motion, which may be diarrhoea, as they don't know symptoms of diarrhoea. 20-30% reported that they not aware about diarrhoea cases in family. 10-12% reported that their children face some loose motion problem in current and past weeks also.

4 About diseases: - MALARIA

Understanding of the aetiology of Dengue, Malaria and Chikengunya is better than that for diarrheal diseases. This statement is made in light of the comparison of those who correctly identified what causes vector borne diseases 79 percent (mosquito bites) with those who listed germs 12 percent and 9 percent who don't know and those who listed the correct answer in respect to malaria.

5 About diseases: - How Malaria Spreads

However, the understanding of how these diseases can be prevented is majored on environmental actions such as clearing stagnant water and bushes. Notable is the 7 percent who don't know what to do.

6 About diseases: - How Disease prevented

However, the understanding of how these diseases can be prevented is majored on environmental actions such as clearing stagnant water and bushes .Notable is the 7 percent who don't know what to do.

7 About diseases:-Mosquito related Disease Control

Some of Beneficiary has knowledge for prevention of malaria related control methods by hearing the health department information through radio but applicability for using of the information they lacking the skill and resources.

8 Self-Reported Disease incidence and Health Care Options

The most prevalent diseases are water related, the highest reported household incidence being for diarrhoea at 15 percent, vector borne (10 percent) and skin diseases at 15 percent. Three of the top four diseases affecting households are therefore water and vector related. Skin diseases, being largely water washed are a reflection of

water scarcity while diarrhoea reflects in part the effects of poor water quality, hygiene and sanitation.

24.0 AWARENESS OF DISEASE AETIOLOGY

Poor understanding of disease aetiology contributes to poor understanding and practice in hygiene and sanitation thereby perpetuating a disease friendly living environment. Only 68 percent of respondents made the association between dirty food, dirty water and diarrheal diseases, added to the poor association between hygiene and these class of diseases, it is clear that poor awareness on hygiene and disease aetiology make individuals and communities susceptible to disease outbreaks.

25.0 HEALTH CARE OPTIONS

There is access to free medical care with an average of 150 patients attended to by MOH2 clinic which are mainly for prenatal and ante natal care. While the District general hospital provides medical care for an average of 350 patients daily. From the Ministry of Health the Public health inspectors conduct community and school health education program reaching approximately 59 percent of the population with 44 percent information on water and sanitation.

11 AWARENESS AND PRACTICE OF HYGIENE

The survey found that the link between disease and hygiene (hand washing) is very weakly appreciated , asked why it is important to wash hands , only 47 percent of respondents said this helps remove germs , on the other hand 45 percent said it simply removes dirt. While 2 percent didn't know.6 percent was for other reasons such as religious reasons .Further, it was established that consistent hand washing is highest before eating and when hands are dirty , both 22 percent followed by before handling food or cooking 18 percent and after handling infant faeces 12 percent . It is therefore clear there is little regard for the primary barriers to the spread of faecal borne pathogens but most people make observance of secondary barriers to the spread of faecal borne pathogens.

The efficacy of hand washing is further diluted by the cleaning agent used; 65 percent use water only and 31 percent use water and soap, the rest use water and abrasives, mainly ash. The main reason for this is low level is lack of awareness.

To achieve the desired hygiene transformations, PHAST trainers will have to reach over 50 percent of households in the intervention area through direct dissemination of messages on better hygiene behaviour practices and also the link with safe water chain.

26.0 MYITTHA TOWNSHIP Hygiene index

The details Hygiene index for villages of Myittha township are :

Hygiene Index of surveys villages [Myittha]					
Indicators for Hygiene Index Measurement		MyitthaTSP.			
Villages		Hin Nyaunt Kan	Wet Htein	Nyaung Won	Hsehsone Kan
WASH coverage		0	1	1	4
1	Water source Accessibility	0	0	0	2
2	Available improved water source	1	1	1	1
Water Quality		0	0	0	0
3	Taste of water	0	0	0	0
4	Color-transparent	0	0	0	0
Water Quantity-for all use		1	0	1	0
5	Available quantity HHS level	1	0	1	0
Accessibility of unimproved water source for domestic use		2	2	2	4
6	Water source Accessibility	1	1	1	2
7	Available unimproved water source	1	1	1	2
Water Quality-unimproved		2	2	2	4
8	Taste of water	1	1	1	2
9	Color-transparent	1	1	1	2
HHS water treatment methods [affordable]		3	3	2	3
10	Households level	2	1	1	2
11	School level	1	2	1	1
Mode for water collection		4	3	4	4
12	Water Fetching	2	2	2	2
13	Total time for fetching	1	1	2	2
Water storage facility		0	0	0	0
14	water storage availability	0	0	0	0
Water storage containers		1	1	1	1
15	Storage capacity	1	1	1	1
Sanitation		4	3	4	3
16	Defecation place	1	1	1	1
17	Excreta disposal system	1	1	1	1

18	faecal free envt	2	1	2	1
Hygiene knowledge and practices		1	1	1	1
19	Handwashing Place in home	1	1	1	1
Cleanliness of areas		2	2	1	1
20	Kitchen Hygiene	1	1	1	0
21	Kitchen floor cleanliness	1	1	0	1
storage food and utensil		10	11	11	12
22	Food storage [covered]	0	1	1	2
23	utensil	2	2	2	1
24	Presence of leftover food, infant bottle	1	1	1	1
25	Presence of unwashed dishes	0	2	1	2
26	Presence of washing water	2	1	2	1
27	Storage container	2	1	1	2
28	Kitchen vessel	1	1	1	2
29	water storage cover	2	2	2	1
Cleanliness of yard/compound		12	11	11	10
30	faecal free envt	1	1	2	1
31	Liiter free envt/yard	1	1	2	1
32	Animal dropping	2	1	1	1
33	Refuse pit	2	2	2	1
34	yard clean	2	2	1	2
35	Animal in compound	2	2	2	2
36	Garbage in living area	2	2	1	2
strom water cleanliness		2	2	2	1
37	Availability of strom water draingage	2	2	2	1
condition of strom water		2	2	2	1
38	storam wateroverspillin g	2	2	2	1
cleaniness of mother, child , sibling		11	7	10	7
39	Children cloths, soiled diaper toys	1	1	1	1
40	children faces	2	1	2	1
41	Children hands, face, Nails	2	1	2	1
42	Mother condition	1	1	1	1
43	Mother cloths	1	1	2	1

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4	Mother faces	2	1	1	1
4	hands, face,	2	1	1	1
5	Nails				
	Total	57	51	55	56
	Hygiene Value [KAP]	1.27	1.13	1.22	1.24
	Average Scoring in %	80.36	88.23	81.82	80.36

The current hygiene index for surveyed village are 9 represents Low group.

Indiators for Hygiene Index Measurement	Myittha TSP.			
Villages				
Hygiene Value [KAP]	1.2	1.1	1.2	1.2
Average Scoring in %	80.36	88.23529	81.82	80.36
Hygiene Index	9	9	9	9
Type	Low	Low	Low	Low