



**Department of Rural Health Care
Ministry of Rural Development**

November 2010

**National Sanitation and
Hygiene Knowledge, Attitudes,
and Practices (KAP) Survey**



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**National Sanitation and Hygiene
Knowledge, Attitudes, and
Practices (KAP) Survey**
Final Report

**Department of Rural Health Care
Ministry of Rural Development
Phnom Penh, Cambodia**

December, 2010

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Definitions¹

Development partners: donors, development banks and multilateral development organisations.

Disability: A person with disability is any citizen who lacks any physical organ or capacity or suffers any mental impairment, that causes restriction to his or her daily life or social activities and which significantly causes differences from non-disabled people, and who has a disability certification from the Ministry of Health.

Drinking Water: water that meets water quality standards and is safe to drink with or without treatment

Gender: The socially constructed roles, behaviours, activities and attributes that a society considers appropriate for men and women.

Hardware: physical infrastructure such as a well, hand-pump or latrine.

Hygiene: a set of behaviours associated with domestic water storage and use, and sanitation practices. Good hygiene is the practice of keeping oneself and one's living and working areas clean in order to help prevent illness and disease.

Improved sanitation: Flush or pour flush toilet connected to sewerage, a septic tank or a covered pit, a pit latrine with a slab or a Ventilated Improved Pit (VIP) latrine.

See Annex 6 for illustrations of Improved and Unimproved Sanitation

Improved water supply: water from a source that is more likely to provide "safe" water, such as a household connection, a borehole, etc.

Maintenance: the activities required to sustain a water supply in a proper working condition. Maintenance can be divided into:

- Preventive maintenance – regular inspection and servicing to preserve assets and minimise breakdowns.
- Corrective maintenance – minor repair and replacement of broken and worn out parts to sustain reliable facilities.
- Crisis maintenance – unplanned responses to emergency breakdowns and user complaints to restore a failed supply.

Microfinance: the delivery of financial services such as loans and deposits, to the poor and low-income households, and to micro-enterprises.

NGOs: non-governmental organisations, specifically non-profit making organisations; including international NGOs (INGO) and national and local NGOs

Rural communities: Settlements located outside of gazetted municipal areas.

Safe drinking water source: A source that consistently provides water of a quality that meets Cambodian drinking water quality standards or other appropriate interim values.

Sanitation: Management and disposal of human urine, excreta and domestic waste water.

Subsidy: a form of financial assistance paid to an individual, a business or an economic sector in order to achieve certain policy objectives. For example, a subsidy can be used to support businesses that might otherwise fail, or to encourage activities that would otherwise not take place.

Water source: The point at which water can be abstracted, such as a spring or well. The source can also be a river or lake, depending on the context.

Water supply: Water used for domestic consumption – drinking, washing, bathing and home-based economic activities.

See Annex 6 for illustrations of Improved and Unimproved Water Access

¹ Appendix 1: Definitions, Rural Water Supply, Sanitation and Hygiene Strategy, 2010 – 2025, Final Draft, July 2010

Abbreviations

CCWC	Commune Committee for Women and Children
CDHS	Cambodia Demographic and Health Survey
CLTS	Community Led Total Sanitation
CSES	Cambodia Socio-Economic Survey
DfID	Department for International Development
DP	Development Partner
DRHC	Department of Rural Health Care
FGD	Focus Group Discussion
HHs	Households
HWTS	Household Water Treatment and Safe Storage
KAP	Knowledge, Attitudes, and Practices
LSS-PPS	Linear Systematic Sampling with Probability of Proportional to its Size
LSS	Linear Systematic Sample Selection
MRD	Ministry of Rural Development
NGOs	Non-Government Organizations
PDRD	Provincial Department of Rural development
PHAST	Participatory Hygiene and Sanitation Transformation
PSU	Primary Sampling Unit
RWH	Rain Water Harvesting
RWSSH	Rural Water Supply, Sanitation and Hygiene
SC WASH	School and Community Water, Sanitation and Hygiene
SPSS	Statistical Package for the Social Science
SSU	Secondary Sampling Unit
UNICEF	United Nations Children's Fund
WSP	Water and Sanitation Program
WHO	World Health Organization

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Executive Summary

1. Summary of background information

The Ministry of Rural Development (MRD), with support from its various Development Partners (DPs), has been promoting (i) *safe disposal of faeces*, (ii) *hand-washing with soap* and, (iii) *safe storage and treatment of drinking water* with the goal of reducing diarrhea in rural areas. Various activities have been implemented including Community Led Total Sanitation (CLTS); Participatory Hygiene and Sanitation Transformation (PHAST); handwashing campaigns especially around Global Handwashing Day, CCWC Forum in selected districts and communes, SC WASH (School and Community) Water, Sanitation and Hygiene activities, bacterial testing, and Household Water Treatment and Safe Storage (HWTS).

Since 2008, the Department of Rural Health Care (DRHC) of the MRD has been implementing the 3-year, DFID and UNICEF-supported Accelerated Sustainable Rural Sanitation and Hygiene project. The project aims to improve the access to and the sustained use of sanitation facilities and to improve hygiene practices in rural areas, especially for poor and socially excluded men, women and children. The purpose of the project is to strengthen the capacity of the designated rural sanitation agency, the Department of Rural Health Care (DRHC) in MRD, to manage, coordinate and facilitate the delivery of sanitation services for rural communities.

Data on water and sanitation coverage are available from the national statistics particularly CDHS (2005), CSES (2010) and General Population census (2008). However, data on knowledge, attitude and practice on sanitation and hygiene have so far been available from various surveys, usually of limited scale. 2010 is the final year of the DFID/UNICEF support to the above mentioned Project. MRD, with support from DPs and NGOs, is also embarking on wider, long-term programmes to improve hygiene behavior and practices. Current information on hygiene behavior and practices is therefore needed to assess the latest situation. A survey on the knowledge, attitudes and practices (KAP) on sanitation and hygiene was seen as the most viable way of obtaining this information.

The KAP survey will obtain data on the current hygiene practices of people in rural Cambodia which will be used in the report to DFID/UNICEF as well as to inform the design of current and planned interventions on sanitation and hygiene in the country. The KAP results will serve as benchmark for measuring impacts of current and planned sanitation and hygiene interventions by the government and DPs. The conduct of a Hygiene KAP survey is also in line with the national strategy on RWSSH.

2. Methodology

The survey was implemented in 12 provinces in 4 geographical regions of the country. Provinces were selected based on geographical representativeness. A total of 1620 randomly selected households in 81 survey villages were interviewed. The survey villages were randomly selected in two stages: (1) stratified sampling selection of villages or the primary sampling unit (PSU), and (2) stratified sampling of households, the secondary sampling unit (SSU). In the second stage, 20 sample households were selected with equal probability in each selected village. Selection of respondents in sample villages required official consultation with the village authorities.

Regions and provinces covered by KAP Survey

Regions	Provinces
Coastal Region	Kampot
	Koh Kong
	Kampong Cham
Plain Region	Prey Veng
	Takeo
Plateau and Mountain Region	Kampong Speu
	Ratanak Kiri
	Stung Treng
Tonle Sap Region	Kampong Thom
	Oddar Meanchey
	Pursat
	Siem Reap

The KAP survey employed structured data gathering tools – a household questionnaire including an observation check-list and a focused group discussion (FGD) guide. Data gathering tools were developed through several consultations with the MRD support group and were pre-tested prior to finalization.

Survey interviewers came from the provincial departments of rural development (PDRDs) while survey monitors were fielded from the MRD. Prior to field survey, all interviewers and survey monitors were trained on the administration of the household questionnaire and on the use of the FGD guide.

The household survey results were processed using Statistical Package for the Social Science (SPSS) software after all questionnaires were checked and edited. To ensure data integrity; a 2-pass encoding process was used. Data analysis was done after a consultation workshop and discussion with relevant stakeholders, including World Bank Cambodia poverty specialists and representatives from MRD support group.

FGD results were first cleaned and checked to obtain a more consistent presentation of narrative information. Thereafter, the results were compiled at the provincial and national levels. Results were summarized according to the structure and flow of questions in the FGD guide.

The KAP survey report follows the structure and content recommended by the MRD Support Group.

3. Summary of findings

The KAP Survey had a total of 1,620 household respondents which accounts for about 0.11% of the total households in 12 survey provinces. Most (50.4%) of the respondents were females while 49.6% were males. The female respondents had an average of 44.9 years while male respondents' average age was 45.7 years. Majority (61%) of the respondents have attained primary level of education, 23.7% had higher education while 15.2% did not get any formal education. Majority (80.6%) of the respondents indicated farming as their primary occupation. Children under 5 years represent 7.5% of total household population. The average household size was at 4.8.

3.1. Access to sanitation facilities and water

Majority (70.4%) of the household respondents did not have latrines mainly because they did not have money to buy one and the perceived cost of building a latrine as too high. Of the 29.6% households who had latrines, mostly (80.6%) had improved latrine types, comprising of flush/pour-flush to septic tank (71.8%), pit latrine with slab (5.2%), and flush or pour-flush to sewerage (4.2%). For those with unimproved latrine types, the most common were ash or dry latrine, open-pit latrines, and flush/ pour-flush to elsewhere.

It is recommended that latrines be sited at least 15 metres away from the household water source. Most (61.2%) of the respondents informed that their latrines ranged from 16-50 meters away from the closest drinking water source. Only 17.1% claimed that their latrines were less than 15 meters away from the nearest drinking water source which are mostly (63%) tube wells or boreholes. This finding was verified from the observations which reported almost the same values.

Of the 29.6% of respondents who had latrines, 92.3% reported that this was their first latrine. The remaining 7.7% who claimed that this was not their first latrine informed that they have had three or more latrines before (51.4%).

Most (60.9%) of the household respondents get their drinking water from improved water sources, the most common of which are tube wells or boreholes (35%). Unimproved water sources were generally unprotected dug wells and ponds, rivers or streams. In the dry season, most (62.5%) get water from unimproved water sources and in the wet season, most (66%) obtain water from improved water. Hand-washing water generally comes from improved water sources.

3.2. Knowledge, attitudes on sanitation and hygiene

The respondents associated sanitation and hygiene with (i) hand hygiene/cleanliness (72.4%), (ii) clean, safe water (71.5%), (iii) food hygiene/cleanliness (45.3%), (iv) personal hygiene (35.7%), and (v) general hygiene/cleanliness (31.3%).

In the respondents' opinion:

- It is important to maintain good hygiene in order (i) to be healthy and free from sickness (93.5%), (ii) to feel good or for one's well-being (37%), and (iii) to feel clean (32.4%). In order to maintain good hygiene, one needs to (i) wash his/her hands with soap (71%), (ii) take a bath (57.6%), (iii) treat drinking water (38.5%), (iv) cook food well (35.4%), and (v) use latrine consistently (27.8%).
- The most critical times to wash one's hands are (i) before eating (73.1%), (ii) before preparing meals (47.8%), (iii) after using the latrine (40.7%), and (iii) after defecation (36.9%).

- To maintain good hygiene, one needs to (i) clean the house (85%), (ii) dispose adult and infant faeces safely (40%), (iii) dispose animal faeces safely (33.6%), (iv) use latrines properly, i.e., no open defecation (29.2%) and (v) dispose garbage/wastewater properly (21.6%).
- The signs or evidences of unsanitary or unhygienic surroundings are (i) bad/foul smell (53.1%), (ii) scattered adult/infant faeces (47%), (iii) scattered animal faeces (42.1%), (iv) open defecation (38.2%) and (v) absence of latrines (32.3%).
- A person gets diarrhoea by (i) drinking untreated water (83.7%), (ii) not washing hands before eating (53.2%), (iii) improper cooking of food (46%), (iii) improper cleaning/washing of vegetables before cooking (23.6%) and (iv) not washing hands after defecation (22.1%).
- In order to prevent diarrhea, the three most important, according to the respondents are first, drink clean water (82.9%), second, wash hands with soap, 71.7% and third, use toilets to defecate (39.4%).
- Diarrhea is spread mostly through (i) dirty water (68.8%), (ii) flies (60.9%), (iii) unclean food (58.6%), and (iv) dirty hands (55%).

In general, the knowledge levels and attitudes of HH with and without latrines on sanitation and hygiene conform to that of the overall findings. The differences in the weight of their responses may be attributed to availability of latrines. HH with latrines mentioned items that barely concerned those without latrines like washing hands after using the latrine; no OD or consistent use of latrines to maintain good sanitation and hygiene, and; defecate in toilet facility to prevent diarrhea.

In addition, the household representatives' responses seemed to be influenced by their own niches. For instance, women's awareness of sanitation and hygiene revolve around their role as housekeepers, thus, washing hands before cooking, cleanliness of the environment, garbage and wastewater disposal and cleanliness of latrines were among their concerns. Whereas, males were more concerned about their comfort, thus, feeling good/well-being, feeling clean, being healthy, washing hands and not getting sick were their priorities.

Education seems to have an effect on the awareness of households on sanitation and hygiene since the higher the education level, the more appropriate the responses were.

3.3. Sanitation Practices

3.3.1. Use of toilets

- Location of defecation sites

On the average (dry and wet season and during day and night-time) OD is practiced by 53% of all households, 28.4% use own latrines, 16% bury their faeces, and 3.4% use their neighbor's latrine when they are at home. If burying faeces is considered as an OD practice, then actual OD practices is at 69.4%.

Majority (95%) of the respondents with latrines use their own latrines to defecate while those without latrines mostly practice open defecation (75%); bury their faeces (21.7%) or use the neighbor's latrine (4.7%). However, at night time and/or in wet seasons, the proportion of those who openly defecate somewhat decrease while the proportion of those who bury faeces increases. In some cases, households use the neighbour's latrine.

When in public places like the pagoda, school, etc., adults generally use public latrines (average of 63.7%) whether in the dry or wet season. OD practice is lower in public places at about 31%. The respondents' defecation habits and practices at home are usually carried even when they are in public places. 80% of households with latrines use public latrines when they are outside compared to households without latrines' (57%). 41.2% of households without latrines openly defecate even when they are in public places compared to households with latrine's 9.2%. Among the households without latrines, those who openly defecate when in public places mostly belong to the no education group.

- Disposal of children's faeces

Most (58%) of household respondents informed that their children practice open defecation, 24.1% use own latrines, 16% bury their faeces, and 2.7% use their neighbour's latrine when at home, any time of day or season. Majority (90%) of the respondents with latrines informed that their children defecate in their own latrines when at home. On the other hand, 82.3% of respondents without latrine said that their children openly defecate when at home. Potties were observed in 42.9% of households with latrines and 36.5% in households without latrines.

When in public places, 61.6% of all household respondents reported that children defecate in public latrines while about 34.7% defecate in open areas. 77% of the respondents with latrines reported that children defecate in public latrines as compared to 55.6% of those without latrine. 14% of respondents with latrine's children openly defecate when in public places against that of respondents with latrine's 42.2%.

Only 24.8% of the total number of respondents had infants at the time of survey. 66% of the households bury their infants' faeces, 21.7% throw these in the forest, behind bushes or bodies of water and 12.7% throw these in the latrine both during dry or wet seasons. Half of the respondents with latrines reported that they throw their infants' faeces in their own latrine while 39% said they bury these. Meanwhile, 74.3% of respondents without latrine said they bury infants' faeces while 25.7% throw these in forests or water bodies.

- Toilet maintenance (structure and cleanliness)

Almost half (45.7%) of the respondents informed that they clean the latrines once a day while 28.9% said that they clean it once every 2-3 days. In most cases (81.1%), it is the wife who does the cleaning work.

Majority (78.1%) of the respondents informed that they pump off the latrine when it is full. About 48% said that they convert the faeces into fertilizer while others (29.1%) empty the faeces into a new hole. Those who use the faeces for fertilizer normally keep it for some time (67.3%) before doing so.

When the latrine breaks, collapses or becomes unusable, majority (70.8%) of the respondents have them fixed or repaired immediately (78.7%) while others (28.4%) build a new one. While the latrine is being repaired, more than half (56.5%) of the households bury their faeces.

- Location of toilet in relation to water source(s)

Most (61.2%) of the household respondents informed that their latrines ranged from 16-50 meters away from the closest drinking water source. Only 17.1% claimed that their latrines were less than 15 meters away from the nearest drinking water source which were mostly (63%) tube wells or boreholes.

- Use of cleansing materials

In general, 55.5% of all respondents only use water for anal cleansing; 38.2% use leaves, 10% use paper and 5.2% use wood. Majority of those who use water come from households with latrines who reported that 90% use water for anal cleansing while 10% either use paper or leaves. On the other hand, respondents without latrine represents those who use other anal cleaning materials - 52.3% use leaves; 41.4% use water; 10.9% use paper; while 6.9% use wood.

Men generally prefer to use water for anal cleansing more than women.

3.3.2. Hand washing

- Hand-washing at critical times

The most critical times to wash one's hands according to the respondents are (i) before eating (73.1%), (ii) before preparing meals (47.8%), (iii) after using the latrine (40.7%), and (iii) after defecation (36.9%).

Majority (95.4%) of the respondents, regardless of gender, educational levels or whether they have latrines or not, reported that they have the habit of hand-washing often with water and soap (81.2%). Most (46.5%) of the respondents wash their hands three times a day usually before eating (78.4%), whenever their hands are dirty (63%) and every time they return home from work/outside (52.9%).

About 79% of the respondents, regardless of gender and education levels informed that they use powdered soap in washing their hands. Powdered soap is the same soap used for washing clothes. Most (81.7%) buy soap from the market or from the neighbors (45.9%). 42.8% of the respondents said they spend more than \$1.50 for soap every month.

- Presence of permanent hand washing stations at home where water and soap are available

Only 16.7% of the respondents had fixed hand-washing places/stations in their homes and most of these belonged to households with latrines. The hand-washing stations were often located near the water jar, inside the toilet or in the kitchen. About 93% of the respondents stated that it always had soap and water.

- Presence of soap/hand-washing facilities near latrine

The 83.3% respondents who did not have fixed hand-washing places in their homes wash their hands near the latrine (65.5%) or at the water source (24.8%). At the time of survey, 92.2% of these households had water,

66.4% had powdered soap and 13.2% had towels for drying hands, 15.2% of which were clean. There was also evidence that these designated places for hand-washing had been recently used in 57.5% of the households.

3.3.3. Safe treatment and storage of drinking water

- Water treatment practices

Majority (79.6%) of the respondents claimed that they treat their drinking water. Households with latrine had the biggest proportion of those who treat their drinking water at 96.1%. Boiling is the water treatment method used by 83.2% of the respondents. In the FGD, most participants said that they prefer boiling than other water treatment methods because it is easier and it protects water from being contaminated with disease-producing micro-organisms.

- Consistent consumption of treated and safely stored water

In the FGD, many respondents admitted that they do not always drink treated water because they are always in haste especially when traveling long distances. Sometimes, they do not have enough wood to boil water. Besides, they have not formed the habit of drinking boiled water and prefer to drink raw water.

- Water storage practices

Majority (88.6%) of the respondents reported that they store drinking water at home. Households with latrine store drinking water more than those without latrines (91.9% against 87.2%). Of the households that store drinking water, most (41%) have their own wells, 24% are connected to piped water while another 24% have their own RWH tank. Of the 11.4% respondents who claimed that they do not store drinking water, only 17.8% are connected to piped water system. During wet season, the stored drinking water is changed/refilled everyday according to 51.1% of the respondents. The frequency of changing water increases during dry season.

It was observed that most households (67.2%) store water in wide-mouthed containers from where they scoop drinking water out with a ladle or dipper. Most (63.5%) of the water storage containers were elevated from the floor and were observed to be clean in 75% of the households. The water storage containers are cleaned as well according to 96.2% of the respondents.

- Presence of safe storage facilities

It was observed that most households (67.2%) store water in wide-mouthed containers from where they scoop drinking water out with a ladle or dipper. Most (63.5%) of the water storage containers were elevated from the floor and were observed to be clean in 75% of the households.

1. Background of the Project

1.1 Survey background

The three key hygiene practices safe disposal of feces, hand washing with soap at critical times, and safe treatment and storage of drinking water are the most effective ways in reducing diarrheal disease prevalence. Safe storage and treatment of water at point of use brings about approximately 30 to 50% reduction, hand washing with soap over 40% reduction and safe disposal of feces approximately 30% reduction.²

The Ministry of Rural Development (MRD), with support from its various Development Partners (DPs), has been promoting the above three key behaviors as part of the Rural Water Supply, Sanitation and Hygiene programme. Since 2008, with funding support from DfID and UNICEF, the Department of Rural Health Care (DRHC) of the MRD, has been implementing a project entitled "Accelerated Sustainable Rural Sanitation and Hygiene". The goal of this project is to improve access to and sustained use of sanitation facilities and improved hygiene practices in rural areas, especially for poor and socially excluded men, women and children. The 3-year project will finish by the end of 2010 and so far have carried out Community Led Total Sanitation (CLTS); Participatory Hygiene and Sanitation Transformation (PHAST); handwashing campaigns especially around Global Handwashing Day, CCWC Forum in selected districts and communes, SC WASH (School and Community Water, Sanitation and Hygiene) activities, bacterial testing, and Household Water Treatment and Safe Storage (HWTS³) which promotes safe drinking water and which has been implemented as part of the rural water, supply improvement.

Baseline data on hygiene behavior are scarce. Measuring project impacts or key changes in hygiene behavior at end of government projects has proven difficult and is usually based on qualitative recall data rather than quantitative baseline information. While there are studies⁴ that provide relevant data, these were either done outside of the country or not updated to reflect the current hygiene behavior and practices particularly in rural Cambodia.

RGC/MRD, with support from DPs and NGOs, are currently embarking on wider and long-term projects and programmes to improve and change hygiene behavior and practices using current approaches mentioned above and through hybrid/combined behavior change approaches. It is important that at the pre-implementation phases of these interventions, updated information on hygiene behavior and practices is obtained to further inform the design of such interventions hence becoming more responsive to current target area contexts and to serve as baseline information for determining accurate and realistic project impacts. A Sanitation and Hygiene Knowledge, Attitudes, and Practices (KAP) study is seen as the most viable way of obtaining updated information on hygiene behavior and practices in the country.

1.2 Survey objectives

The objective of the KAP survey is to obtain baseline data and information on existing hygiene practices in rural Cambodia. The baseline information will also inform the design of current and planned interventions on sanitation and hygiene in the country. It will serve as benchmark for measuring impacts of current and planned sanitation and hygiene interventions, and it will be in line with the national strategy on RWSSH.

² International Initiative for Impact Evaluation 2009

³ Carried out by Department of Rural Water Supply (DRWS) and funded by AusAID and UNICEF

⁴ Maternal and Child Health Knowledge, Attitudes and Practice Survey- BBC World Service Trust, Cambodia Endline Results, September 2006: 25 % reported washing their hands as a means of preventing diarrhea in their children; NCHP: 12 Key Family Practices (baseline data for AI prevention): 25 % mothers wash hands to protect themselves from AI; Curtis V, Danquah L, Aunger R., 2009: overall, rates of handwashing with soap around the world remain dismally low, ranging from 0% to 34%; Cambodia Demographic and Health Survey (CDHS) 2005:

58% of children's stools are disposed of hygienically: 42% are buried in the yard and 10% are disposed of in a toilet or latrine, and 6% of children under 5 use a toilet or latrine; 78% of rural households practice open defecation; and, 63 % rural households practice home treatment of drinking water.

2. Description of Methods

2.1 Selection of KAP survey areas

The coverage of the KAP survey was designed by the MRD support group. The group comprises of representatives of the DRHC-MRD, UNICEF, WHO, Lien Aid organization, Plan International Cambodia, and WSP. Of the five regions of the country, the KAP survey was designed to be done in the Coastal, Plain, Plateau and Mountain, and Tonle Sap regions where most of the country's rural households are located. Survey provinces within each survey region were selected in terms of their representativeness of the region's geographic characteristics.

Table 1: KAP Survey areas

Survey Regions	Survey Provinces
Coastal Region	Kampot
	Koh Kong
Plain Region	Kampong Cham
	Prey Veng
	Takeo
Plateau and Mountain Region	Kampong Speu
	Ratanak Kiri
	Stung Treng
Tonle Sap Region	Kampong Thom
	Oddar Meanchey
	Pursat
	Siem Reap

2.2 Sampling process/ methodology⁵

The computation of optimum households sample size was based on the formula below:

$$n_h = \left[\frac{Z_{\alpha}^2 \cdot p \cdot q}{d^2} \cdot \text{deff} \right] / R$$

Where:

n_h Total number of sample households in all region,
z_α 95% confident level,
d The error margin suggested
p Proportion No of household access to latrine
q Proportion No of household without latrine
deff the design effect between simple random sampling and clusters sampling
R The overall respond rate

Value	Equivalent
1.96	1.99
3%	0.03
23%	0.23
77%	0.77
2	2
95%	0.95

The updated 2008 Population Census of the National Institute of Statistics - Ministry of Planning was used as the sampling frame. The frame consists of province code, province name, district code, district name, village code, village name, number of households and number of population.

The sampling design was done in two stages. The first stage was the stratified selection of villages or the so called primary sampling unit (PUS) while the second stage was the selection of households, the secondary sampling unit (SSU).

- *First stage:* The Linear Systematic Sampling with Probability Proportional to Size (LSS-PPS) method was employed in the selection of PSUs the size of which was based on the number of households in a village as recorded in the frame.

⁵Prepared by Mr. They Kheam, NIS-MoP

- Second stage: Twenty (20) households were selected with equal probability in each selected village by using Linear Systematic Sample Selection (LSS). The MRD Support Group agreed on a sample size of 20 respondents per village as this closely approximates that of Government surveys such as the CDHS and CSES for rural areas.

Table 2 below shows the distribution of sample villages and households for the KAP survey by selected survey provinces and regions. The number of sample village per province was determined using the proportional allocation method with the number of households in each province as basis for allocation.

Table 2: Distribution of KAP Household Survey sample villages and households by Region and Province

Region Name	Province Name	Total No of HH	No of Sample Villages	No of Sample HH	No of Sample Head of HH
Coastal Region	Kampot	119697	7	140	140
	Koh Kong	16771	1	20	20
	Subtotal	136468	8	160	160
Plain Region	Kampong Cham	342704	19	380	380
	Prey Veng	219272	12	240	240
	Takeo	181017	10	200	200
	Subtotal	742993	41	820	820
Plateau and Mountain Region	Kampong Speu	138615	8	160	160
	Ratanak Kiri	23722	1	20	20
	Stung Treng	17633	1	20	20
	Subtotal	179970	10	200	200
Tonle Sap Region	Kampong Thom	127156	7	140	140
	Oddar Meanchey	34568	2	40	40
	Pursat	77899	5	100	100
	Siem Reap	144878	8	160	160
	Subtotal	384501	22	440	440
Grand Total		1443932	81	1620	1620

A detailed description of the sampling methodology and process is found in Annex 2.

2.3 Ethics and Consent Procedures

Selection of respondents in sample villages required official consultation with the village authorities. After respondents were randomly selected in each sample village, interviewers were then required to formally introduce themselves and the purpose of the interviews. During this introductory phase, the respondents were informed that all responses would be noted down but would be kept confidential at all times. Respondents were informed that they could choose to or not to participate in the survey.

2.4 Training

The training of interviewers was conducted at the JICA Maternal and Child Health Institute on September 2 and 3 2010. The training was facilitated by MRD-DRHC staff. The survey consultant along with the survey research associate participated as observers and resource persons.

Fifty-two (52) PDRD staff from the 12 survey provinces and 19 MRD national staff attended the 2-day training. PDRD staffs were the designated survey interviewers while the MRD national staffs were the designated survey monitors – making sure that respondent selection was correctly done at the sample villages and that the questionnaires were administered properly.

The training spent a day and a half on discussions of the household questionnaire and the focus group discussion (FGD) guide and on the sample villages and the process of selecting survey respondents and FGD participants. FGD participants were chosen with the assistance of the Village Chief. Where possible, respondents of the household survey were not invited to participate in the FGDs. On the afternoon of the second day, the interviewers had mock interviews amongst themselves to better familiarize themselves with the household questionnaire. Further, trial runs of the FGD process including the pocket-voting method that was used to obtain quantitative indicators of key hygiene practices among FGD participants.

Prior to the training proper, staffs of the DRHC-MRD conducted a 1-day field test of the survey tools in Kandal province. The field-test experience fed into the finalization of the household questionnaire and to the FGD guide.

The survey tools were developed through a consultative and collaborative process with the MRD support group.

2.5 Data collection and quality control

Aside from being trained for two days, survey interviewers' daily outputs (completed questionnaires) were reviewed and checked by survey monitors. Further daily debriefings were done where issues/questions on questionnaire use were discussed and resolved. The survey monitors were assigned to each survey province and stayed with the interviewer teams until the survey was completed.

Members of the support group conducted field monitoring visits in the course of the field survey. In these visits, the interview and FGD processes were observed and completed questionnaires also checked for errors in terms of administration and consistency of responses obtained.

At the completion of the survey, all questionnaires were brought to the DRHC-MRD for final checking before being turned over to the data processing team.

Identification numbers were assigned to each interview respondent while household members were assigned codes. Only the survey and data processing teams were allowed to view hard copies of the questionnaires and the database. The names of respondents and household members were not encoded. The database created for the survey results was disseminated only to members of the survey team and the support group. Completed questionnaires are kept in a secure place until these are transferred to the DRHC-MRD upon finalization of the survey report.

2.6 Data analysis

2.6.1 Household questionnaires

The household survey results were processed using Statistical Package for the Social Science (SPSS) software.

After the staffs of the DRHC have checked and edited all completed household questionnaires, these were re-checked and manually edited by the Database Specialist and the data encoders. All open-ended questions were grouped into similar categories and coded before inputting to the SPSS database. Processing of open-ended questions was done using a special application of SPSS data entry builder which has a special function for data entry and cleaning.

To further improve the quality of data, survey results were encoded twice producing two data sets. The first data entry pass included all checked and edited questionnaires while the second data entry pass used 25% of the total questionnaires randomly selected from the total set. This second pass was for the purpose of verifying the encoded data of the total questionnaires. After the verification process, all continue variable were printed and compared with the hard copies of the household questionnaires to further minimize errors in data entry. Other variables were cleaned based on the logic and skip pattern instructions in the survey questionnaire. All errors that have been detected during the data checking and cleaning were sent to the research associate, study coordinator, and the research consultant for final verification.

Data analysis was done after a consultation workshop and discussion with relevant stakeholders, including World Bank Cambodia poverty specialists, representatives of the MRD support group. Secondary data was checked against the Cambodia Socio-Economic Survey (CSES) and the Cambodia Demographic and Health Survey (CDHS). Dummy tables were developed for leveled information such as gender and education. Data was also disaggregated by households who have access to sanitation and household who do not have access to sanitation.

2.6.2 Focus group discussions (FGD)

FGD results were first cleaned and checked to obtain a more consistent presentation of narrative information. Thereafter, the results were compiled at the provincial and national levels. Results were summarized according to the structure and flow of questions in the FGD guide. Results of pocket-voting on the *use of latrines, hand-washing with soap, and safe treatment and storage of drinking water* conducted among FGD participants were compiled in tabular summaries at the national level. FGD results processing was done by a separate team of researchers led by the survey team's Research Associate.

2.6.3 Reporting

The KAP survey report structure follows the structure and content agreed with the MRD Support Group.

As discussed and agreed during the same meeting, the survey results discussion section would contain a narrative of the survey results according to the flow of the questionnaire with Observation and FGD results integrated to the discussion. Discussion of KAP survey would focus on a) KAP of respondents that have no access to latrines according to 3 key hygiene behaviors in terms of gender and education levels where educations are grouped as none/ no education, primary education, and higher/ greater than primary education; and b) KAP of respondents that have access to latrines according to 3 key hygiene behaviors in terms of gender and education levels.

3. KAP Survey Results

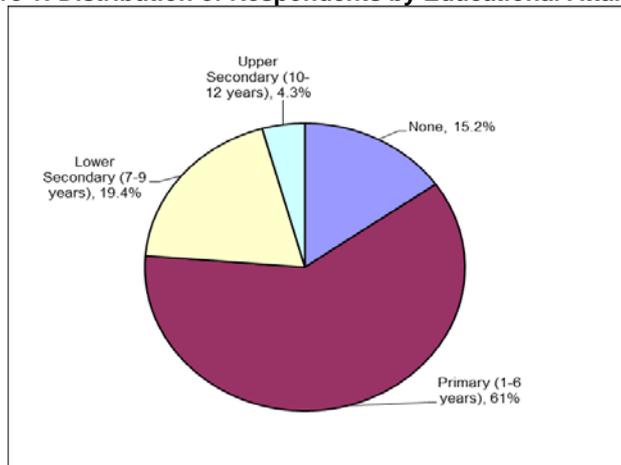
3.1 Profile of the survey sample

3.1.1 Respondents

The KAP Survey had a total of 1,620 household respondents which accounts for 0.11% of the total households in 12 provinces in Cambodia. The survey respondents came from 81 sample villages representing four geographical regions – coastal, plain, plateau/ mountain and Tonle Sap regions. Female respondents account for 50.4% of the total number of respondents while male respondents account for 49.6%. The female respondents were younger at an average of 44.9 years than their male counterparts at 45.7 years.

Majority (61%) of the respondents reached primary education (1-6 years) and 19.4% reached lower secondary level (7-9 years). Fifteen per cent of respondents did not have formal education.

Figure 1: Distribution of Respondents by Educational Attainment



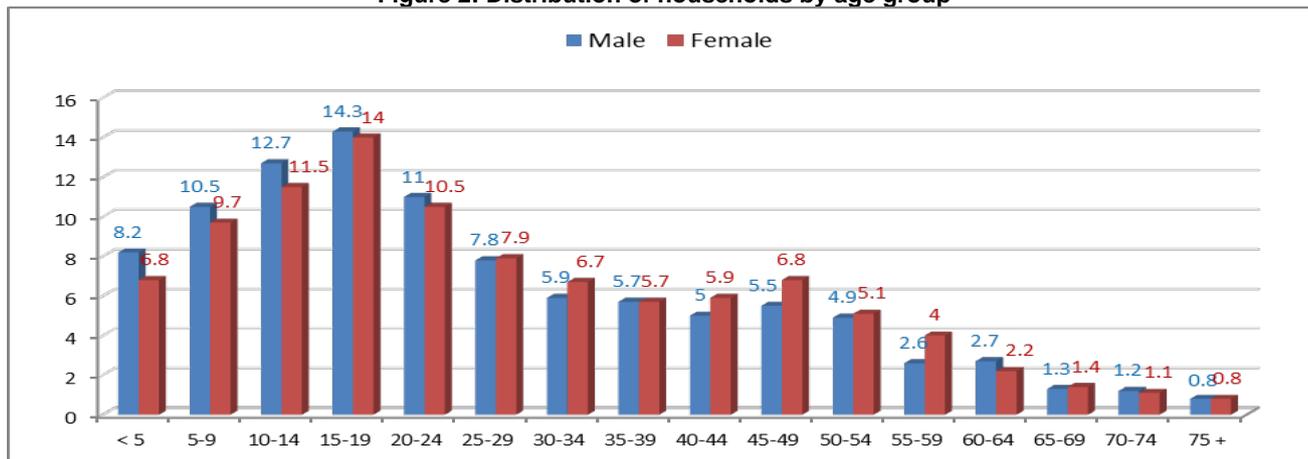
Source: Household Survey, KAP Survey, MRD 2010

Majority (80.6%) of the respondents indicated farming as their primary occupation. This result was expected given that the survey was conducted in the rural areas of the 12 survey provinces where agriculture is the dominant income-earning activity of most households.

3.1.2 Households

Most (45.5%) of the respondents have 4-5 household members each with about two members less than 15 years old. The household members are generally young with 14.1% belonging to the age group 15-19 years, 12.1% to 10-14 years and 10.7% to 20-24 years age groups. There is no significant difference in the number of male and female members in households. Children under 5 years represent 7.5% of the entire household population. The average household size was 4.8.

Figure 2: Distribution of households by age group



Source: Household Survey, KAP Survey, MRD 2010

Majority (48.7%) of the household members, regardless of gender, were farmers while 28.6% were students. There were slightly more farmers (49.2%) and students (30.5%) among the male household members than their female counterparts (48.2% and 26.9%, respectively). On the other hand, female household members dominated in household chores at 8.1%.

Among the household members 15 years old and above, majority (55.6%) were married while 34.5% were single. There were slightly more married male members (56.4%) than married female members (54.8%). In the same way, there were slightly more single male members (37.6%) than single female members (31.8%). There were more widows (8.9%) than widowers (2.3%).

Most (63.5%) of household members 6 years old and above have attended primary level of education while 27.5% have attained higher than primary education. A mere 3.5% did not have formal education. Majority of 6-9 and 10-14 year old members have attended or were still in primary level of education at the time of survey. The age group 50-54 years old had the least percentage of lower secondary education.

Very few (5%) disabled household members were reported by the respondents.

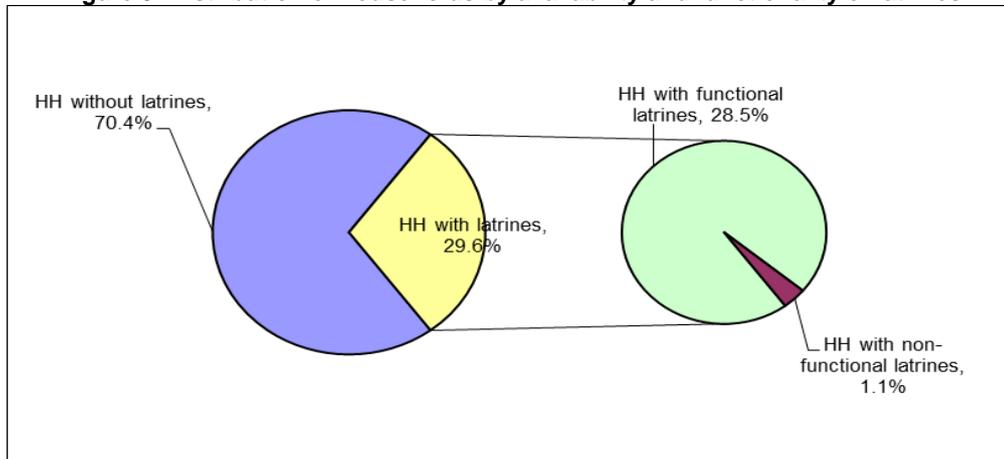
3.2 Access to Sanitation Facilities and Water Sources

3.2.1 Sanitation

3.2.1.1 Access to latrines

About 70.4% of the household respondents claimed that they did not have latrines. Of the remaining 29.6% who had latrines, 28.5% said that their latrines were functional. See Figure 3.

Figure 3: Distribution of households by availability and functionality of latrines

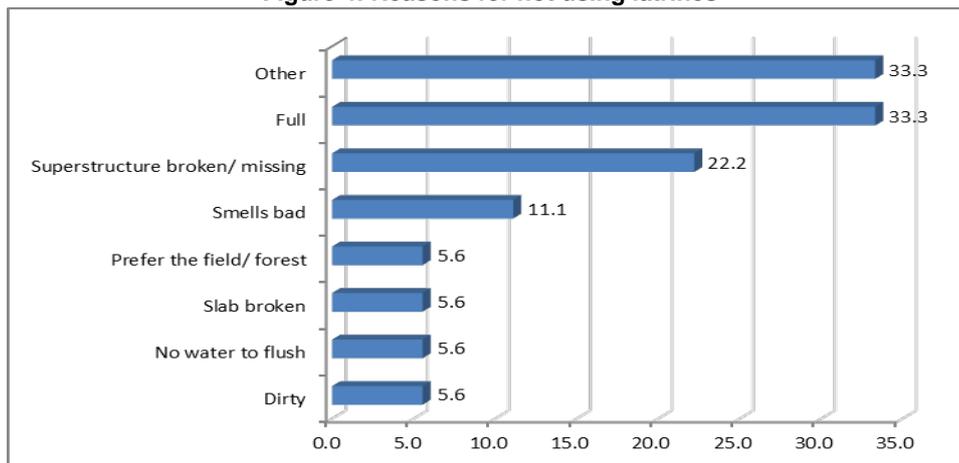


Source: Household Survey, KAP Survey, MRD 2010

Results of FGDs approximate the survey findings as about a third of participants indicated that they had latrines.

Survey findings indicate that of the 3.8% who said that their latrines were not useable, the most common reasons given were (i) latrine was full (33.3%), (ii) broken or missing superstructure (22.2%) and (iii) other reasons (33.3%).

Figure 4: Reasons for not using latrines



Source: Household Survey, KAP Survey, MRD 2010

Of the 29.6% households who had latrines, majority (80.6%) had improved latrine types, comprising of flush/pour-flush to septic tank or pit (72%), pit latrine with slab (4.6%), and flush or pour-flush to sewerage (4%). For those with unimproved latrine types, the most common were ash or dry latrine, open-pit latrines without slabs, and flush/pour-flush to elsewhere.

Table 3: Types of latrines reported

Type of Latrines	Percent
<i>Improved</i>	80.6
1 Flush or pour flush to sewerage	4
2 Flush or pour flush to septic tank or pit	72
3 Pit latrine with slab	4.6
<i>Unimproved</i>	19.4
4 Public or shared latrine (any type)	0.4
5 Flush or pour flush to elsewhere	5
6 Open pit latrine without slab	5.4
7 Latrine overhanging water	1.7
8 Other (Ash or dry latrine)	6.9
<i>Total</i>	100

Source: Household Survey, KAP Survey, MRD 2010

3.2.1.2 Latrine characteristics

Survey findings indicate that about 52% households had hand-washing places inside or just outside the latrine. 77.5% of these hand-washing places had jars and water and 79.9% had soap and water.

Observations show that majority of the latrines had roofs, walls and doors (93.6%) and that these were well-maintained (86.6%). 83% had well-trodden footpaths/access path towards the latrine. Observations also reveal materials to cover the faeces after defecation like ash (95.8%), sawdust (23.9%), rice husk (15.5%) and soil/sand (15.5%).

Survey results show that most (61.2%) of the latrines are reported to be from 16 to 50 meters away from the closest drinking water source. Noticeably, 17.1% claimed that their latrines were reported less than 15 meters away from the nearest drinking water source which are mostly (63%) tube wells or boreholes.

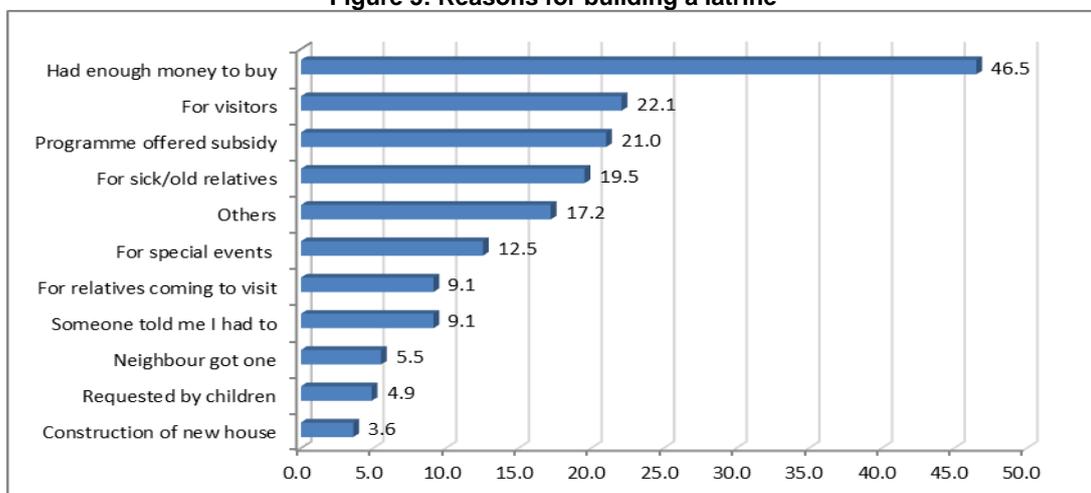
Interviewer observation validate survey findings as about 17% of households who have latrines had latrines less than 15 meters away from the nearest drinking water source and 58.5% of observed latrines were 16 to 50 meters away from the main drinking water source.

Survey results indicate that majority (81.1%) latrines did not get flooded in the past year.

3.2.1.3 Reasons for building latrines, decision-making, and latrine improvements

When asked why they had a latrine built in the first place, almost half (46.5%) of the household respondents said that they had money to buy one. Other common reasons given were (i) for visitors (22.1%), (ii) a program offered subsidy (21.0%); (iii) for sick or old relatives (19.5%), and (iv) other reasons (17.2%).

Figure 5: Reasons for building a latrine



Source: Household Survey, KAP Survey, MRD 2010

From FGDs, the participants mentioned that people in their villages want to have latrines mainly for good sanitation and hygiene thus preventing the spread of contagious diseases. In addition, a latrine brings comfort to the household especially if the house is small – no bad smell from faeces lingers around the house. A latrine is not that expensive and they have the capability to build it. Moreover, they can get support from various agencies like the MRD and NGOs.

Survey results show that in most cases (45.6%) the husband and wife jointly decided to have a latrine built in their home while 30.9% said that the decision was made by the whole family. About 12% and 8% of respondents indicated that it was the husband and the wife, respectively, that made the decision to build a latrine. On rare instances (3.2%), relatives decided to build the latrine.

Table 4: HH member/s who decided to build a latrine

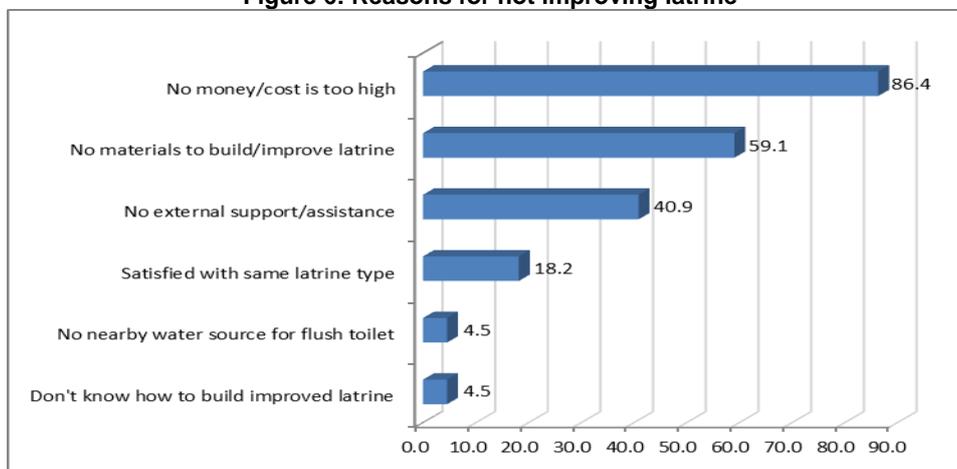
Household member	Total
Husband	12.1
Wife	8.3
Husband and wife jointly	45.6
All (joint decision)	30.9
Other relatives	3.2
Total	100.0

Source: Household Survey, KAP Survey, MRD 2010

Survey results indicate that of the 29.6% of respondents who had latrines, 92.3% were first-time owners of latrines. Of the 7.7% who reported that they had latrines before their current latrine, 51.4% indicated that they have had three or more latrines before. Previous latrine types mostly consisted of flush/pour to elsewhere type (38.9%) or flush/pour to septic tank or pit (25%). Slightly more respondents (59.5%) claimed that the latrine they had at the time of survey was the same type as the previous one while 40.5% said it was different.

Those who did not improve or change their latrine type stated that (i) they did not have money or the cost was too high (86.4%), (ii) they did not have materials to build improved latrines (59.1%), (iii) they did not get any external support or assistance (40.9%), or (iv) they were satisfied with their present latrine type (18.2%).

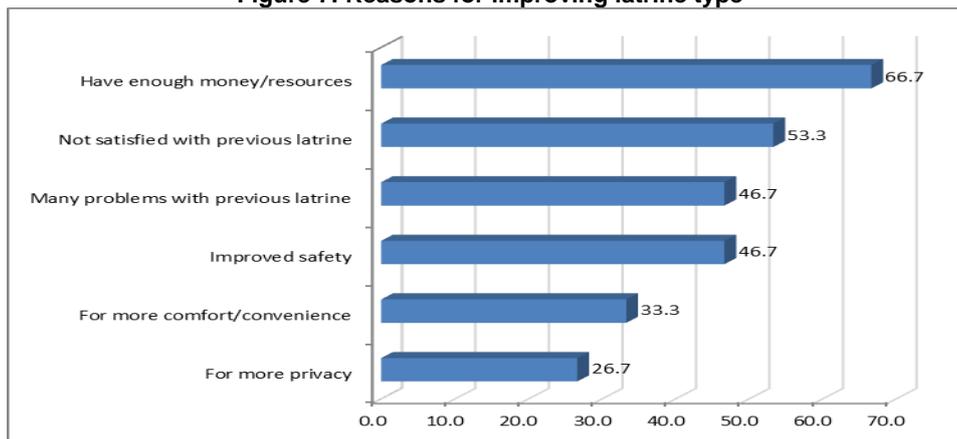
Figure 6: Reasons for not improving latrine



Source: Household Survey, KAP Survey, MRD 2010

Of the 40.5% who improved their latrines, the main reason given was “they had enough money/ resources (66.7%). Other key reasons given were “not satisfied with their previous latrines” (53.3%), “many problems with their previous latrine” (46.7%), and for “safety reasons” (46.7%).

Figure 7: Reasons for improving latrine type



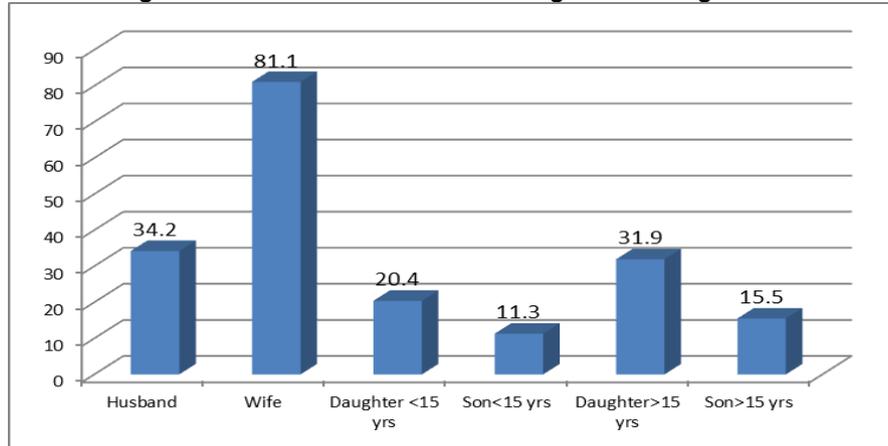
Source: Household Survey, KAP Survey, MRD 2010

3.2.1.4 Latrine cleaning and maintenance

▪ *Cleaning*

Survey findings indicate that about 46% of the households with latrines clean the latrines once a day while 29% said that they clean once every 2-3 days. In most cases (81.1%), it was the wife who cleans the latrines and occasionally, the husband (34.2%), >15-year old daughter (31.9%), < 15 year old daughter (20.4%), or >15 year old son.

Figure 8: Household members in charge of cleaning latrine



Source: Household Survey, KAP Survey, MRD 2010

Observations indicated that 76.4% of the latrines appear generally clean and in good condition. No human faeces were found on the floor or slabs of 84.1% of the latrines and neither were there flies in 79.5%. The slabs of 89.9% of the latrines were smooth and easy to clean.

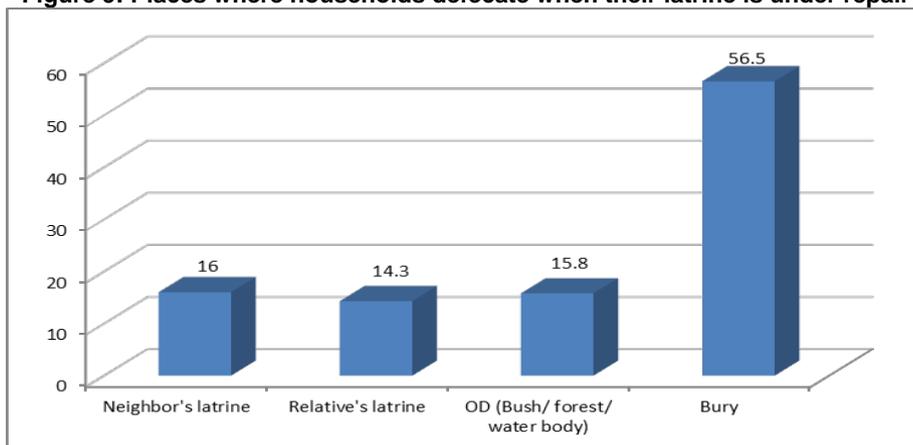
Among FGD participants, latrine cleaning generally comprised of cutting the bushes around the latrine and cleaning the slab with detergent soap. For dry pit latrines, faeces were covered with ash to prevent insects like flies and mosquitoes from getting into it.

▪ *Latrine maintenance*

From survey results, full latrines are normally emptied (78.1%) but 17.7% indicate that a new one is bought/built. About 48% of the respondents claimed that they use the wastes as fertilizer while others (29.1%) empty the wastes into a separately dug pit or hole. Of those who use the wastes as fertilizer, 30.5% said that they do it immediately while 67.3% keep these for some time.

When the latrine breaks, collapses or becomes unusable, majority (70.8%) of the respondents have them fixed or repaired immediately and 28.4% build a new one. Very few respondents use the neighbour's or relatives' latrines or revert to OD. Meanwhile, of those who have their latrines repaired immediately, more than half (56.5%) bury their wastes while others either use the neighbour's latrine (16%), go behind bushes in the forests or water bodies (15.8%) or use a relative's latrine (14.3%).

Figure 9: Places where households defecate when their latrine is under repair



Source: Household Survey, KAP Survey, MRD 2010

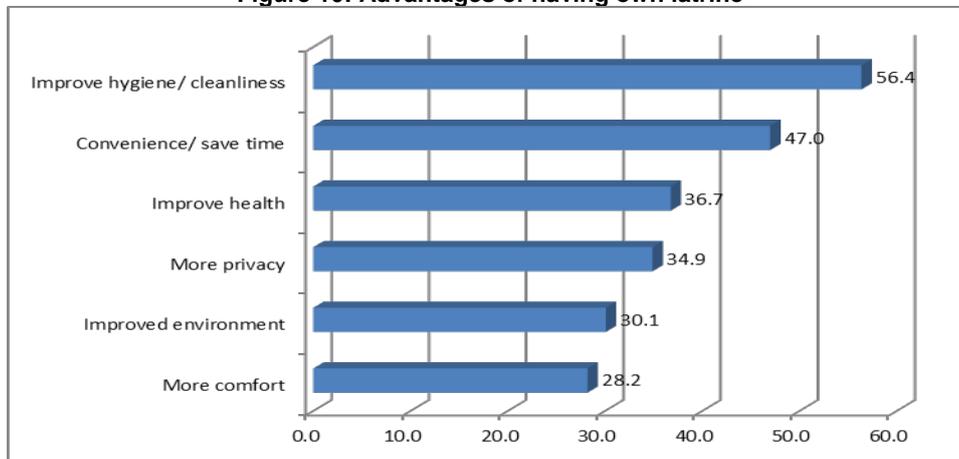
3.2.1.5 Perceptions on latrine ownership

- *Households with latrines*

Survey results show that perceived advantages of having their own latrine are (i) for improved hygiene/cleanliness (56.4%), (ii) for ease and time management (47%), (iii) for improved health (36.7%) and (iv) for more privacy (34.9%). See Figure 10.

For FGD participants, having latrines add comfort and dignity to the household. Latrines also facilitate defecation practices any time of the day and in whatever season. Participants indicate that they did not have to worry about insect or snake bites or feel embarrassed when guests come to visit.

Figure 10: Advantages of having own latrine



Source: Household Survey, KAP Survey, MRD 2010

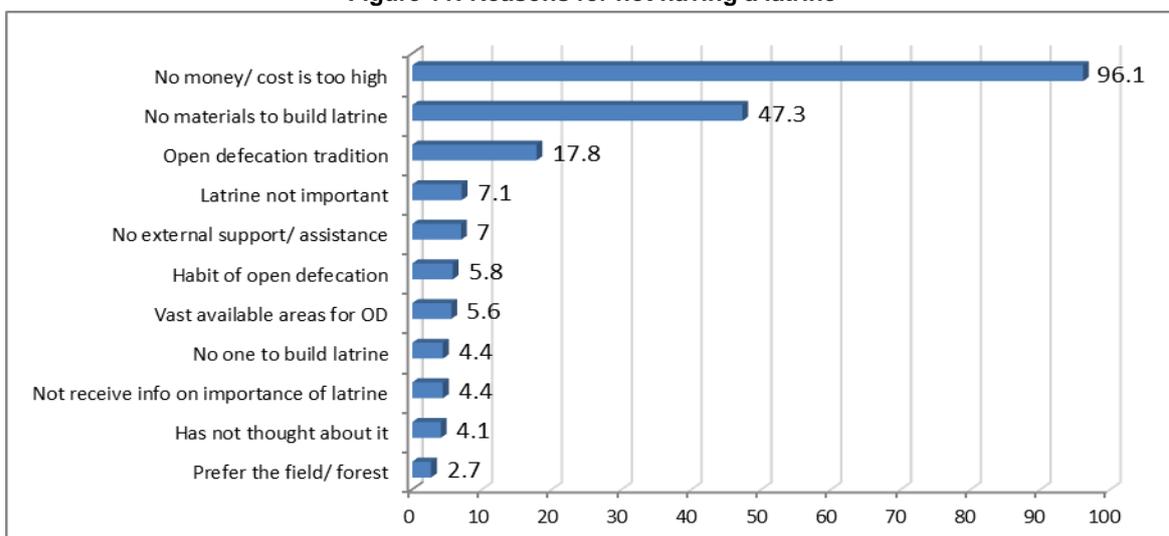
Survey results also indicate that majority of respondents (66%) do not encounter problems with their latrines whether in the dry or wet seasons. However, for 14.5% bad smell is an issue in both seasons. During the dry season, other reported problems were lack of water (12.3%) and flies/ insects (9.3%). During the wet season, issues mentioned were flooding (8.4%), flies/insects (8.2%) and difficulty in cleaning (7.9%).

Most of the FGD respondents claimed that, generally, there are no problems with pour/flush latrines except in cases where the ring is too low that it gets flooded during rainy days. Flooding is commonly encountered with pit-type latrines aside from the bad smell, insects or snakes and its tendency to collapse during rainy season.

- *Households without latrines*

The main reason given by majority (96.1%) for not having latrines was that they did not have money and that the cost of building a latrine is high. Others mentioned the absence of materials to construct a latrine (47.3%) and the tradition of defecating in open areas (17.8%).

Figure 11: Reasons for not having a latrine

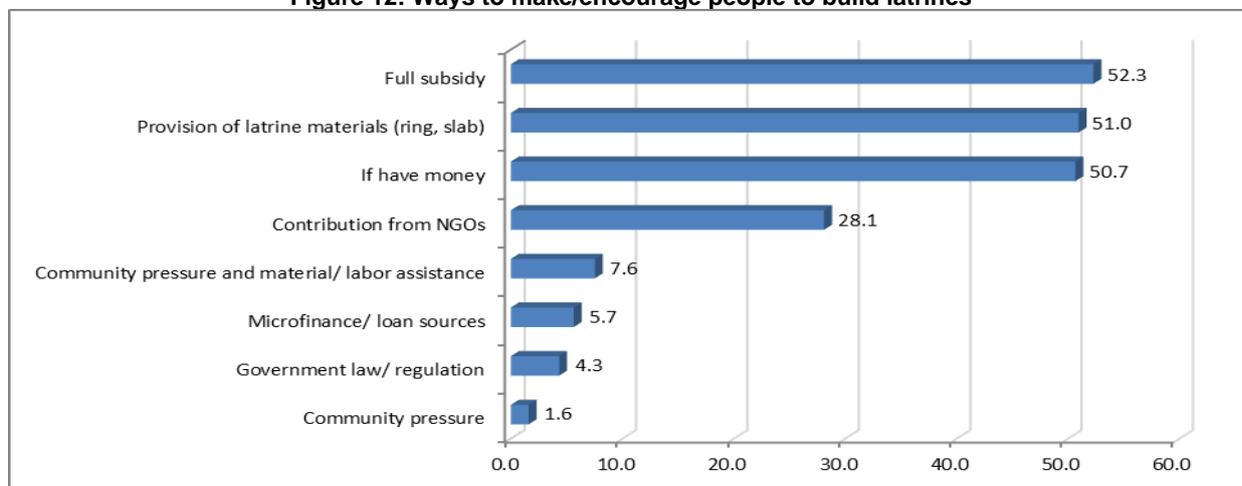


Source: Household Survey, KAP Survey, MRD 2010

FGD results generally support survey findings as FGD participants say they are poor and that they do not get support/subsidy from NGOs. FGD results also indicate that households do not value sanitation and that people are used to defecating behind bushes.

Survey results indicate that the main ways to encourage latrine-building are provision of full subsidy (52.3%), provision of latrine materials (51%), or if they have money (50.7%). See Figure 12. Survey findings also indicate that should non-latrine owners buy/ build a latrine in the future, majority (85.4%) would prefer a water-flushed type.

Figure 12: Ways to make/encourage people to build latrines



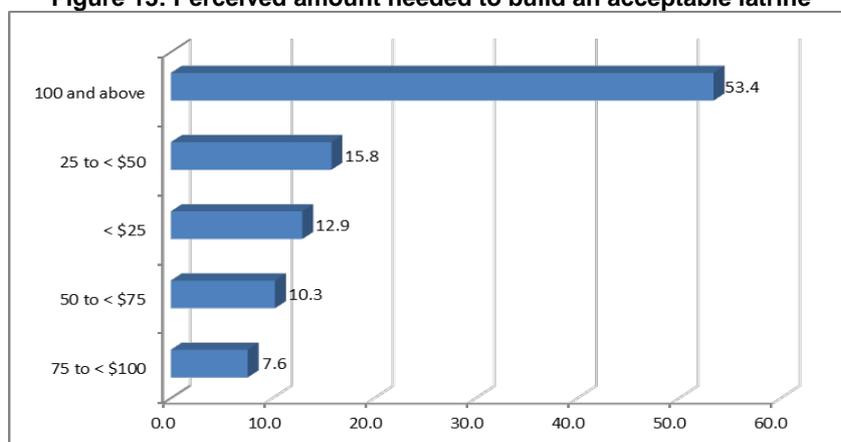
Source: Household Survey, KAP Survey, MRD 2010

Further, about 54% admitted that their respective households have thought of and/or discussed about having a latrine built in their house, which happened more than a year ago for most (47.8%) of the respondents. Should households decide to buy/ build a latrine, survey findings indicate that generally the husband and the wife (71.2%) will jointly make the final decision.

Survey findings also indicate that majority (95.5%) of the non-latrine owning respondents would normally buy the materials in the market with 13.8% stating materials could be obtained locally. The market is more than 5 kilometres away for 64.2% of the respondents. Only 4.9% mentioned that it was less than a kilometre away.

Based on respondents' perception on cost of acceptable latrines (Figure 13), most (53%) would need more than \$100 in order to have an acceptable latrine for their family. About 29% of respondents indicated that latrines that cost less than \$50 would be acceptable.

Figure 13: Perceived amount needed to build an acceptable latrine



Source: Household Survey, KAP Survey, MRD 2010

Majority (82%) of the respondents did not want to avail microfinance loan to purchase a latrine because they were afraid that they could not pay back the loan (68.6%). For the 12.5% who would like to consider microfinance loan, the common reasons given were (i) they want to have their own latrine (33.8%), (ii) they want to defecate comfortably (28.6%), and (iii) for environmental sanitation (19.5%).

3.2.2 Water Sources

3.2.2.1 Drinking water

Survey results show that generally, most (60.9%) of the households get their drinking water from improved water sources, the most common of which are tube wells or boreholes (35%). The rest (39.1%) get their drinking water from unimproved water sources like unprotected dug wells (21.9%) and ponds, rivers or streams (14.3%).

During the dry season, majority of households (62.5%) rely on unimproved water sources such as ponds, rivers, or streams (25%), unprotected dug-wells (20%), and vendor-sold water (12.5%). In the wet season, the opposite takes place as most households (66.1%) then obtain water from improved water sources. Results indicate that during wet season, access to improved rainwater collection increases by 50% and to unimproved rainwater collection by about 5%.

Table 5: Distribution of households by source of drinking water and by seasonal access

Type of water source	Seasonal Access			Total
	Whole year	Dry Season only	Wet Season only	
Improved	60.6	37.5	66.1	60.9
Household connection	6.3	-	-	5.2
Tube well or Borehole	40.7	22.5	6.0	34.9
Protected dug well	8.7	10.0	4.4	8.1
Improved rainwater collection	4.8	5.0	55.6	12.6
Unimproved	39.4	62.5	33.9	39.1
Unprotected dug well	22.9	20.0	17.3	22.0
Pond, river or stream	15.1	25.0	8.5	14.3
Unimproved rainwater collection	0.1	2.5	7.3	1.2
Vendor-provided water	1.1	12.5	0.4	1.3
Bottled water	-	-	-	-
Tanker truck water	-	2.5	-	0.1
Other sources	0.2	-	0.4	0.2
Totals	100.0	100.0	100.0	100.0

Source: Household Survey, KAP Survey, MRD 2010

FGD results indicate that the participants see their sources of drinking water as unsafe – “water from ponds is unclean, unprotected, and tastes bad”, “water from wells is not safe because people defecate in the vicinity”, and “water from unprotected dug wells is not covered, hence, dust, dirt and leaves get inside”. Many participants also added that hand-pumped water does not taste good as it is brackish water. However, for other participants, the main sources of drinking water in their villages were safe because they said that nothing could drop inside hand-pumps. Ponds weren't kept clean since people were told not to bathe, bring animals or wash clothes in the pond.

Observations appeared to support the latter group above as the immediate surroundings of 55% of the households' drinking water source were observed to be clean. In only 16.4% of the water sources observed indicated presence of animals loitering and/ or drinking from the same water source. However, there were observed evidences (presence of soap, clothes, and towels) that people take a bath in/at the drinking water source.

3.2.2.1 Hand-washing water

For hand-washing, majority of households get water from improved sources (55.5%) with the most common type being tube wells/boreholes (39.1%). For those that get water from unimproved sources, the most common types are unprotected dug wells (22.7%) and ponds, rivers, or streams (19.7%). See Table 6 below.

Table 6: Sources of water for hand-washing

Type of water source	Total
<i>Improved</i>	55.5
4 Improved rainwater collection	3.1
1 Household connection	5.2
3 Protected dug well	8.1
2 Tube well or Borehole	39.1
<i>Unimproved</i>	44.5
7 Unimproved rainwater collection	0.9
8 Vendor-provided water	1.2
6 Pond, river or stream	19.7
5 Unprotected dug well	22.7
Total	100.0

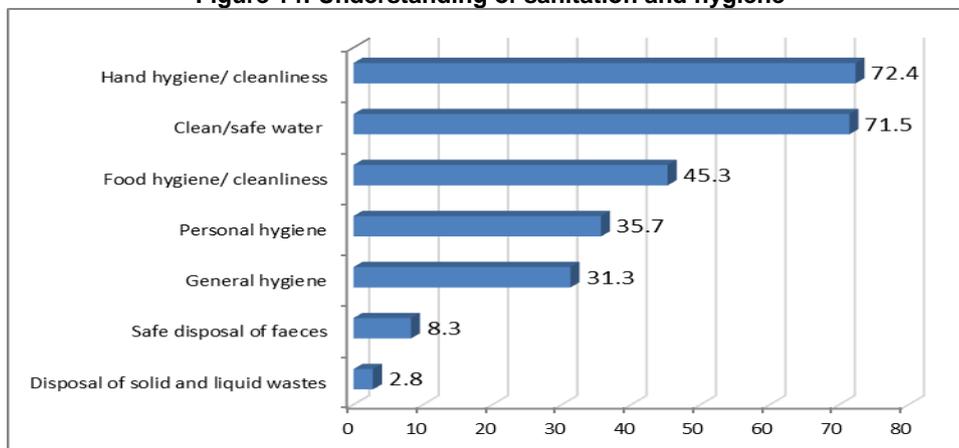
Source: Household Survey, KAP Survey, MRD 2010

3.3 Knowledge, Attitudes and Practices on Sanitation and Hygiene

3.3.1 Knowledge and attitudes on sanitation and hygiene

When asked about their understanding of sanitation and hygiene, the top five responses according to rank were (i) hand hygiene/cleanliness (72.4%), (ii) clean, safe water (71.5%), (iii) food hygiene/cleanliness (45.3%), (iv) personal hygiene (35.7%) and (v) general hygiene/cleanliness (31.3%). Only 8.3% mentioned “safe disposal of faeces” as part of their understanding of sanitation and hygiene.

Figure 14: Understanding of sanitation and hygiene

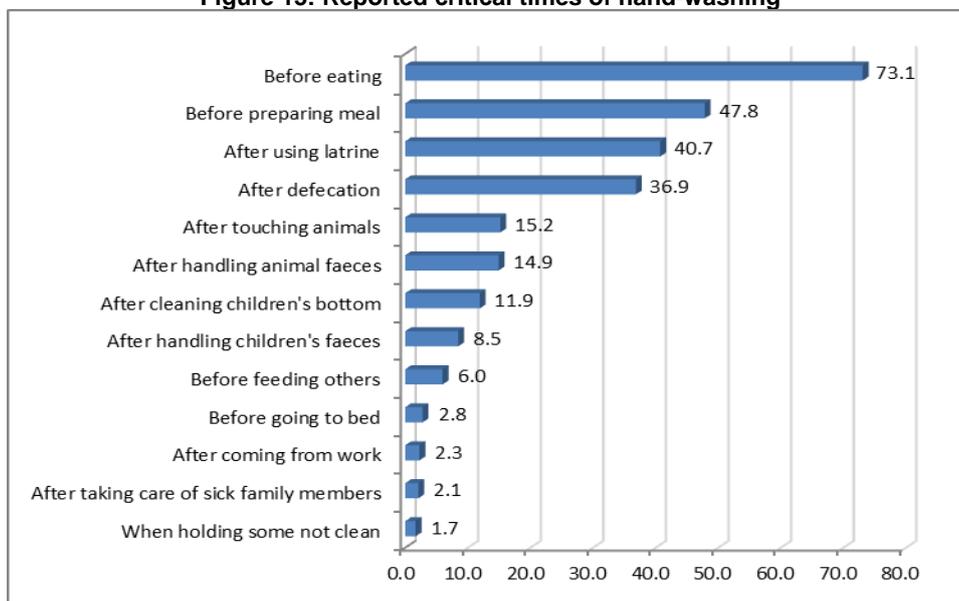


Source: Household Survey, KAP Survey, MRD 2010

According to the respondents, it is important to maintain good hygiene in order (i) to be healthy and free of sickness (93.5%), (ii) to feel good or for one’s well-being (37%), and (iii) to feel clean (32.4%). In order to maintain good hygiene, one needs to (i) wash his/her hands with soap (71%), (ii) take a bath (57.6%), (iii) treat drinking water (38.5%), (iv) cook food well (35.4%), and (v) use the latrine consistently (27.8%).

The most critical times to wash one’s hands according to the respondents are (i) before eating (73.1%), (ii) before preparing meals (47.8%), (iii) after using the latrine (40.7%), and (iii) after defecation (36.9%). See Figure 15. This is very close to what the FGD participants mentioned as the three most important times for hand-washing - (i) before and after eating, (ii) after defecation and (iii) before and after cooking.

Figure 15: Reported critical times of hand-washing

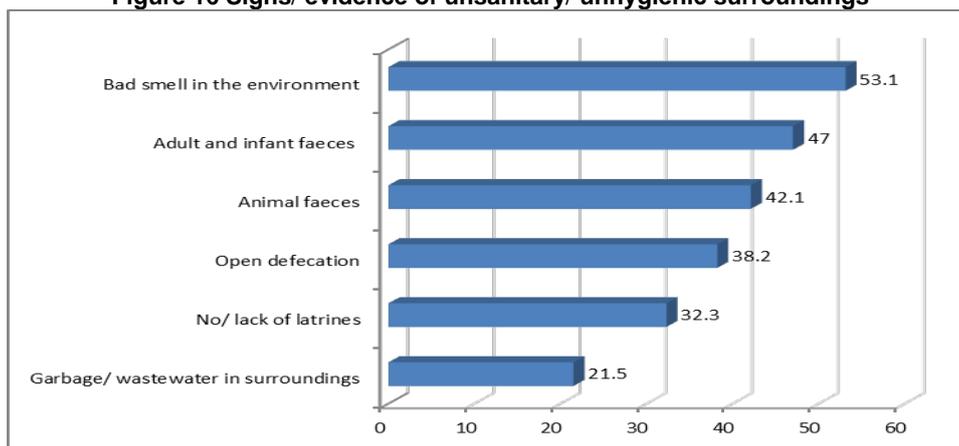


Source: Household Survey, KAP Survey, MRD 2010

In order to maintain good sanitation, one needs to (i) clean the house (85%), (ii) dispose adult and infant faeces safely (40%), (iii) dispose animal faeces safely (33.6%), (iv) use latrines properly, i.e., no open defecation (29.2%) and (v) dispose garbage/wastewater properly (21.6%).

In the respondents' opinion, the signs or evidence of unsanitary or unhygienic surroundings (Figure 16) are (i) bad/foul smell (53.1%), (ii) scattered adult/infant faeces (47%), (iii) scattered animal faeces (42.1%), (iv) open defecation (38.2%) and (v) absence of latrines (32.3%).

Figure 16 Signs/ evidence of unsanitary/ unhygienic surroundings

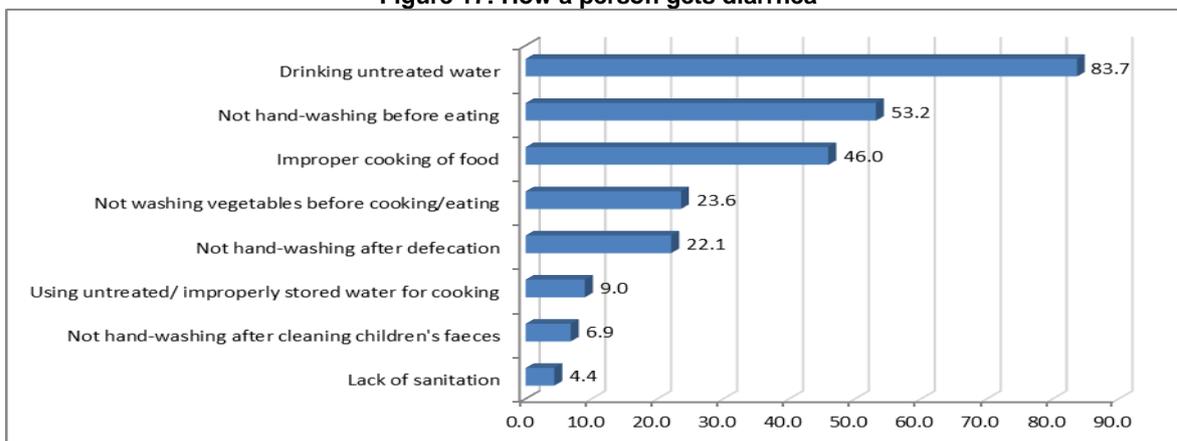


Source: Household Survey, KAP Survey, MRD 2010

Respondents' opinions indicate that a person gets diarrhea from (i) drinking untreated water (83.7%), (ii) not washing hands before eating (53.2%), (iii) improper cooking of food (46%), (iv) improper cleaning/washing of vegetables before cooking (23.6%) and (v) not washing hands after defecation (22.1%). See Figure 17.

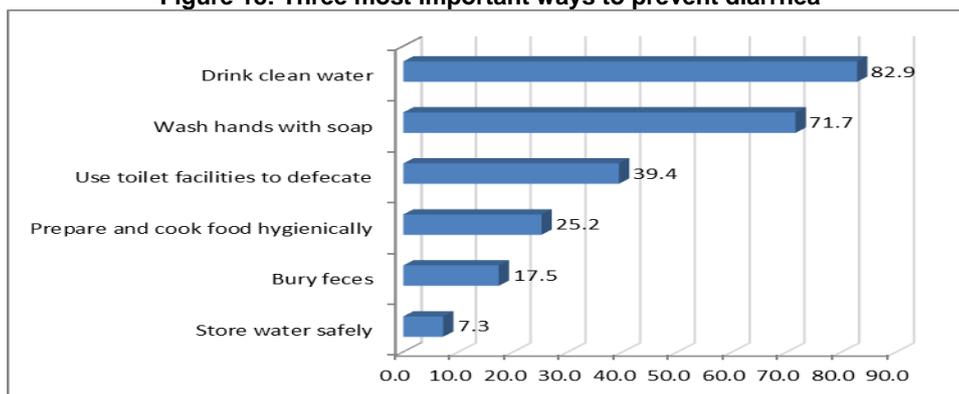
In order to prevent diarrhea (Figure 18), the three most important ways to do, according to the respondents are first, drink clean water (82.9%), second, wash hands with soap, 71.7% and third, use toilets to defecate (39.4%).

Figure 17: How a person gets diarrhea



Source: Household Survey, KAP Survey, MRD 2010

Figure 18: Three most important ways to prevent diarrhea

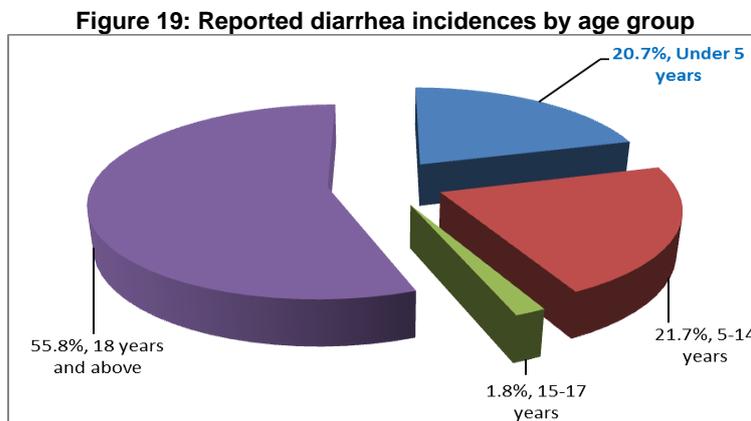


Source: Household Survey, KAP Survey, MRD 2010

3.3.1 Knowledge of diarrhea incidences in past 2 weeks

12.5% of the respondents reported that there were diarrhea cases in their household in the last two weeks. These cases represent a 2.7% incidence rate for all/total household members (7,789 individuals).

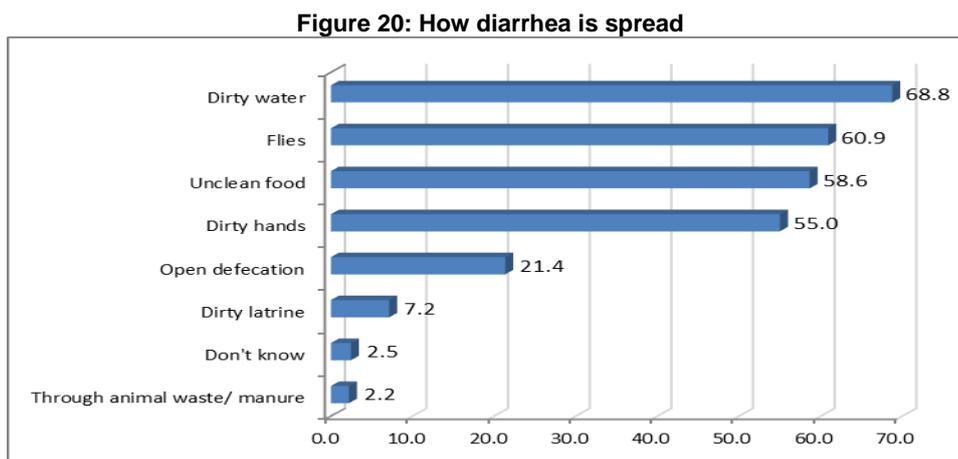
By age group (Figure 19), diarrhea in the past 2 weeks was most prevalent among those 18 years and above, then among those 15 to 17 years, and among children under 5 years where reported diarrhea incidence in the past 2 weeks was at 21%.



Source: Household Survey, KAP Survey, MRD 2010

Survey results further indicate that about a third (32.2%) of those that got diarrhea were brought to a private hospital, 29.7% were brought to the health centre, while 21.8% were just given medicine procured from a drugstore or the market.

In the respondent's opinions, diarrhea is spread mostly through (i) dirty water (68.8%), (ii) flies (60.9%), (iii) unclean food (58.6%), and (iv) dirty hands (55%).



Source: Household Survey, KAP Survey, MRD 2010

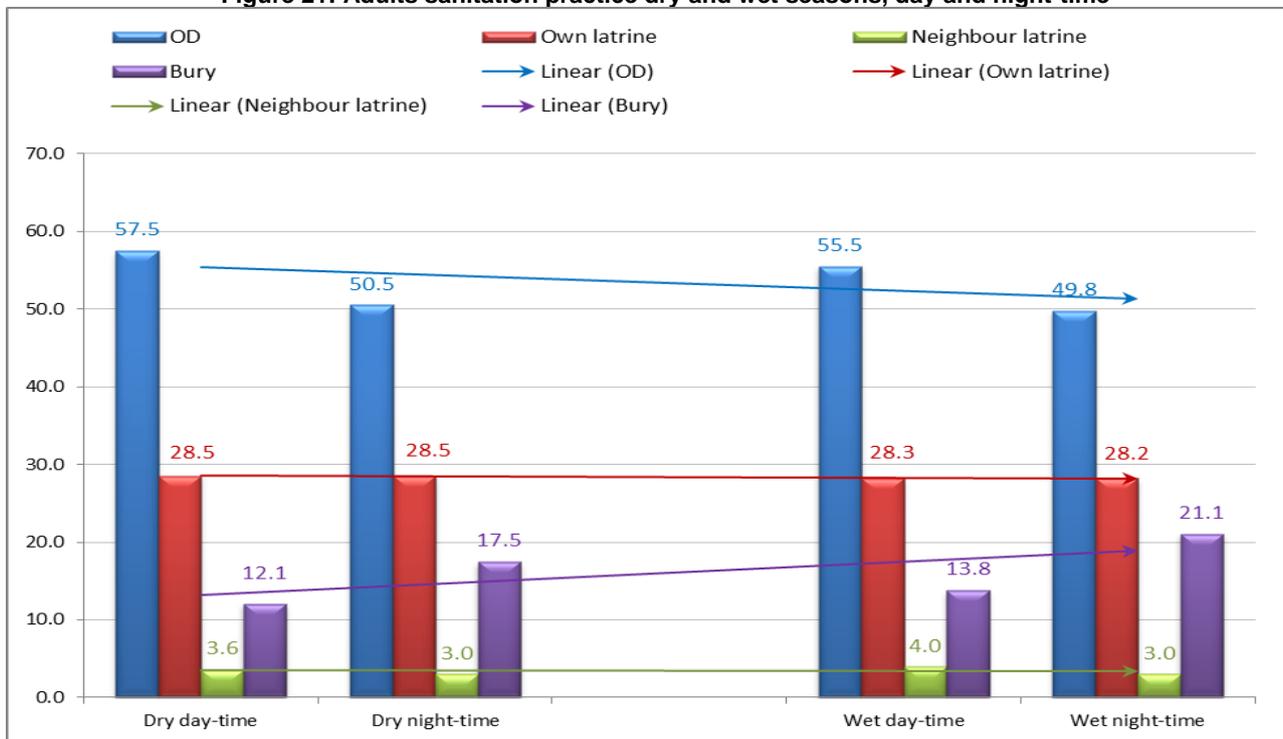
3.3.2 Practices on Sanitation and Hygiene

3.3.2.1 Use of latrines/ defecation practices

- **Adults**

On average (dry and wet season and during day and night-time) at home, OD is practiced by about 53% of all households, 28.4% use own latrines, 16% bury their faeces, and 3.4% use their neighbor’s latrine. If burying faeces is considered as an OD practice, then actual OD practices is at 69.4%. Trend-wise, OD practice decreases from dry to wet season, use of latrines whether own or neighbors latrines is constant, and burying practices increases from dry to wet season.

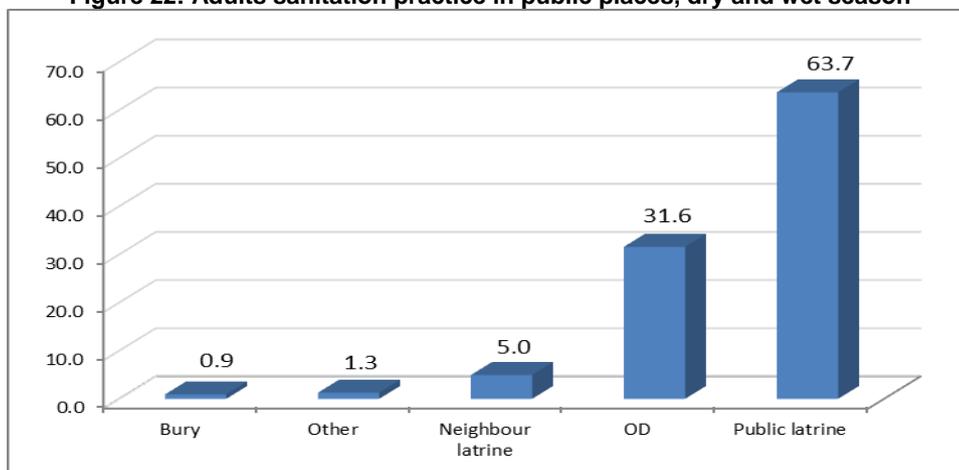
Figure 21: Adults sanitation practice dry and wet seasons, day and night-time



Source: Household Survey, KAP Survey, MRD 2010

When in public places like the pagoda, school, etc., adults generally use public latrines (63.7%). OD practice is lower in public places at about 31%. There are very few who share latrines.

Figure 22: Adults sanitation practice in public places, dry and wet season



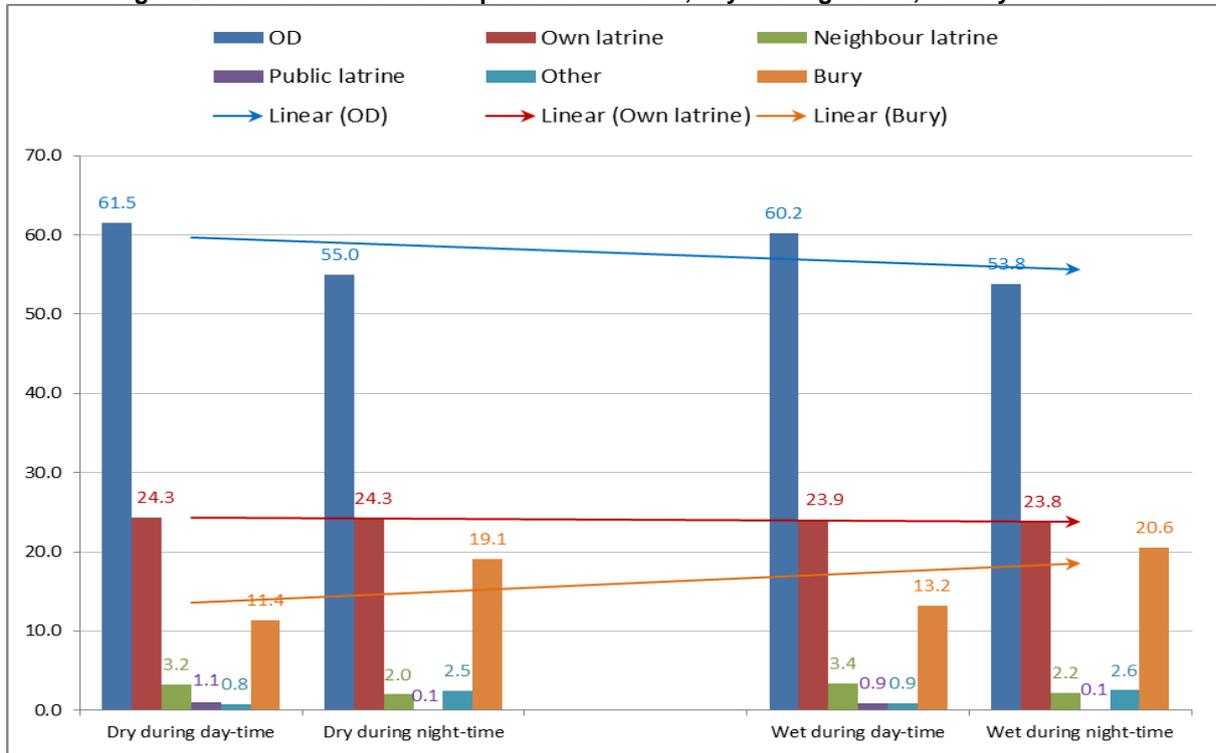
Source: Household Survey, KAP Survey, MRD 2010

- *Children's sanitation practices*

Survey results indicate that children, on average (dry and wet season and during day and night-time at home), practiced OD (58%), use own latrines (24.1%), bury their faeces (16%), and use their neighbor's latrine (2.7%). If burying faeces is considered as an OD practice, then actual OD practices is at 74% among children. See Figure 23. Trend-wise, OD practice decreases from dry to wet season, use of latrines whether own or neighbor's latrines is constant, and burying practices increases from dry to wet season.

Observations show that potties were present in 38.7% of the households and there were indications that these had been used in 42% of these households.

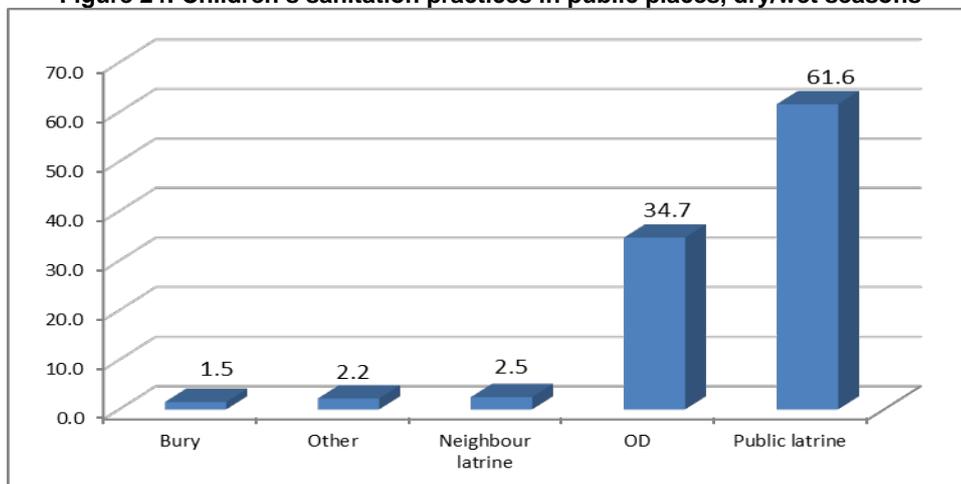
Figure 23: Children's sanitation practices at home, day and night-time, wet/dry seasons



Source: Household Survey, KAP Survey, MRD 2010

Survey results also show that when in public places, regardless of season, 61.6% of the respondents reported that children defecate in public latrines while about 34.7% said they defecate in open areas. Very few respondents indicated that children used neighbor's latrines or practiced burying of faeces.

Figure 24: Children's sanitation practices in public places, dry/wet seasons



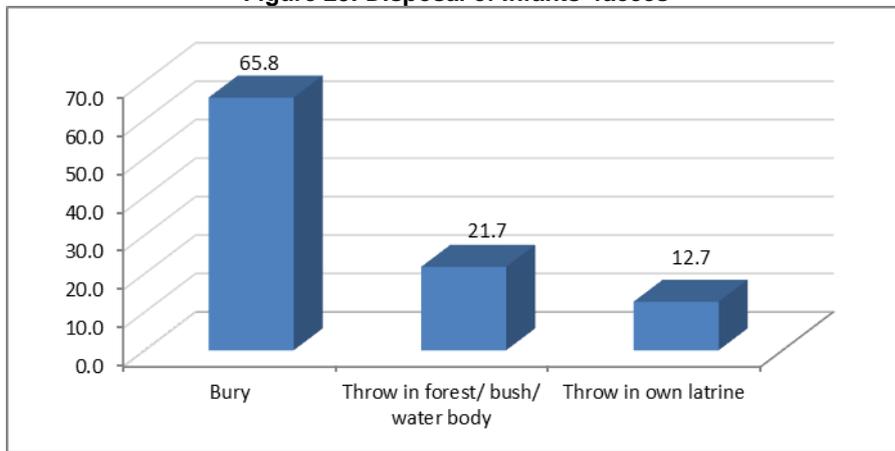
Source: Household Survey, KAP Survey, MRD 2010

- *Disposal of infants' faeces*

Survey results indicate that about 25% of the households had infants. Of this figure, around 66% bury their infants' faeces, 21.7% throw these in the forest, behind bushes or bodies of water and 12.7% throw these in latrines. These practices generally do not change in dry or wet seasons. See Figure 25.

FGD results generally reflect similar disposal practices as households normally dispose babies' faeces in available spaces around the house, among banana trees, in canals, pile these with animals' faeces, flush these in latrines if they have any or put them inside plastic bags before throwing in the forest or behind bushes. A few households just leave babies' faeces for the dogs to eat. Very few FGD participants mentioned that they use potties for babies to defecate.

Figure 25: Disposal of Infants' faeces



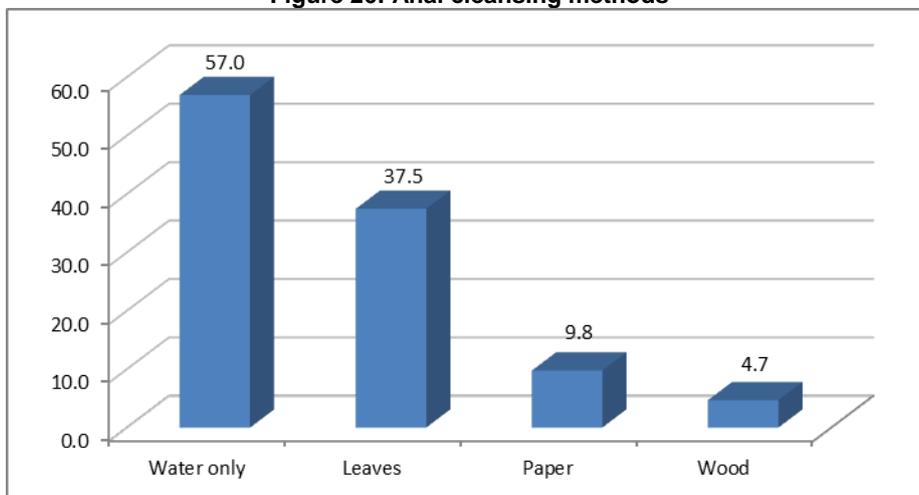
Source: Household Survey, KAP Survey, MRD 2010

- *Cleansing practices after defecation*

For anal cleansing after defecation (Figure 26), survey results indicate that practices are generally the same during wet and dry seasons, where 57% of respondents only use water, 38% use leaves, about 10% use paper and about 5% use wood (twigs). However, for children, 96.6% of the respondents indicated that children normally use water for anal cleansing both during dry or wet seasons. A few respondents indicated using leaves (3%) and paper (3%) as cleansing materials for children.

FGD results generally verify that of the survey as majority of participants indicate that people use water to clean their bottoms after defecation.

Figure 26: Anal cleansing methods



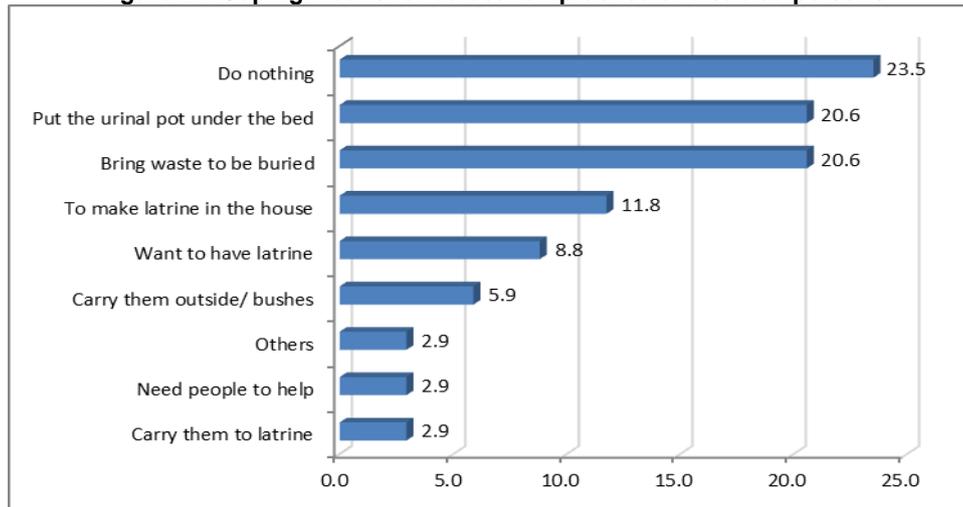
Source: Household Survey, KAP Survey, MRD 2010

- *Disabled household members and sanitation practices*

Only 4.9% of the respondents reported that there were disabled persons in their household. Of this figure, 45.6% claimed that these disabled persons find it difficult to use the latrine mainly because of inaccessibility/ distance to latrines or defecation areas. To cope, respondents indicate that urinal pots are placed near the bed

(21%), waste are brought outside and buried (21%), or carry disabled persons outside (6%). Some 24% indicated that nothing was done to cope with this problem.

Figure 27: Coping means for defecation practice of disabled persons

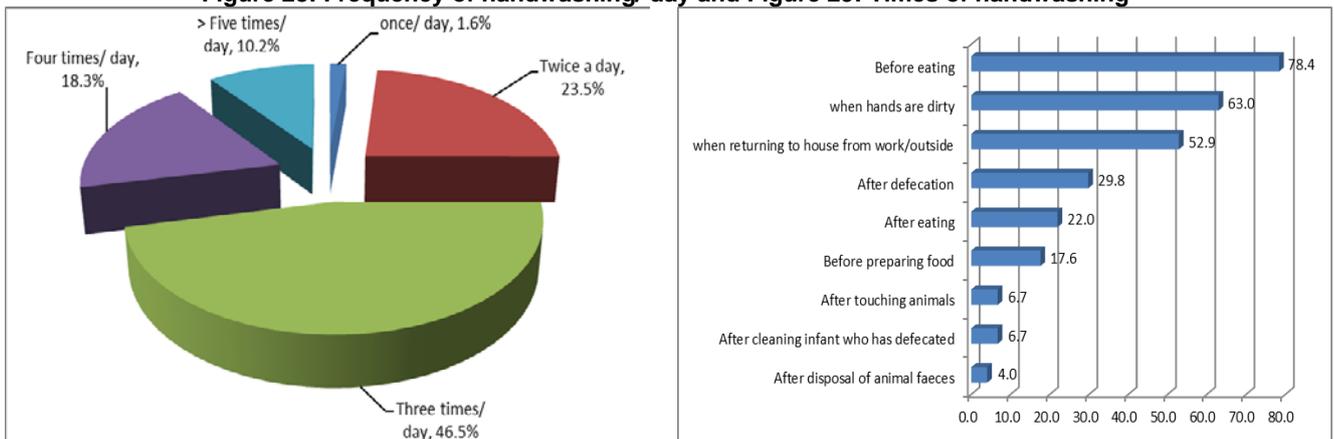


Source: Household Survey, KAP Survey, MRD 2010

3.3.2.2 Hand-washing practices

Majority (95.4%) of survey respondents affirmed that they have the habit of hand-washing, often with water and soap (81.2%). Most (46.5%) of the respondents wash their hands three times a day while others do it twice (23.5%) or four times (18.3%) a day (Figure 28). Most often, they wash their hands before eating (78.4%), whenever their hands are dirty (63%) and every time they return home from work/outside (52.9%). See Figure 29.

Figure 28: Frequency of handwashing/ day and Figure 29: Times of handwashing



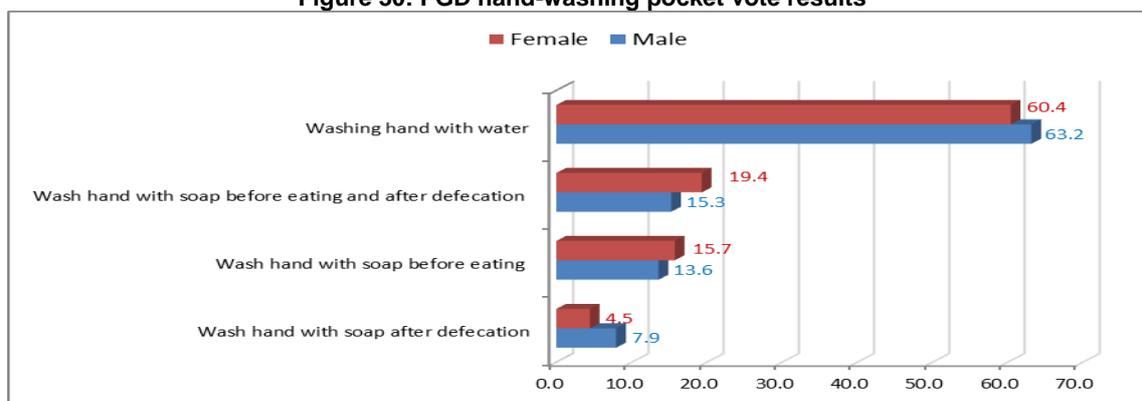
Source: Household Survey, KAP Survey, MRD 2010

About 86% of the respondents claimed that their children have the habit of washing their hands too, often with soap and water (89.6%). They do this two (37.5%) to three (43.9%) times a day usually before eating (75.1%), whenever their hands are dirty (67.5%) or when returning from outside (54.6%).

Majority (78.3%) of the respondents said that they use powdered soap in washing their hands. The respondents claimed that they buy soap from the market (81.7%) or from the neighbours (45.9%). Most (42.8%) of the respondents reported that they spend more than \$1.5 on soap per month.

FGD results, on the other hand, indicate that hand-washing with water is practiced by about 62%, 17% practice hand-washing with soap before eating and defecation, and 15% practice hand-washing with soap before eating. Results also indicate that slightly more men practice washing hands with water and washing hands with soap after defecation. However, in terms of washing hands before eating and washing hands with soap before eating and after defecation, FGD results indicate more women do this.

Figure 30: FGD hand-washing pocket vote results



Source: FGDs, KAP Survey, MRD 2010

▪ *Hand-washing stations*

Only 16.7% of the respondents had fixed hand-washing place/station in their homes. These were often located near the water jar (42.2%), inside the toilet (19.9%) or in the kitchen (15.1%). 92.6% stated that it always had soap and water. Of the 83.3% respondents who did not have fixed hand-washing places in their homes, hand-washing was either done near the latrine (65.5%) or at the water source (24.8%).

Observation results indicate that water was present at 53% of visited stations. Further powdered soap (69.1%), bar soap (33.9%), and liquid soap(11.9%) were observed present in the stations. There were also water jars or buckets in 90.6% of these households but only 9.3% had tap in their water containers. Only 25.8% were observed to have towels for drying hands and 26.2% of these looked clean at the time of survey. There was also evidence (wet ground/ cement) that the hand-washing stations in 60.3% of the households having fixed hand-washing stations had been used recently.

For households without fixed-handwashing stations, observations indicate that the hand-washing area/ place generally had water (92.2%) and powdered soap (66.4%). Towels were observed less (13.2%).Evidence of recent hand-washing activity was observed in 57.5% of the households.

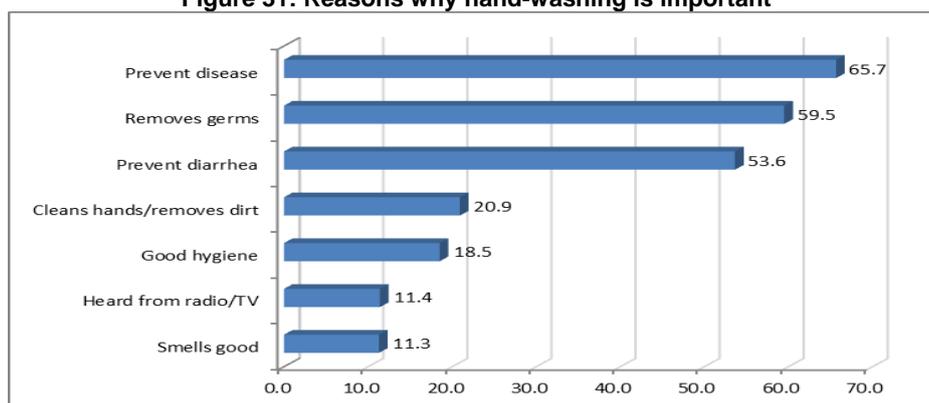
The FGD participants affirmed that most people in their villages do not have fixed hand-washing stations in their houses. Instead, they wash their hands near the jar, unprotected dug well or tube well, at the kitchen or at the stream. But even if they do not have fixed hand-washing stations in their houses, the participants claimed that water is always available. On the other hand, soap is not always available because people rarely use this for washing their hands.

▪ *Perceptions on hand-washing with soap*

When asked why they think hand-washing with water and soap is important, the most frequent reasons given by survey respondents were (i) to prevent diseases (65.7%), (ii) to remove germs (59.5%), and (iii) to prevent diarrhea (53.6%).See Figure 31.

FGD participants affirmed that hand-washing with soap is very important because it reduces the incidence and transmission of contagious diseases, prevents diarrhea, keeps hands smelling good, kills germs and for good hygiene.

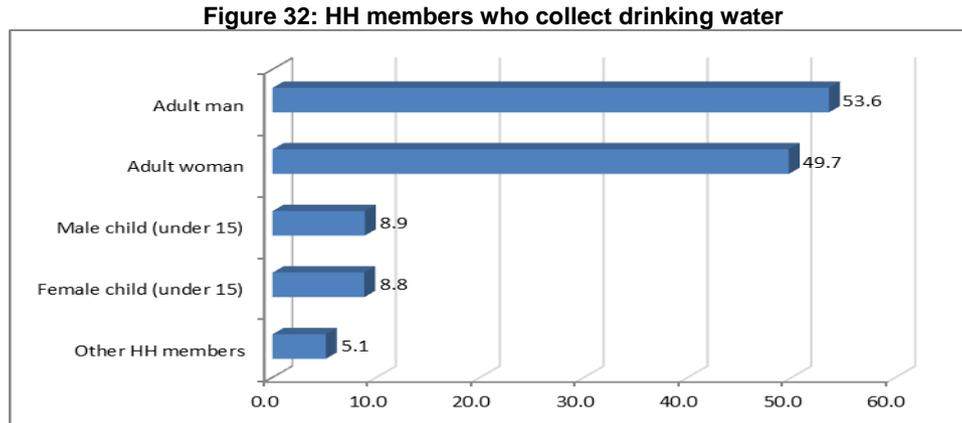
Figure 31: Reasons why hand-washing is important



Source: Household Survey, KAP Survey, MRD 2010

3.3.2.3 Drinking water storage practices

Survey results show that drinking water is usually collected by adult males and females (See Figure 32). Majority (88.6%) of the respondents reported that they store drinking water at home.



Source: Household Survey, KAP Survey, MRD 2010

Of the 11.4% respondents who indicated not storing drinking water, 17.8% reported that they are either connected to piped water, have own well, or have their own RWH tank.

- *Storage practices*

From observations, most households store water in wide-mouthed containers from where they scoop drinking water out generally with a ladle or dipper. Most of storage containers were covered and elevated from the floor at the time of survey. Likewise, water in the containers was observed to be clean in 75% of the households. From these observations, it is estimated that around 60% of households store drinking water safely.

FGD results indicated that people store their drinking water in jars or buckets. These are usually placed near or inside the house, in the kitchen, living room and bedroom or below the gutter near the kitchen. Very few people mentioned that their water containers had taps. Instead, they scoop out the water with a glass, bowl, coconut shell, dipper, pitcher or clay pots. The participants added that most people separately store their drinking water from those for other uses. However, there are still people who have only one water storage facility for all purposes because they do not have enough water containers and this was how they observed elders did it.

Survey results indicate that during wet season, the stored drinking water is changed/refilled everyday according to 51.1% of the respondents while 26.5% reported that they change/refill this once a week. The figures slightly increase during dry season at 55.1% and 27.2%, respectively. 96.2% of the respondents informed that the drinking water storage facilities are cleaned. 43.5% claimed that the last time the storage facility was cleaned was on the day of the survey while 40.6% said that it was cleaned during the week of the survey.

FGD participants claimed that people always clean their water containers to remove mud, debris, sediments, mosquito larvae, earthworms, algae and to prevent viral/bacterial contamination. In general, they clean their water containers every 2-3 days while some clean these once a week.

- *Reasons for storing drinking water*

Survey respondents report that their main reasons for storing drinking water are: (i) to prevent contamination (66.6%), (ii) to keep it clean (38.3%) and (iii) to keep it safe (15.9%).

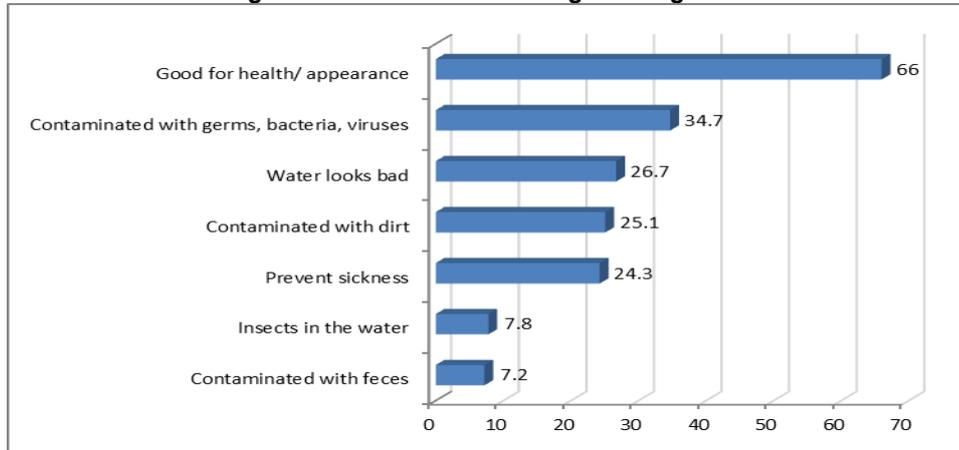
For their part, FGD participants said that people store their drinking water so that (i) it would be easy for them to get water especially at night, (ii) to protect water from dirt, dust, sunlight or mosquito larvae and, (iii) keep water safe from children or dogs.

3.3.2.4 Drinking water treatment

- *Reasons for treating drinking water*

Most (79.6%) of the respondents reported that they treat their drinking water because (i) it is good for the health or appearance (66%), (ii) it is contaminated with germs, bacteria or viruses (34.9%), (iii) the water looks bad (26.7%), (iv) it is contaminated with dirt (25.1%) and/or (v) to prevent sickness (24.3%).

Figure 33: Reasons for treating drinking water



Source: Household Survey, KAP Survey, MRD 2010

FGD results indicate that most participants treat their drinking water to make water safe to drink. They prefer boiling for water treatment because it is easier and it protects water from being contaminated with disease-producing micro-organisms. However, people still prefer to drink raw water.

- *Ways of treating drinking water*

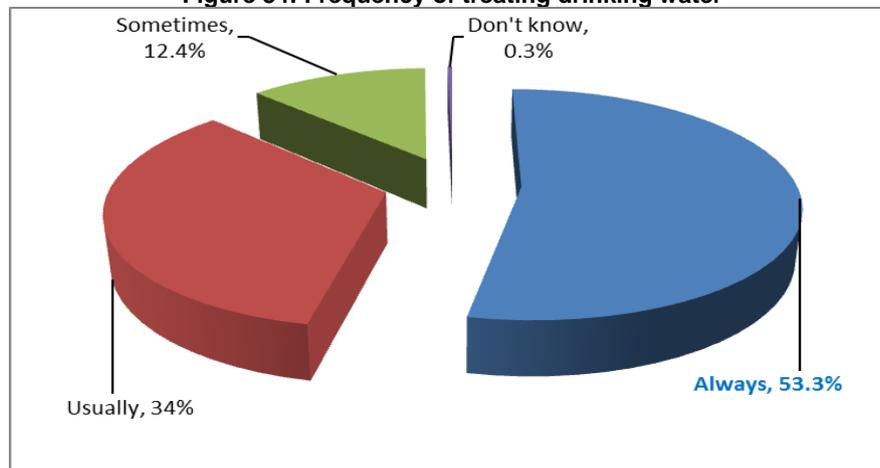
Survey results indicate that most (83.2%) of the respondents treat their drinking water by boiling, while about 17% use water filters. The rest treat water by putting under sunlight or letting the water stand for a while.

Observations of boiling pots in 64.3% of visited households appear to validate the primary practice of boiling water as drinking water treatment. Filtering water as treatment was also validated as water filters such as sand, ceramic, and composite filters were observed in 15.4% of visited households.

- *Frequency of treating drinking water*

Survey results indicate that majority of households (53.3%) who treat drinking water, “always” treat the water. About a third “usually” treats their drinking water, and about 12% said they “sometimes” treat drinking water.

Figure 34: Frequency of treating drinking water



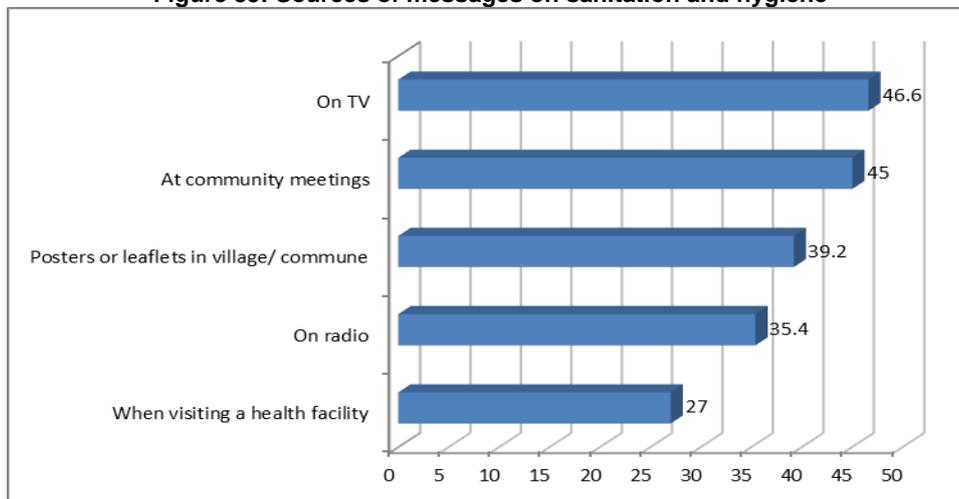
Source: Household Survey, KAP Survey, MRD 2010

FGD results indicated that most households drink unsafe water because they are always in haste especially when traveling long distances. Sometimes, they do not have enough wood to boil water and that many do not have the habit of drinking boiled water.

3.4 Message on sanitation and hygiene

More than half (54.1%) of the respondents said that they have seen, heard or received messages/ materials on sanitation and hygiene in the past year. The most common messages they received were about (i) drinking safe water (64.8%), (ii) washing hands with soap (56%) and (iii) building a latrine (52.6%). They have seen these messages mostly on TV (46.6%), heard these in community meetings (45%), seen/read in posters/leaflets (39.2%) or heard on radios (35.4%). See Figure 35. Posters were observed only in 16.1% of the households which dealt mostly on hand-washing with soap and water (72.2%).

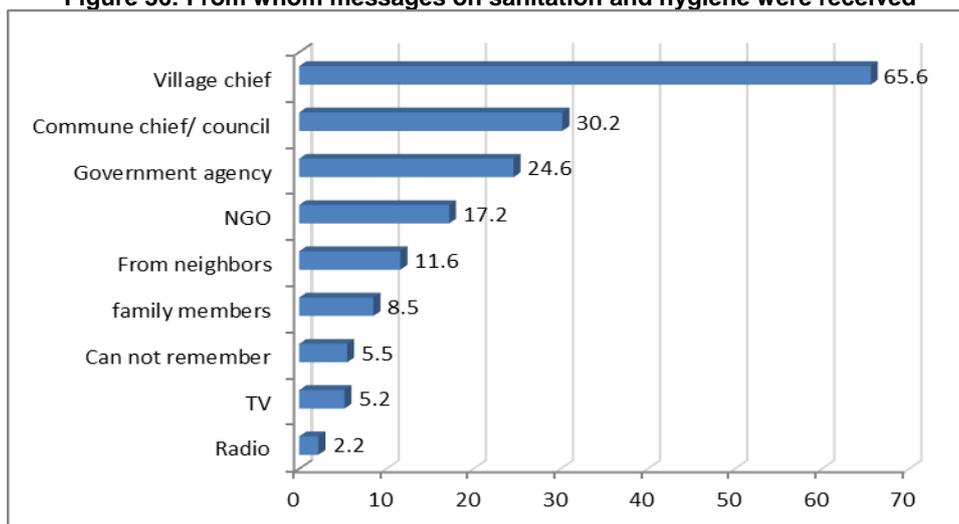
Figure 35: Sources of messages on sanitation and hygiene



Source: Household Survey, KAP Survey, MRD 2010

The time as to when the respondents last heard/seen/received the messages was varied. Nevertheless, they got the messages mostly from the village chief (65.6%), the commune chief/council (30.2%), a government agency (24.6%) or an NGO (17.2%).

Figure 36: From whom messages on sanitation and hygiene were received



Source: Household Survey, KAP Survey, MRD 2010

4. KAP of households without and with latrines

Survey results presented in this section are of HH without latrines and HH with latrines focusing on the 3 key hygiene practices (use of toilets, hand-washing, and safe treatment and storage of drinking water) under study. The relevant features and activities under these 3 practices as presented in Table 7 below are also discussed.

Table 7: Key hygiene practices and relevant features

Cluster of Hygiene Practices	Relevant Features and Activities
<i>Use of toilet</i>	Location of defecation sites toilet maintenance (structure and cleanliness) Disposal of children's faeces (whether feces are seen in and around home); Presence of potties Locations of toilets in relation to water source(s) Use of cleansing materials
<i>Hand washing</i>	Hand-washing at <i>critical</i> times (after cleaning children's bottoms; after handling children's faeces; after defecation) <i>Presence of soap/hand-washing facilities near latrine</i> Presence of permanent hand washing stations at home where water and soap are available
<i>Safe treatment and storage of drinking water</i>	Water treatment practices Water storage practices Consistent consumption of treated and safely stored water Presence of water treatment facilities Presence of safe storage facilities

Source: KAP Survey Terms of Reference

4.1 Knowledge and attitudes on sanitation and hygiene

4.1.1 Understanding of sanitation and hygiene

HH without latrines

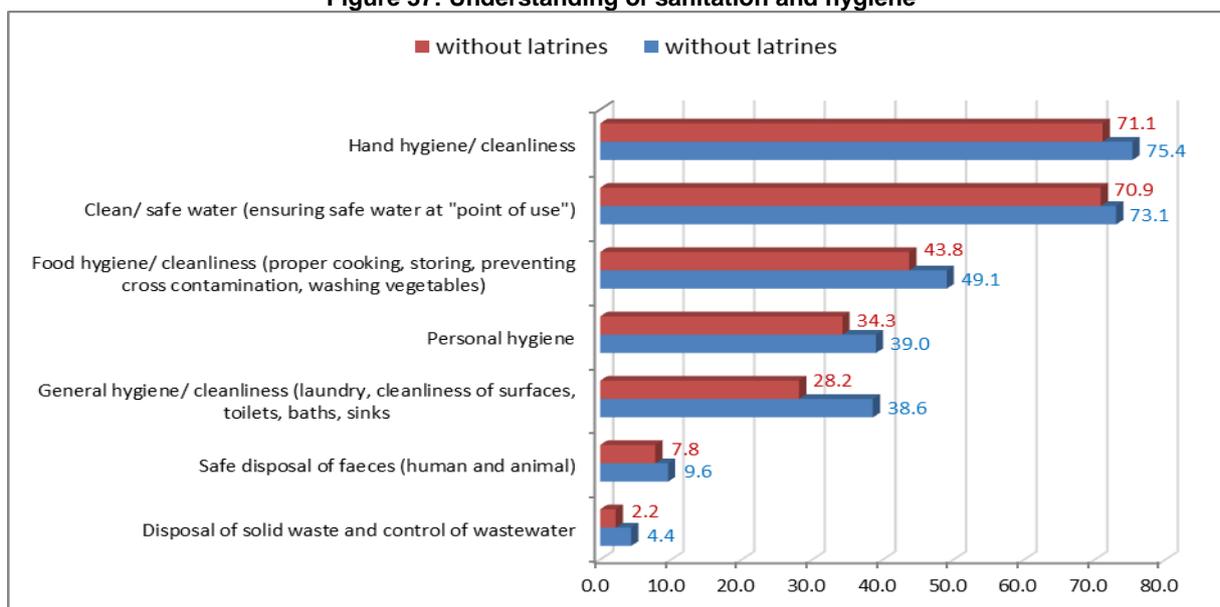
The household respondents without latrine commonly associate sanitation and hygiene to clean hands (71.1%) and clean, safe water (70.9%). They hardly included safe disposal of feces in their choices as this item only garnered 7.8%. See Figure 37. Although slightly varied in intensity, the choices of respondents in all educational levels and between genders were similar which connotes that these factors do not matter much in their understanding of sanitation and hygiene. Males registered slightly higher than females in almost all categories except disposal of solid waste while more females admitted that they did not know the answer.

HH with latrines

The household respondents with latrine attributed sanitation and hygiene mostly to hand hygiene/cleanliness (75.4%) and clean/safe water (73.1%). Similar to the households without latrine, they also seldom mentioned safe disposal of feces (9.6%) among their priorities. See Figure 37. Men seemed more concerned about hand hygiene and food hygiene since they registered slightly higher on these items than females. On the other hand, females were more concerned about clean/safe water and general hygiene.

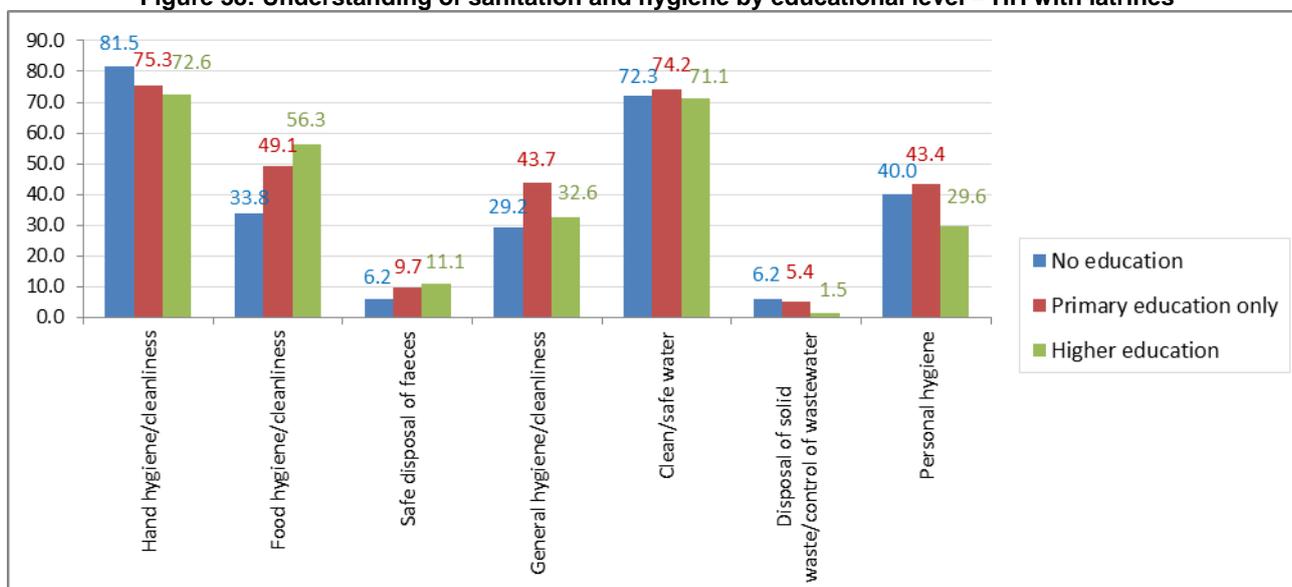
The higher the educational level, the more likely they would mention food hygiene and safe disposal of feces. On the other hand, the higher the educational level, the less likely they would mention hand hygiene and disposal of solid waste. More respondents with primary level of education mentioned general hygiene than the other two education groups. Surprisingly, respondents with higher educational level mentioned personal hygiene least. See Figure 38.

Figure 37: Understanding of sanitation and hygiene



Source: Household Survey, KAP Survey, MRD 2010

Figure 38: Understanding of sanitation and hygiene by educational level – HH with latrines



Source: Household Survey, KAP Survey, MRD 2010

4.1.2 Reasons for maintaining good hygiene

HH without latrines

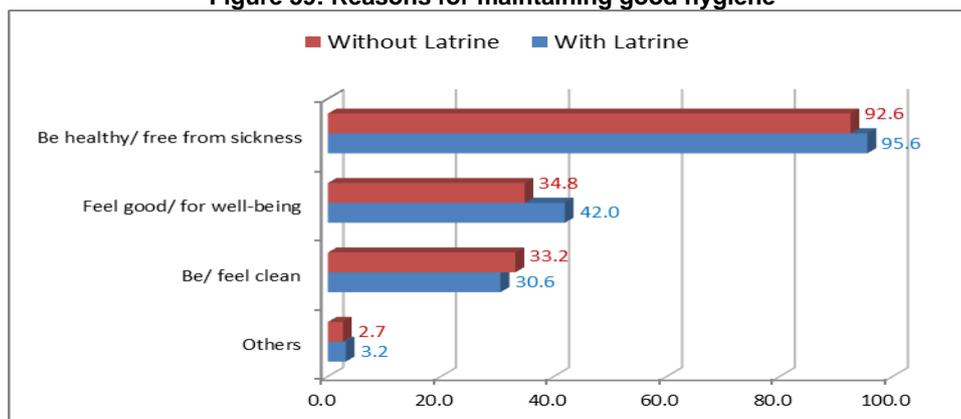
The primary reasons for maintaining good hygiene, according to the household respondents without latrine are (i) to be healthy and free from disease, 92.6%, (ii) to feel good 34.8% and (iii) feel clean 33.2%. See Figure 39. These responses were consistent among all educational groups and gender.

Men seemed to be more concerned about their comfort since they registered higher in the category “to feel good/for well-being” than their female counterparts at 41.9% against female’s 28.4%. The household respondents who did not get formal education seem to be the least concerned about their cleanliness since they registered the lowest in this category at 22.1% against those with primary education at 34.7% and higher education at 37.3%.

HH with latrines

The respondents maintain good hygiene primarily to be healthy and free of disease (95.6%). See Figure 39. The male respondents with latrines seemed more concerned about feeling good or their well-being while feeling clean is what matters to women more. In terms of educational levels, respondents with no education registered lowest in all response categories: “to be healthy/not to get sick”, “to feel good” and “to feel clean”.

Figure 39: Reasons for maintaining good hygiene



Source: Household Survey, KAP Survey, MRD 2010

4.1.3 Ways to maintain good hygiene

HH without latrines

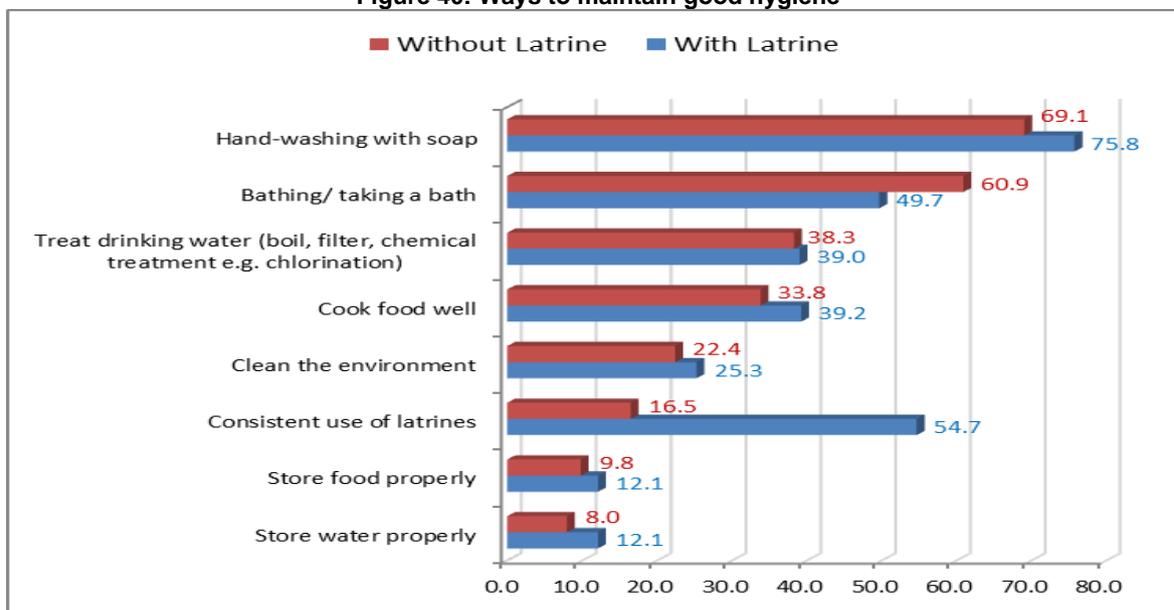
In order to maintain good hygiene, the household respondents without latrine recommended two main measures - (i) wash hands with soap, 69.1% and (ii) take a bath, 60.9%. See Figure 40. Surprisingly, slightly more male respondents (37.6%) mentioned “cook food well” than female respondents at 30.4%. On the other hand, slightly more females (24.5%) mentioned clean the environment than males (20.2%). The household respondents with no education mentioned (i) treat drinking water, (ii) consistent use of latrines, (iii) cook food well and (iv) store water properly the least.

HH with latrines

When asked about the ways to maintain good hygiene, the topmost responses of households with latrine were hand-washing with soap (75.8%), consistent use of latrines (54.7%) and bathing (49.7%). See Figure 40. Other than the item “clean the environment”, there were no significant differences in the responses of males and females.

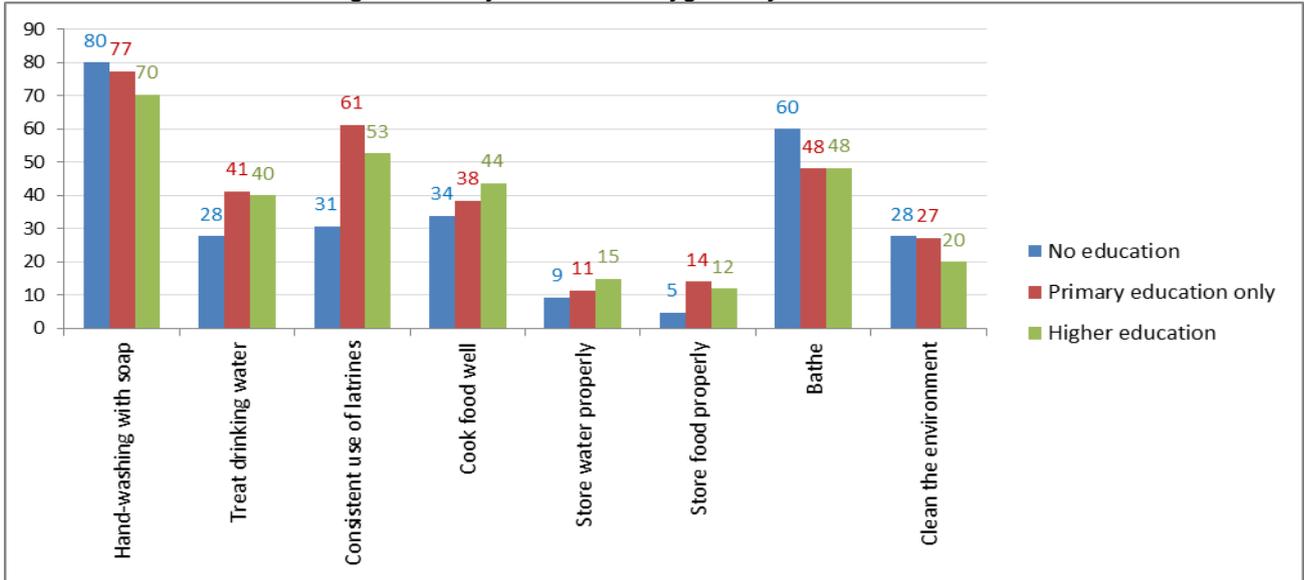
Households who attained primary level of education mentioned “consistent use of latrine” most while those with no education mentioned it the least. Households without formal education registered significantly lower in the category “storing food properly” at 4.6%, while, they were highest in “bathing” at 60%. See Figure 41.

Figure 40: Ways to maintain good hygiene



Source: Household Survey, KAP Survey, MRD 2010

Figure 41: Ways to maintain hygiene by educational level



Source: Household Survey, KAP Survey, MRD 2010

4.1.4 Critical times to wash hands

HH without latrines

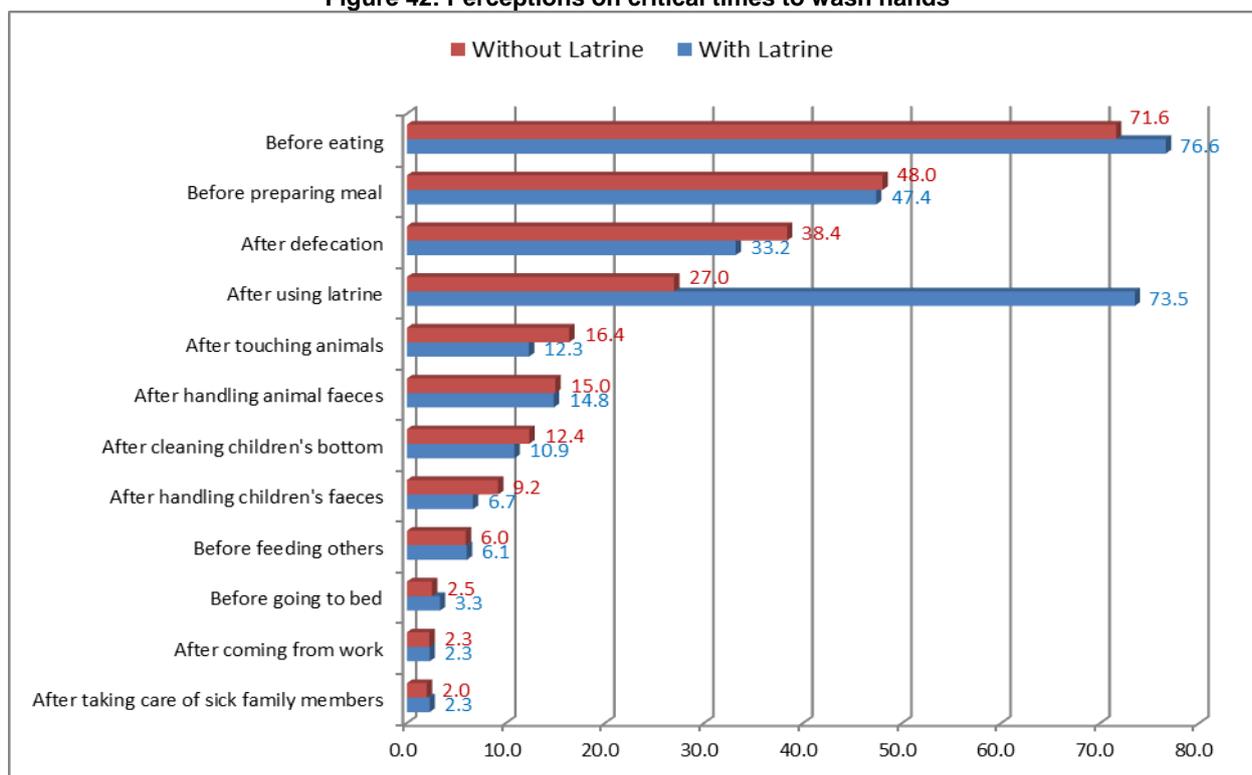
The most critical times to wash one's hands, according to the household respondents without latrines are before eating (71.6%), before preparing meals (48%), and after defecation (38.4%). See Figure 42. The female respondents wash their hands before preparing meals more often than their male counterpart (52.7% against 42.9%) which is understandable since women usually prepare meals for the households. Households belonging to the no education group registered slightly higher than the other groups in terms of washing their hands before eating. The high education group seems to wash their hands more often after using the latrine and after defecation since they registered highest in this category. On the other hand, the no education group registered lowest in these two aspects.

HH with latrines

The most critical times to wash hands, according to the respondents with latrines were before eating (76.6%), after using the latrine (73.5%), and before preparing meals (Figure 42). More male than female respondents identified the above categories. Meanwhile the females dominated in "before preparing meals", "after handling animal's feces" and "after cleaning children's bottoms."

The high educational level respondents registered highest in "after using the latrine." While the no education group registered least in the "after defecation" category.

Figure 42: Perceptions on critical times to wash hands



Source: Household Survey, KAP Survey, MRD 2010

4.1.5 Ways to maintain good sanitation

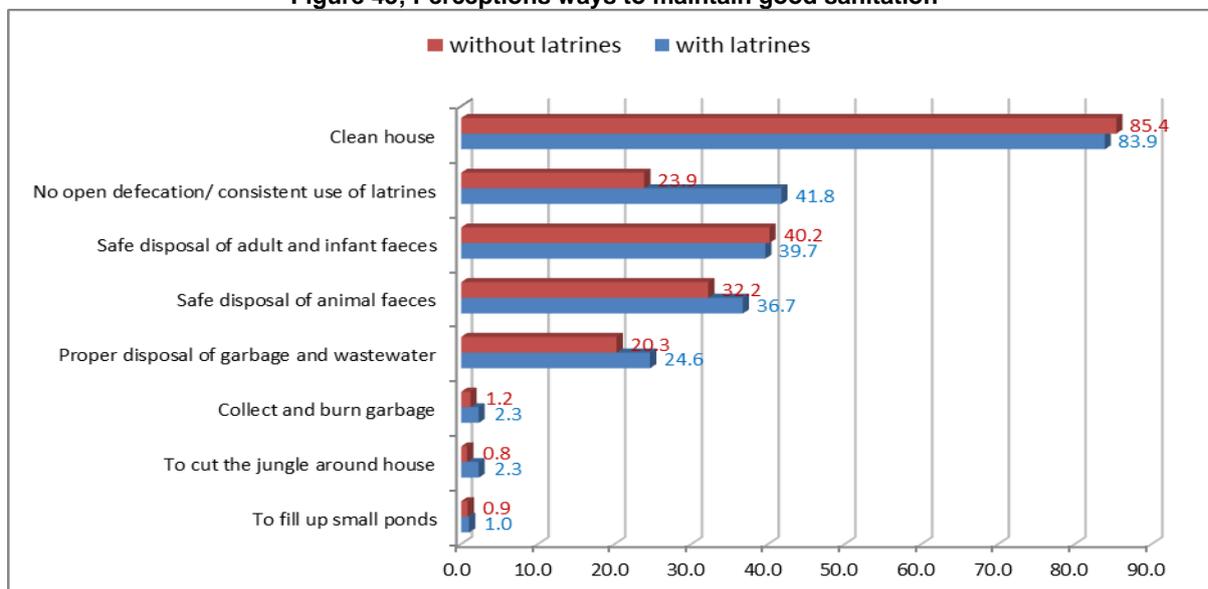
HH without latrines

The household respondents without latrines reported that in order to maintain good sanitation, one needs to keep the house clean (85.4%), safely dispose adult and infant faeces (40%), and safely dispose animal faeces (32%). See Figure 43. The no education group scored slightly higher than the primary and higher education group in this category but low in all others.

HH with latrines

Among households with latrines, keeping the house clean (84%) remains the main response in terms of ways to maintain good sanitation. However, in contrast to HH without latrines, the second most mentioned response is "consistent use of latrines" (42%).

Figure 43; Perceptions ways to maintain good sanitation



Source: Household Survey, KAP Survey, MRD 2010

4.1.6 Signs or evidence of lack of sanitation and hygiene in the environment

HH without latrines

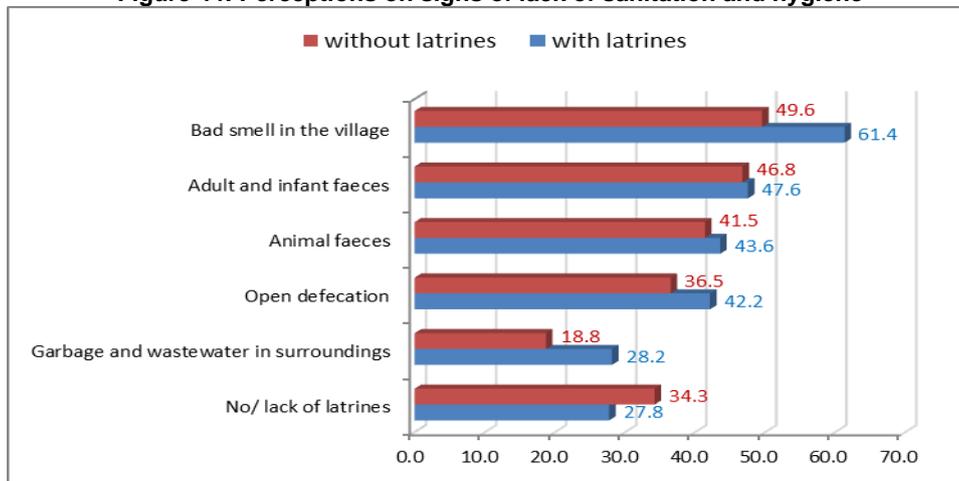
The signs or evidences of lack of sanitation and hygiene in the environment, according to the household respondents without latrines are (i) bad smell, 49.6%, (ii) animal feces, 41.5%, (iii) adult and infant feces, 46.8%, (iv) open defecation, 36.5%, and (v) absence of latrines, 34.3%. See Figure 44. The male respondents registered higher in almost all categories than their female counterparts except for two variables - absence of latrines and garbage/wastewater. Household respondents with no education registered lowest in all categories except for garbage/wastewater where they scored higher than the primary and higher education groups. See Figure 45.

HH with latrines

Signs or evidences of lack of sanitation and hygiene identified by the respondents with latrines were generally the same as those mentioned by HH without latrines. There were more female than male respondents who registered under this category as well as in the “absence or lack of latrines” and “presence of garbage/wastewater.” On the other hand, the male respondents dominated in “presence of adult, infant and animal feces.”

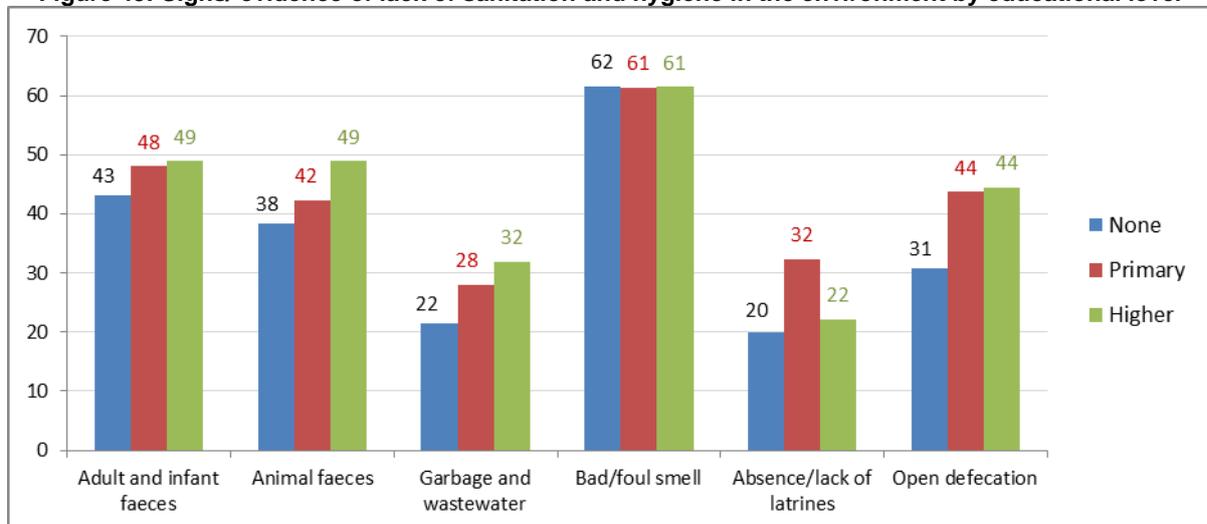
In terms of education, a positive correlation was observed between educational levels and (i) adult and infant feces, (ii) animal feces, (iii) garbage and wastewater and, (iv) open defecation. Respondents with primary level of education ranked highest in “absence/lack of latrines.” See Figure 45.

Figure 44: Perceptions on signs of lack of sanitation and hygiene



Source: Household Survey, KAP Survey, MRD 2010

Figure 45: Signs/ evidence of lack of sanitation and hygiene in the environment by educational level



Source: Household Survey, KAP Survey, MRD 2010

4.1.7 How a person gets diarrhea

HH without latrines

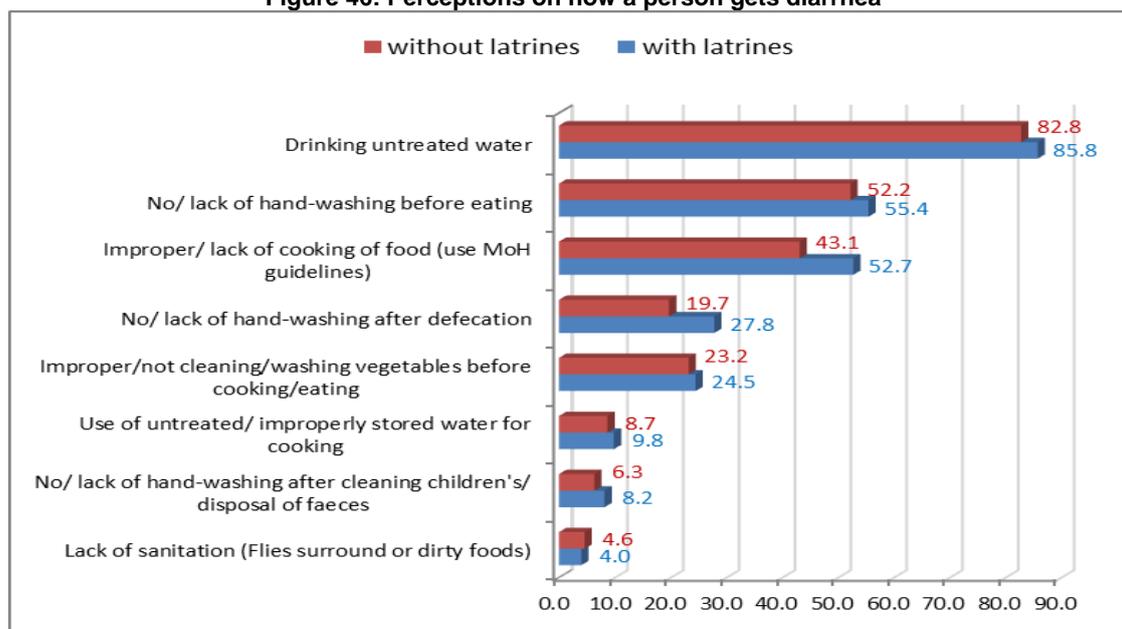
The household respondents attribute diarrhea to drinking untreated water (82.8%), not washing hands before eating (52.2%), and improper cooking of food (43.1%). See Figure 46. The respondents with higher educational attainment mentioned this more frequently than those who did not get formal education or only attained primary education. The male respondents seem to know better as to how one gets diarrhea since they exceeded their female counterparts in all response items. Except for the reason “not washing vegetables before cooking”, the no education group scored least in all categories.

HH with latrines

According to the respondents, a person gets diarrhea mostly from (i) drinking untreated water (85.8%), (ii) not washing hands before eating (55.4%) and, (iii) improper cooking of food (52.7%). See Figure 46.

The higher the educational level, the more likely they would mention “drinking untreated water.” Respondents with primary level of education registered highest in “absence/lack of hand-washing” while those with no education registered lowest in this category.

Figure 46: Perceptions on how a person gets diarrhea



Source: Household Survey, KAP Survey, MRD 2010

4.1.8 Three most important ways to prevent diarrhea

HH without latrines

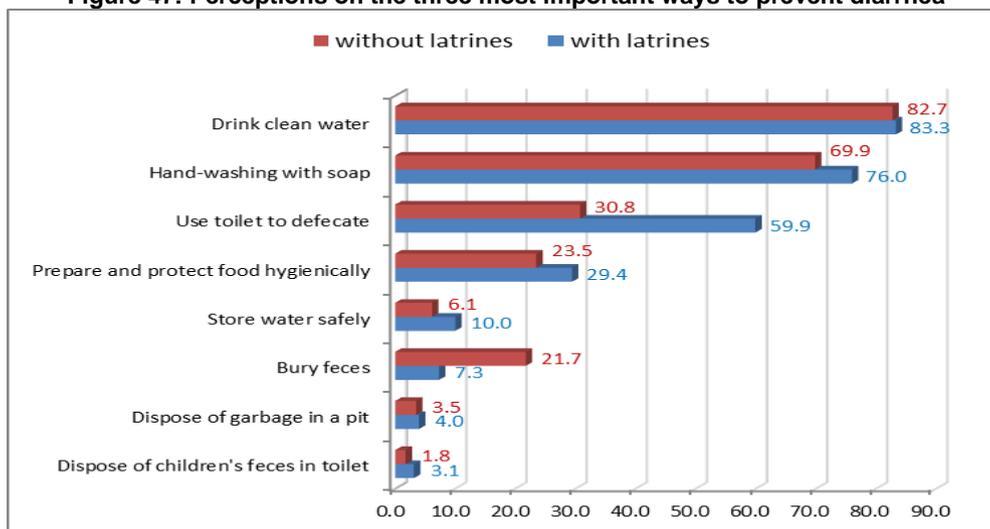
The household respondents identified (i) drinking clean water, 82.7%, (ii) hand-washing with soap, 69.9% and, (iii) using toilet facilities to defecate as the three most important measures to prevent diarrhea. See Figure 47. The male respondents slightly exceeded the females in all three categories. More respondents from the higher education group identified “drinking clean water” but less of them identified “hand-washing.” The primary education group registered higher in “use toilet facilities to defecate” and “bury feces” while the no education group registered highest in “don’t know.”

HH with latrines

The three most important ways to prevent diarrhea were (i) drink clean water (83.3%), (ii) wash hands with soap (76%) and (iii) use toilet facility to defecate (59.9%). See Figure 47.

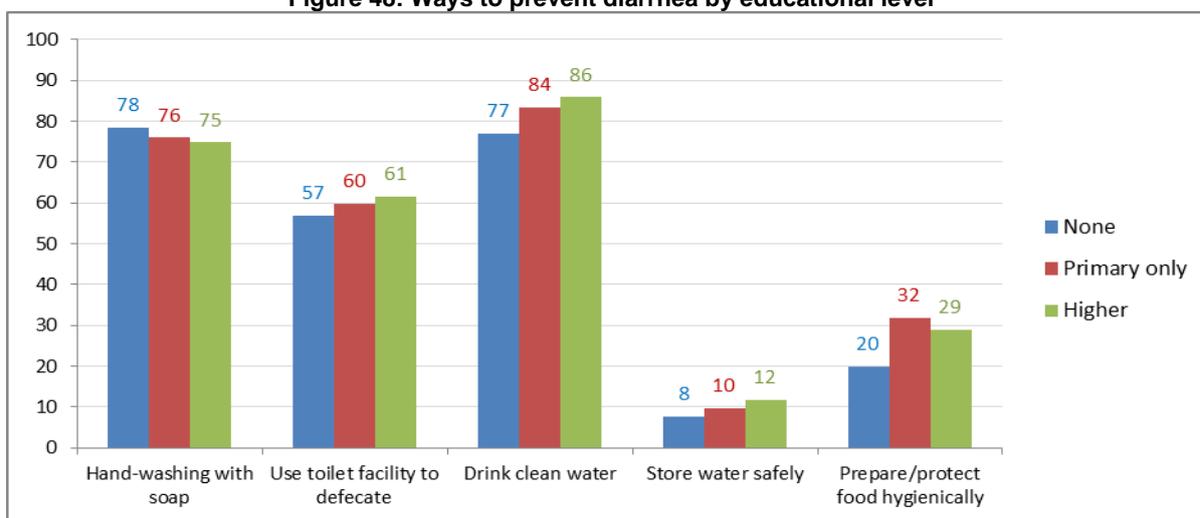
There was also a positive correlation between education and (i) drink clean water, (ii) use toilet facility to defecate and (iii) store water safely. See Figure 48.

Figure 47: Perceptions on the three most important ways to prevent diarrhea



Source: Household Survey, KAP Survey, MRD 2010

Figure 48: Ways to prevent diarrhea by educational level



Source: Household Survey, KAP Survey, MRD 2010

4.1.9 How diarrhea spreads

HH without latrines

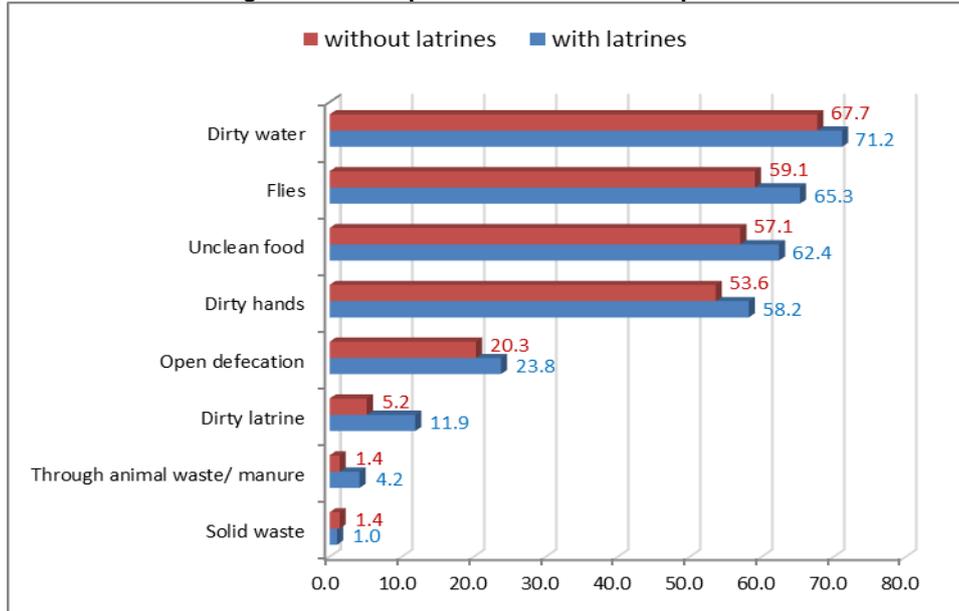
In the respondents' opinion, diarrhea spreads through (i) dirty water, 67.7%, (ii) flies, 59.1%, (iii) unclean food, 57.1% and (iv) dirty hands, 53.6%. See Figure 49. More males identified the above categories than females while more females identified "dirty latrine." The higher education group registered highest in all the above categories while the no education group registered the lowest. In addition, the no education group answered "don't know" most.

HH with latrines

According to the respondents with latrine, diarrhea spreads through (i) drinking dirty water, 71.2%, (ii) flies, 65.3%, (iii) unclean food, 62.4%, and, (iv) dirty hands, 58.2%. See Figure 49. The male respondents dominated in "dirty hands" and "flies" while the female respondents dominated in "dirty water", "unclean food" as well as "dirty latrine."

There is a positive correlation between education level and response categories (i) dirty hands, (ii) dirty latrine and (iii) open defecation. The primary level group dominated in mentioning "unclean food" as the means of diarrhea spread.

Figure 49: Perception on how diarrhea spreads



Source: Household Survey, KAP Survey, MRD 2010

4.2 Practices on sanitation and hygiene

4.2.1 Use of toilets/ defecation practices

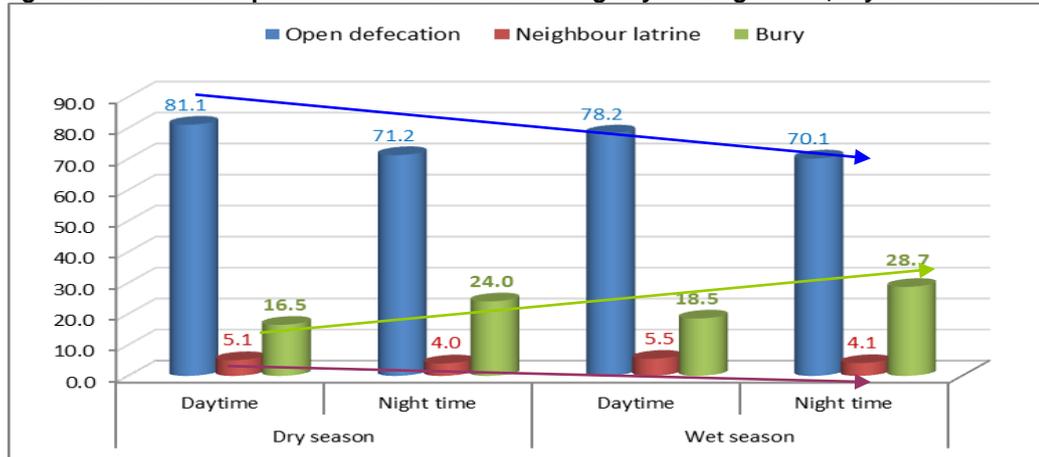
4.2.1.1 Defecation practices when at home

- Adults

HH without latrines

On the average, 75% of the respondents without latrine openly defecate on the ground, forest or water bodies when they are at home either at daytime or night time and during dry or wet seasons. If burying faeces is considered as an OD practice, then actual OD practices is around 97%. Trend-wise, the practice of OD and using the neighbour's latrine decrease from daytime to night-time while burying practice increases.

Figure 50: Defecation practices when at home during daytime/night time, dry or wet seasons

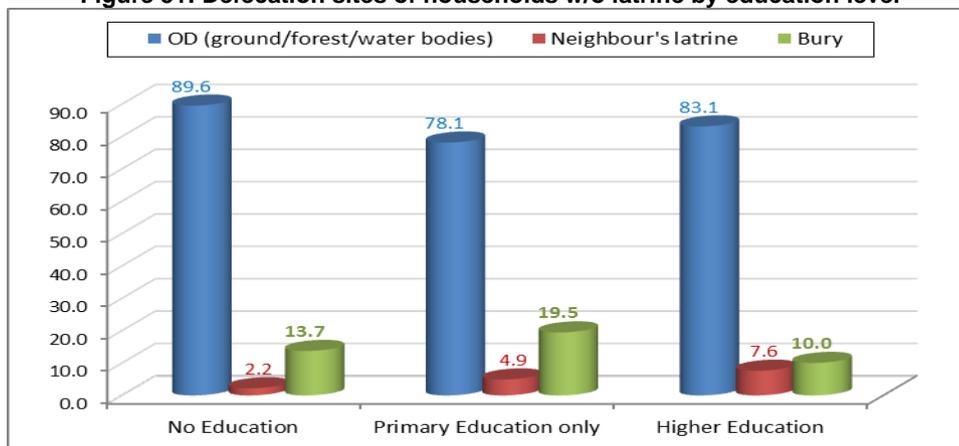


Source: Household Survey, KAP Survey, MRD 2010

Generally, males practice open defecation more often than females. On the other hand, females bury their faeces and use the neighbor's latrine more than men.

The household respondents who did not attain any level of education practice open defecation more often than those with primary or higher education. The respondents who have attained primary level of education registered highest among those who bury their feces. On the other hand, the high education group registered highest among those who use the neighbors' latrine.

Figure 51: Defecation sites of households w/o latrine by education level



Source: Household Survey, KAP Survey, MRD 2010

HH with latrines

Regardless of time or season, majority (95%) of the respondents use their own latrines to defecate. Despite having their own latrines, there were still a few respondents who openly defecate, bury faeces, go to public

latrines or use the neighbor's latrine. Perhaps, this may be due to latrines being unusable during certain times of the year.

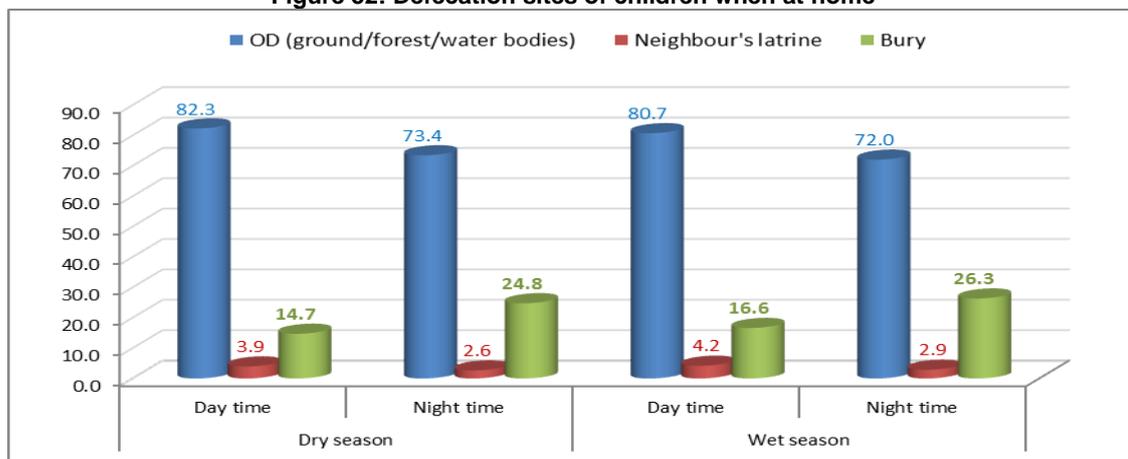
The higher the educational level, the more likely household members would use their latrines. Open defecation and burying were seen highest among households with no formal education.

- *Children*

HH without latrines

On the average, 77% of children openly defecate on the grounds/forests or water bodies when at home both at daytime/nighttime and during dry and wet seasons. If burying faeces is considered as an OD practice, then actual OD practices is around 97.6%. At night time and during wet season the practices of open defecation and using the neighbor's latrine slightly decrease while the incidence of burying feces increases. Children use the neighbor's latrine slightly more often during wet season than in dry season.

Figure 52: Defecation sites of children when at home



Source: Household Survey, KAP Survey, MRD 2010

As among the adults, boys practice open defecation more often than girls while girls bury their feces and use the neighbor's latrine more than boys. At night time during wet season, the trend in boys' defecation practices becomes similar to those of women's and girls'.

Potties were observed in 36.5% of households without latrines and there were indications that these potties had been used in 37.4% of the households.

HH with latrines

About 90% of the respondents informed that their children also defecate in their own latrines during day/night time, dry or wet season.

Potties were observed in 42.9% of the households with latrines. Half of these potties were observed to have been used.

4.2.1.2 *Defecation sites when in public places*

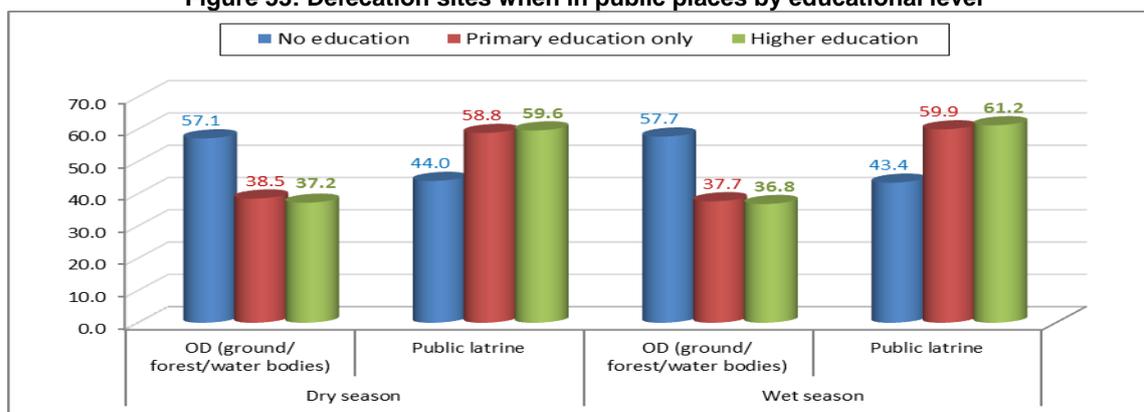
- *Adults*

HH without latrines

When in public places, both in dry or wet season, the respondents defecate in public latrines (57%) or openly defecate in grounds, forests or water bodies (41%).

The respondents who have attained primary and higher education levels more often use public latrines when in public places. On the other hand, those who did not get education more frequently defecate on grounds/forests or water bodies.

Figure 53: Defecation sites when in public places by educational level



Source: Household Survey, KAP Survey, MRD 2010

HH with latrines

When in public places, around 80% of the respondents use public latrines. A very small percentage openly defecates or uses the neighbor's latrine. The higher the educational level, the more likely they would use public latrines. While the no education group openly defecates or buries their feces, the high education group uses the neighbor's latrine more.

- *Children*

HH without latrines

The respondents reported that 55.6% of children use public latrines while 42.2% openly defecate in grounds, forests or water bodies when in public places both during dry or wet seasons. In terms of gender, more boys openly defecate than girls, while girls normally use public latrines.

HH with latrines

When in public places, about 77% of the respondents reported that their children defecate in public latrines while about 14% said they openly defecate.

4.2.1.3 Disposal of infants' feces

HH without latrines

The respondents reported that they commonly bury infants' feces (74.3%) or throw these in the forest or water bodies (25.7%).

HH with latrines

Half of the respondents reported that they throw their infants' feces in their own latrine while 39% said they bury these.

4.2.1.4 Anal cleansing

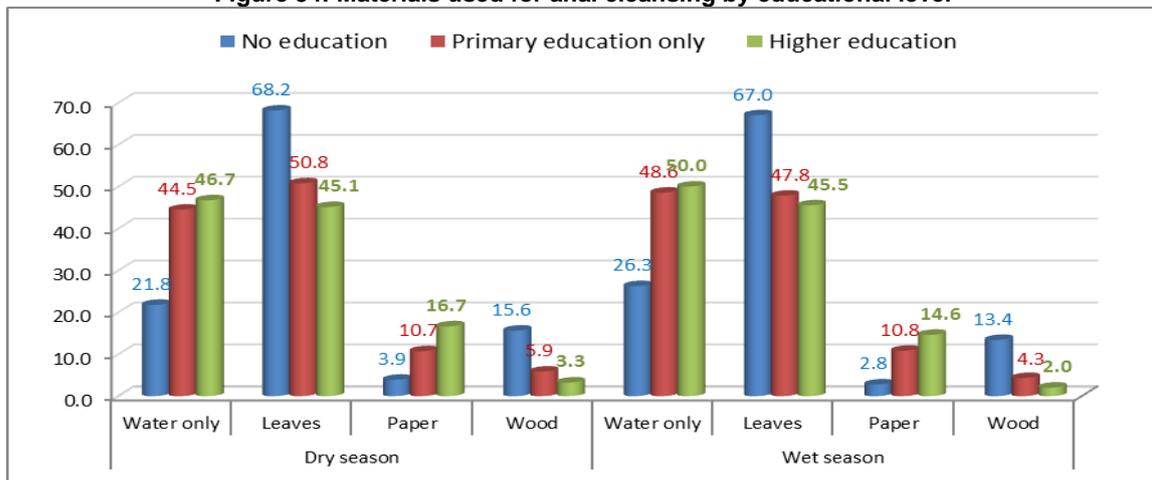
HH without latrines

The household respondents mostly use leaves (52.3%) or water (41.4%) for anal cleansing while a small proportion use paper (10.9%) or wood (6.9%). Leaves are more often used in dry season while water is predominantly used during wet season. Meanwhile, majority of the households (96.3%) only use water for cleaning children's bottoms.

In terms of gender, males seem to prefer water, and to some degree, paper, more than females while females exceeded males is using leaves and wood.

The households with no education registered as highest users of leaves and wood for anal cleansing and the least users of water and paper. On the other hand, households with higher level of education use paper more than the other two groups.

Figure 54: Materials used for anal cleansing by educational level



Source: Household Survey, KAP Survey, MRD 2010

HH with latrines

Majority (90%) of the households with latrine uses water for anal cleansing. The remaining 10% either use paper or leaves. This generally does not change during dry or wet season.

The higher the educational level, the more they use water and the lesser they use leaves for anal cleansing. Children use water for anal cleansing more (97%) than adults.

4.2.2 Hand-washing

HH without latrines

Majority (94.3%) of the households without latrine claimed that they have the habit of hand-washing. About 78% of these households wash their hands with soap and water (Figure 55). Most (47.5%) respondents wash their hands with soap three times a day (Figure 56) especially (i) before eating, (ii) when their hands are dirty or (iii) when returning home from work (Figure 57).

Respondents with higher level of education registered highest in “before eating” and “after defecation” but least in “after returning home from work.” On the other hand, those with no education mentioned “after defecation” least.

Majority (84.5%) of the respondents claimed that their children wash their hands 2-3 times a day usually with water and soap (87%). The situations when children wash their hands are similar to those of adults.

About 79% of the respondents use powdered soap, 29.9% bar soap and 17.5% liquid soap in washing their hands. Powdered soap is the same soap used for washing clothes. The household respondents with no formal education group use powdered soap most. More households with no formal education mentioned powdered soap than the other two groups. Majority (79.8%) buy soap from the market while 46.4% buy these from the neighbors. 37.3% of the respondents claimed that they spend more than \$1.5 for soap every month.

HH with latrines

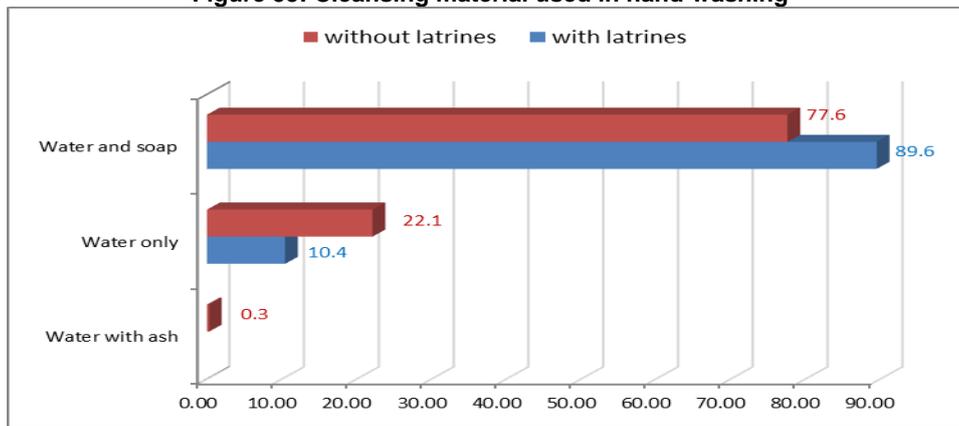
Majority (98%) of the respondents, regardless of gender and education, claimed that they had the habit of hand-washing. About 90% wash with water and soap while 10.4% only use water (Figure 55). Most (44%) of the respondents said that they wash their hands 3 times a day (Figure 56).

The most common situations when the respondents wash their hands were (i) before eating, (ii) when their hands are dirty, (iii) when return to the house from work/outside and, (iv) after defecation. See Figure 57.

Nearly 90% of the respondents informed that their children also have the habit of washing their hands usually with water and soap (96.3%), three times a day on the same situations as adults.

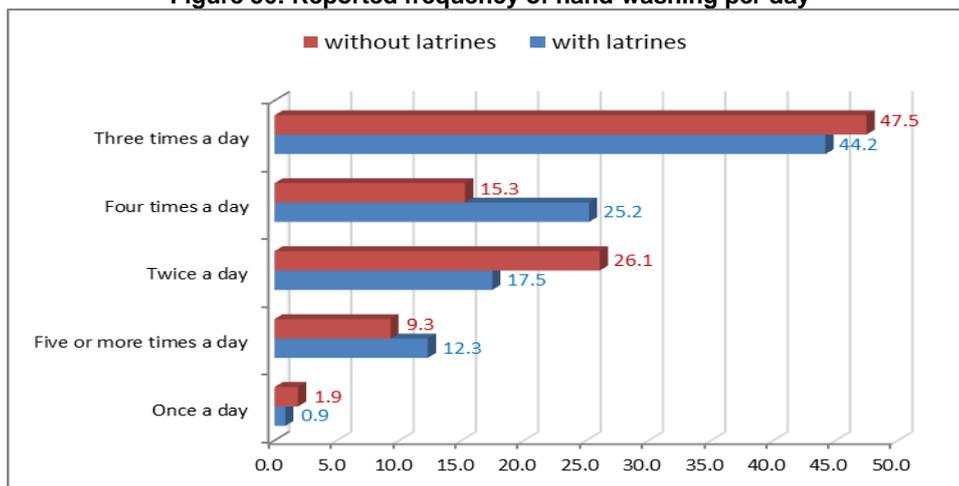
Majority (77.5%) of the respondents wash their hands with powdered soap while 48.9% uses bar soap. Most buy soap from the market (86.3%) or from the neighbors (44.7%). 55.8% of the respondents said they spend more than \$1.5 for soap every month.

Figure 55: Cleansing material used in hand-washing



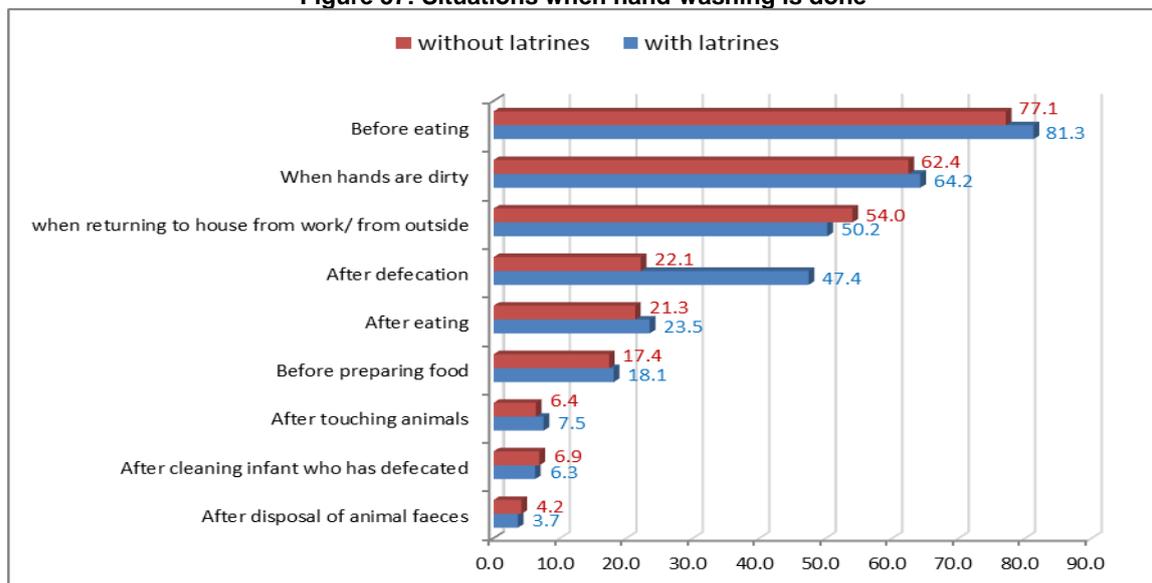
Source: Household Survey, KAP Survey, MRD 2010

Figure 56: Reported frequency of hand-washing per day



Source: Household Survey, KAP Survey, MRD 2010

Figure 57: Situations when hand-washing is done



Source: Household Survey, KAP Survey, MRD 2010

4.2.3 Hand-washing stations

HH without latrines

Most (88.8%) of the respondents do not have fixed hand-washing stations in their homes. For the few who had fixed hand-washing stations, 89.8% reported that it always had water and soap. In most cases (50.4%), the hand-washing area is near the water jar. Those who do not have fixed hand-washing stations, wash their hands near the latrine.

Observations show that about 87% of the fixed hand-washing stations had water jars or buckets and 44.7% of these had water. Powdered soap was observed in 66.5% of the hand-washing stations while 23.7% had bar soap and 14% had liquid soap. 22.2% of households without latrines had hand-washing places. 72.1% of these had a jar with water and 65.1% had powdered soap.

When asked about the importance of washing one's hands, the three topmost responses of households without latrine were (i) to prevent disease, 63.7% (ii) to remove germs, 58.5% and, (iii) to prevent diarrhea.

HH with latrines

Survey results show that only 29.9% of the respondents had fixed hand-washing stations at home. These are usually located near the water jar (35.3%), in the toilet (31.6%) or in the kitchen (14.7%). 95% said that it always had soap and water.

Observations show that nearly all (95.3%) of the fixed hand-washing stations had water jars or buckets and 65% of these had water. Powdered soap was observed in 72.2% of the hand-washing stations while 46.1% had bar soap and 9.4% had liquid soap.

The 70% of respondents who did not have fixed hand washing stations in their homes wash their hands near the latrine (62.7%) or in the latrine (23.2%).

Observations reveal that about half of the households had hand-washing places near the latrine. Nearly 80% of these hand-washing places had a jar with water and 82.2% had soap.

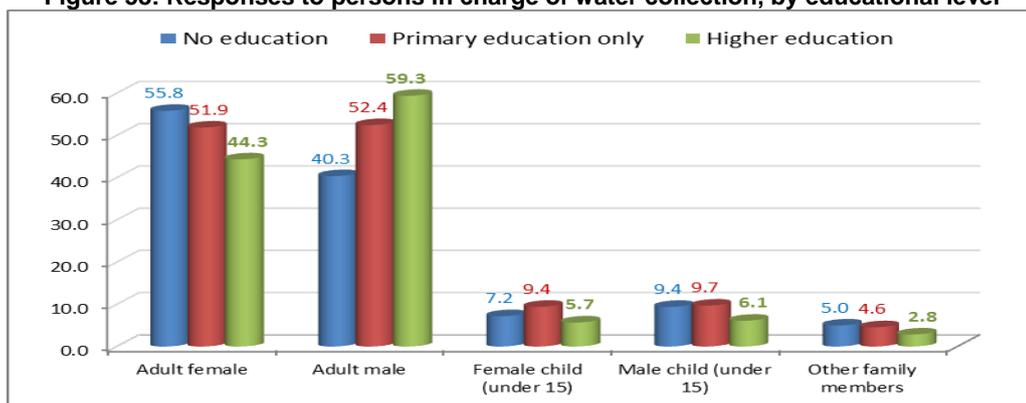
When asked about the importance of hand-washing, survey results show (i) to prevent disease, (ii) remove germs, etc. and, (iii) to prevent diarrhea as the main reasons.

4.2.4 Safe treatment of drinking water

HH without latrines

Most of the households without latrine reported that it is either the adult female (50.8%) or adult male (52%) who collects water for the household. Interestingly, more male respondents reported adult males while more female respondent reported adult females. In terms of educational level, the higher the educational level, the more the adult male is identified as those who collect the water.

Figure 58: Responses to persons in charge of water collection, by educational level

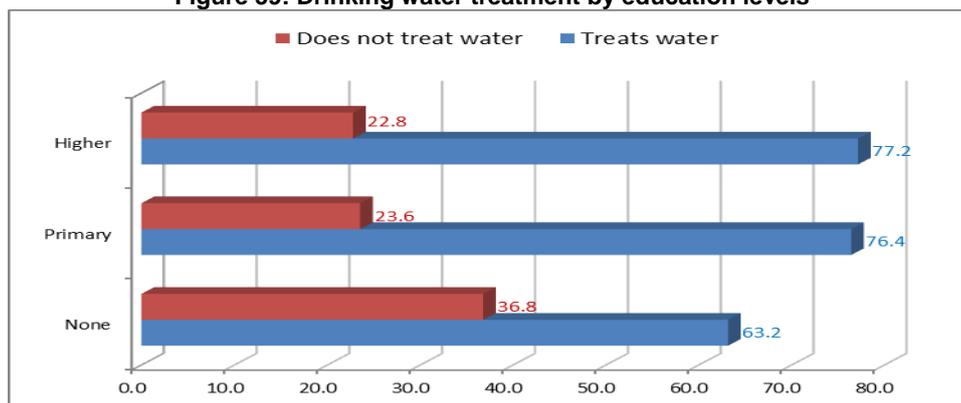


Source: Household Survey, KAP Survey, MRD 2010

Households generally (74%) treat their water mostly through boiling (about 84%) and use of water filters (about 14%). However, households with no education are more likely not to treat their drinking water. See Figure 59.

Observations indicated that in 60% of visited households boiling their drinking water is preferred as treatment method while in 12% of households, water filters were observed.

Figure 59: Drinking water treatment by education levels



Source: Household Survey, KAP Survey, MRD 2010

HH with latrines

Survey results show that regardless of gender and education level, households generally (91%) treat their water mostly by boiling (about 82%) and through use of water filter (about 23%). Survey results also indicated that 67% always treated their drinking water and that the main reason for drinking water treatment is for good health/ appearance (68.3%).

Observations show that in 74% of visited households there is evidence of boiling water treatment and use of water filters - 23.1% of visited households.

4.2.5 Drinking water storage

HH without latrines

Majority (87.2%) of the respondents reported that they store drinking water at home mainly to prevent contamination (65.6%). Of those who store water, 41.7% have their own wells, 33.3% have RWH tanks while 29.2% are connected to piped water systems. 59% of the respondents reported that they store water in wide-mouthed containers while 32.1% use narrow-mouthed containers. 57.8% scoop drinking water out with a ladle or dipper while 26.1% tilt the container to pour water out.

Observations indicate that about 71% of the households store their water in wide-mouthed containers while 22.4% use narrow-mouthed containers. 61.5% of these containers were elevated from the floor while 26.4% were on the floor. 73.2% use a ladle or dipper to scoop water out of the container while 19.1% tilt the jar to pour out water. Only 8.5% of the water containers had taps. 71.5% of water containers were observed to be clean.

About half of the respondents claimed that they change/refill the water every day. Interestingly, the higher the educational level, the less frequent they change/refill stored water. More of the respondents with higher education change their stored water once a month. This is because 66.7% of these households have their own RWH tank. Majority (95.2%) of the respondents informed that they always clean their water storage facilities.

HH with latrines

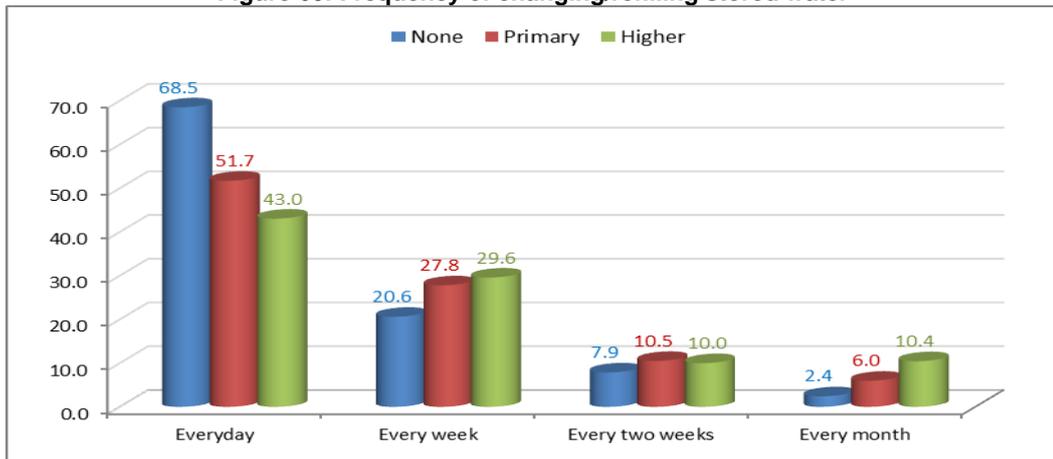
Survey findings indicate that majority (91.9%) of households store water at home primarily to (i) prevent contamination, 68.6%, (ii) to keep it clean, 38% and, (iii) to keep it safe, 20.7%.

Most of these households who store water have their own wells (62.5%) or are connected to piped water systems (25%). 90.6% of the respondents with latrines reported that they store water in wide-mouthed containers from where they scoop drinking water out with a ladle or dipper (91.2%).

Observations show that about 60% of the households store their water in wide-mouthed containers while 32.1% use narrow-mouthed containers. 67.8% of these containers were elevated from the floor while 25.1% were on the floor. About 58% use a ladle or dipper to scoop water out of the container while 26.1% tilt the jar to pour out water. Only 17.7% of the water containers had taps. 83% of water containers were observed to be clean.

Survey findings also show that about 48% of households change/refill the water every day. The frequency of changing the water increases during dry season, perhaps because water runs out faster in dry season. The higher the educational levels, the less frequently they change the water.

Figure 60: Frequency of changing/refilling stored water



Source: Household Survey, KAP Survey, MRD 2010

5. Summary of findings

5.1 Access to sanitation and water

Majority (70.4%) of the household respondents did not have latrines mainly because they did not have money to buy one and that the cost of building a latrine was too high. The 29.6% households who had latrines, mostly (80.6%) had improved latrine types, comprising of flush/pour-flush to septic tank (71.8%), pit latrine with slab (5.2%), and flush or pour-flush to sewerage (4.2%). For those with unimproved latrine types, the most common were ash or dry latrine, open-pit latrines, and flush/ pour-flush to elsewhere.

Most (61.2%) of the respondents informed that their latrines ranged from 16-50 meters away from the closest drinking water source. 17.1% claimed that their latrines were less than 15 meters away from the nearest drinking water source which were mostly (63%) tube wells or boreholes.

Of the 29.6% of respondents who had latrines, 92.3% reported that this was their first latrine. The remaining 7.7% who claimed that this was not their first latrine informed that they have had three or more latrines before (51.4%).

When the latrine is full, 78.1% of the respondents said they pump it off while 17.7% buy a new one. 47.9% of respondents use the wastes as fertilizer while 29.1% empty the wastes into a new hole. When the latrine breaks, collapses or becomes unusable, majority (70.8%) of the respondents have them fixed or repaired immediately (78.7%) while others (28.4%) build a new one. While the latrine is being repaired, more than half (56.5%) of the households bury their faeces.

Majority (81.1%) of respondents said that the wife cleans the latrines. 45.7% of the respondents reported that the latrines get cleaned once a day while 28.9% said every 2-3 days. To maintain the latrine, the FGD participants said that people cut the bushes around the latrine and clean the slab with detergent soap. For dry pit latrines, they cover the faeces with ash to prevent insects like flies and mosquitoes from getting into it.

Most (60.9%) of the household respondents get their drinking water from improved water sources, the most common of which are tube wells or boreholes (35%). The rest (39.1%) get their drinking water from unimproved water sources like unprotected dug wells (21.9%) and ponds, rivers or streams (14.3%). In the dry season, majority (62.5%) rely on unimproved water sources but in the wet season, majority (66.1%) get water from improved sources.

For hand-washing water, most (56%) get from improved water sources.

5.2 Knowledge and attitudes on sanitation and hygiene

In general, the knowledge levels and attitudes of HH with and without latrines on sanitation and hygiene conform to that of the overall findings.

- Understanding of sanitation and hygiene

The respondents associated sanitation and hygiene mostly to (i) hand hygiene/cleanliness and (ii) clean, safe water. Safe disposal of feces was not among their priorities since this item garnered low percentages in both groups. Differences in gender and education hardly have an effect on the responses of HH without latrines. However, among HH with latrines, the higher the educational level, the more likely food hygiene and safe disposal of feces would be mentioned. On the other hand, the higher the educational level, the less likely hand hygiene and disposal of solid waste would be mentioned.

- Reasons for maintaining good hygiene

In the respondents' opinion, it is important to maintain good hygiene in order (i) to be healthy and free from sickness and (ii) to feel good, and (iii) to feel clean. The male respondents among HH with latrines seemed more concerned about feeling good or their well-being while feeling clean is what matters to women more.

- Ways to maintain good hygiene

In order to maintain good hygiene, the respondents recommended (i) wash hands with soap and (ii) take a bath. Households with latrines also prioritized consistent use of latrines (54.7%) which only garnered 16.5% among

households without latrines. Respondents who did not get formal education among HH with latrines did not seem to value the use of latrines.

- Critical times to wash hands

The most critical times to wash one's hands according to the respondents are (i) before eating, (ii) before preparing meals, (iii) after using the latrine and (iii) after defecation. HH with latrine accounts for the biggest proportion of those who mentioned "after using the latrine." The small proportion of HH without latrines who mentioned "after using the latrine" could be referring to the neighbor's or public latrines.

The female respondents in both groups wash their hands before preparing meals more than their male counterparts. On the other hand, respondents with higher education in both HH with and without latrine more often wash their hands after using the latrine.

- Ways to maintain good sanitation

According to the respondents, the most important way to maintain good sanitation is to keep the house clean. In addition, HH respondents with latrines prioritized "no open defecation/consistent use of latrines" which those without latrines did not.

- Signs or evidence of lack of sanitation and hygiene in the environment

The respondents ranked bad/foul smell highest among the signs or evidences of lack of sanitation and hygiene. HH with latrine seem more sensitive to bad/foul smell since they accounted for the biggest proportion of those who said so. The female respondents in both groups distinctively identified "absence or lack of latrines" and "presence of garbage/wastewater."

- How a person gets diarrhea

The HH respondents attributed diarrhea to (i) drinking untreated water, (ii) not washing hands before eating and (iii) improper cooking of food. The proportion of HH with latrines that identified the above items is higher. Respondents with higher educational attainment seem to know better what causes diarrhea than those with lower educational levels.

- Three most important ways to prevent diarrhea

The three most important ways to prevent diarrhea, according to the respondents were to (i) drink clean water, (ii) wash hands with soap and (iii) use toilet facility to defecate. Again, HH with latrine distinctively mentioned "use toilet facility to defecate" which HH without latrines did not.

As educational levels increase, the more likely "drink clean water" and "use toilet facility to defecate" are mentioned.

- How diarrhea spreads

According to the respondents, diarrhoea is spread mostly through (i) dirty water, (ii) flies, (iii) unclean food, and (iv) dirty hands, although proportion-wise, more HH with latrine identified the above items.

The male respondents in both HH with and without latrines dominated in "dirty hands" while their female counterparts dominated in dirty latrine. The higher the educational level, the more items are mentioned.

Insights:

- The availability of latrines in households somewhat influence one's knowledge, attitudes and even values on sanitation and hygiene. HH with latrines mentioned items that barely concerned those without latrine, for instance, washing hands after using the latrine; no OD or consistent use of latrines to maintain good sanitation and hygiene, and; defecate in toilet facility to prevent diarrhea.
- The household representatives' responses seemed to be influenced by their own niches. For instance, women's awareness of sanitation and hygiene revolve around their role as housekeepers, thus, washing hands before cooking, cleanliness of the environment, garbage and wastewater disposal and cleanliness of latrines were among their concerns. Whereas, males were more concerned about their comfort, thus, feeling good/well-being, feeling clean, being healthy, washing hands and not getting sick were their priorities.
- As educational level increases, awareness on sanitation and hygiene also increases. Respondents with higher education mentioned more correct items than that of the lower educational groups.

5.3 Practices on sanitation and hygiene

5.3.1 Use of toilets

- Location of defecation sites

On the average, 53% of respondents practice open defecation, 28.4% use their own latrines, and 16% bury their faeces while 3.4% use their neighbour's latrine. The practice of open defecation decreases from dry to wet season, use of latrines whether own or neighbour's latrines is constant while burying increases from dry to wet season.

Regardless of time or season, majority (95%) of the respondents with latrines use their own latrines to defecate. Yet, despite having their own latrines, there were still a few respondents (5%) who openly defecate, bury feces, go to public latrines or use the neighbor's latrine. Non-use of their own latrines could be partly attributed to dysfunctional latrines (3.8%).

On the average, 75% of households without latrines practice open defecation; 21.7% bury their feces; 4.7% use the neighbor's latrine when they are at home any time of day or season. At night time and in wet season, open defecation and using the neighbor's latrine decreases while burying of feces increases. Males practice open defecation more often than females while females bury their feces and use the neighbor's latrine more than males. Households who did not get formal education practice open defecation most; more of those with primary level of education bury their feces; while those with higher education use the neighbors' latrine most.

The practice of open defecation is usually done early morning or in the evening amidst the danger of being bitten by mosquitoes, poisonous snakes or centipedes and the threat of being seen by other people.

In general, 63.7% of all household respondents use public latrines and 31% practice open defecation when in public places. The respondents' defecation habits and practices at home are usually carried outside the home. When in public places, 80% of the respondents with latrines use public latrines, whereas, only 57% of the respondents without latrines do that. The rest, 41.2%, openly defecates even when in public places.

The higher the educational level, the more they use public latrines. This applies both to households with or without latrines. However, the high education group among those with latrines also uses the neighbor's latrine when in public places. On the other hand, the respondents without formal education both among households with latrine and without latrine, practice open defecation and burying when in public places.

- Disposal of children's feces

In general, 58% of all household respondents informed that their children practice open defecation, 24.1% use own latrines, 16% bury their faeces, and 2.7% use their neighbour's latrine when at home, any time of day or season. On the other hand, majority (90%) of the respondents with latrines informed that their children defecate in their own latrines when at home while 82.3% of respondents without latrine said that their children openly defecate when at home. Potties were observed in 42.9% of households with latrines and 36.5% in households without latrines.

When in public places, 61.6% of all household respondents reported that children defecate in public latrines while about 34.7% defecate in open areas. Whereas, 77% of the respondents with latrines reported that children defecate in public latrines while about 14% said they openly defecate when in public places. On the other hand, only 55.6% of respondents without latrine said children use public latrines while 42.2% openly defecate when in public places. Boys practice open defecation than girls, while girls normally use public latrines when in public places.

Only 24.8% of the total number of respondents had infants at the time of survey. 66% of the households bury their infants' faeces, 21.7% throw these in the forest, behind bushes or bodies of water and 12.7% throw these in the latrine both during dry or wet seasons. Half of the respondents with latrines reported that they throw their infants' feces in their own latrine while 39% said they bury these. Meanwhile, 74.3% of respondents without latrine said they bury infants' feces while 25.7% throw these in forests or water bodies. The FGD participants affirmed that households normally dispose babies' faeces in available spaces around the house, at the clump of banana trees, in canals, pile these among animals' faeces, flush these in the latrine if they have any or put them inside plastic bags before throwing in the forest or behind bushes. A few households just leave babies' faeces for the dogs to eat.

- Use of cleansing materials

In general, 55.5% of all respondents only use water for anal cleansing; 38.2% use leaves, 10% use paper and 5.2% use wood during dry season. Majority of those who use water come from households with latrines who reported that 90% use water for anal cleansing while 10% either use paper or leaves. On the other hand, respondents without latrine represents those who use other anal cleaning materials - 52.3% use leaves; 41.4% use water; 10.9% use paper; while 6.9% use wood.

Among households without latrines, males prefer water and paper for anal cleansing while females mostly use leaves and wood.

The higher the educational level, the more household members use water and the less they use leaves for anal cleansing. Respondents without formal education among households without latrine use water least but use leaves and wood most for anal cleansing, whereas, the high education group uses paper most.

The respondents, both with and without latrines informed that their children mostly use water for anal cleansing (97% for with latrines and 96.3% for without latrines).

- Location of latrines in relation to water sources

Most (61.2%) of the respondents with latrines reported that their latrines were 15-50 meters away from the main water source while 17.2% said that these were less than 15 meters away. This finding was verified during observation which reported the same figures.

- Toilet maintenance

Most (45.7%) of the respondents reported that the latrines get cleaned once a day while 28.9% said every 2-3 days. In general, 77.5% of the latrines appear to be clean and in good condition.

5.3.2 Hand-washing

- Hand-washing at critical times

Majority (95.4%) of the respondents affirmed that they have the habit of hand-washing. About 81% of the households wash their hands with soap and water three times a day (46.5%). The figures in both households with and without latrine closely resemble that of the general trend.

The responses of households with and without latrines in terms of the critical times they wash their hands also resembles that of all households - (i) before eating, (ii) when their hands are dirty, (iii) when return to the house from work/outside and (iv) after defecation.

Most (86%) household respondents claimed that their children also have the habit of hand-washing with soap (89.6%) usually three times a day (43.9%). Again, the figures in both households with and without latrine closely resemble the general trend.

Most of the respondents with latrine wash their hands with powdered soap (78.3%) which they usually buy from the market (81.7%). 42.8% of the respondents spend more than \$1.5 for soap every month. The higher the educational levels, the more they spend for soap. Respondents without formal education uses powdered soap most.

- Presence of permanent hand-washing stations at home where water and soap are available

Only 16.7% of the total household respondents had fixed hand-washing stations in their homes. Households with latrine account for the bigger proportion of these households at 29.9% against those without latrine's 11.2%. The hand-washing stations are usually located near water jars, in the toilet or kitchen. 95% of respondents with latrine said that the hand-washing stations always had soap and water while 89.8% of respondents without latrine reported the same.

- Presence of soap/hand-washing facilities near latrine

In the case of those with no fixed hand-washing stations at home, hand-washing places were observed in 52.3% of households with latrine and 22.2% households without latrines. 62.7% of households with latrines wash their hands near the latrine or in the latrine (23.2%). On the other hand, (66.6%) of households without latrine wash their hands near the latrine while 27.5% wash near the water source.

5.3.3 Safe treatment and storage of drinking water

- Water storage practices

Majority (88.6%) of the households store drinking water at home (91.9% for households with latrine and 87.2% for households without latrine). About 40% of these households have their own wells, 24% are connected to piped water systems while 24% have their own RWH tank. Households with latrines have more wells than

those without latrines (62.5% against 41.7%). The RWH tanks are predominantly owned by households without latrine.

Observations show that most households (67.2%) store water in wide-mouthed containers from where they scoop drinking water out with a ladle or dipper. 32.1% of households without latrines have narrow-mouthed containers which they tilt to pour out water. Most (63.5%) of the water storage containers were elevated from the floor and were observed to be clean in 75% of the households.

About half of the respondents with or without latrines change/refill stored water every day. The frequency of changing stored water increases during dry season. 96.2% of households clean their water storage facilities. The higher the educational levels, the less frequent they change/refill stored water.

- Water treatment practices

More (91.6%) respondents with latrines reported that they treat their drinking water than those without latrines (74.5%). About 82% of households with latrine and 83.9% of those without latrine treat their drinking water by boiling. In the FGD, most participants said that they prefer boiling than other water treatment methods because it is easier and it protects water from being contaminated with disease-producing micro-organisms.

- Consistent consumption of treated and safely stored water

More (67%) respondents with latrines always treat their water by boiling than those without latrine (46.1%). In the FGD, however, many respondents admitted that they do not always drink treated water because they are always in haste especially when traveling long distances. Sometimes, they do not have enough wood to boil water. Besides, they have not formed the habit of drinking boiled water and prefer to drink raw water.

6. Annexes

Annex 1: Survey Work Schedule

Survey Work Plan

ACTIVITIES	July							August							September							October							November							December						
	1-2	3-4	5-9	10-11	12-16	19-23	26-30	2-6	9-13	14-15	16-20	23-27	28-29	30-3	4-5	6-10	11-12	13-17	18-19	20-24	27-1	4-8	11-15	18-22	23-24	25-29	1-5	8-12	15-19	20-21	22-26	29-3	4-5	6-10	11-13	14						
1 PREPARATORY WORK																																										
a Submission/ approval of work plan and budget	Part-time			Milestone																																						
b Development of Data Gathering Tools and Sampling Design	12 July to 13 August																																									
c Pre-test, revision, and finalization of Survey Tools	16 to 27 August																																									
d Questionnaire Survey Training of PDRD Staff	Part-time																																									
Qualitative Tools Training of PDRD Staff	Part-time																																									
2 DATA COLLECTION (Field-work)																																										
a. Field Survey in 12 Provinces																																										
i. Quantitative and Qualitative Survey by PDRD Staffs	Full person day/ Primary activity																																									
ii. Monitoring by DRHC and Consultant	Full person day/ Primary activity																																									
b. Database Preparation	Full person day/ Primary activity																																									
3 DATA PROCESSING (HH Survey Results, FGD results translations and processing)	20 September to 22 October																																									
4 REPORT WRITING/ SUBMISSION OF DRAFT REPORT	25 October to 18 November																																									
5 Report Review of MRD and MRD Support Group	22 Nov to 3 Dec																																									
6 Report Revisions/ Submission of Final Report	Full person day/ Primary activity																																									

- LEGEND:**
- Weekends
 - Full person day/ Primary activity
 - Part-time
 - Milestones

Data Collection by Survey Province

Province Name	Sample HH	Sample FGD	MRD	PDRD	Schedule
Kampot	140	3	2	5	6-14 September 2010
Koh Kong	20	1	1	1	7-11 September 2010
Kampong Cham	380	9	2	11	6-14 September 2010
Prey Veng	240	6	2	7	10-20 September 2010
Takeo	200	5	2	6	7-17 September 2010
Kampong Speu	160	4	2	5	10-19 September 2010
Ratanak Kiri	20	1	1	1	7-11 September 2010
Stung Treng	20	1	1	1	13-17 September 2010
Kampong Thom	140	3	2	5	10-18 September 2010
Oddar Meanchey	40	1	1	1	13-19 September 2010
Pursat	100	2	2	4	7-15 September 2010
Siemreap	160	4	2	5	7-16 September 2010
Grand Total	1620	40	20	52	

Annex 2: Sampling Design⁶

The KAP survey called for a regional representation of households with and without access to latrines based on a sample of 1,620 households in the four geographical regions.

I. Sample size requirement

The computation of optimum households sample size is based on the formula below:

$$n_h = \left[\frac{Z_{\alpha}^2 \cdot p \cdot q}{d^2} \cdot \text{deff} \right] / R$$

Where:

- n_h** total number of sample households in all region,
- z_α** 95% confidence level,
- d** the error margin suggested
- p** proportion of households with latrine
- q** proportion of households without latrine
- deff** the design effect between simple random and clusters sampling
- R** the overall response rate

Value	Equivalent
1.96	1.99
3%	0.03
23%	0.23
77%	0.77
2	2
95%	0.95

II. Sampling frame

The National Institute of Statistics Ministry of Planning reviewed the 2008 Population Census to come up with the sampling frame which consists of the province code, province name, district code, district name, village code, village name, number of households and population.

Table 8 Distribution of sample villages and households by Region and Province

Region Name	Province Name	Total No of HH	No of Sample Villages	No of Sample HH	No of Sample Head of HH
Coastal Region	Kampot	119697	7	140	140
	Koh Kong	16771	1	20	20
	Subtotal	136468	8	160	160
Plain Region	Kampong Cham	342704	19	380	380
	Prey Veng	219272	12	240	240
	Takeo	181017	10	200	200
	Subtotal	742993	41	820	820
Plateau and Mountain Region	Kampong Speu	138615	8	160	160
	Ratanak Kiri	23722	1	20	20
	Stung Treng	17633	1	20	20
	Subtotal	179970	10	200	200
Tonle Sap Region	Kampong Thom	127156	7	140	140
	Oddar Meanchey	34568	2	40	40
	Pursat	77899	5	100	100
	Siem Reap	144878	8	160	160
	Subtotal	384501	22	440	440
Grand Total		1443932	81	1620	1620

Source: 2008 population Census database updated by NIS)

III. Characteristics of the Sample

The survey's sample design was done in two stages. The first stage was the stratified selection of villages or the so called primary sampling unit (PUS) while the second stage was the selection of households, the secondary sampling unit (SSU).

⁶Prepared by Mr. They Kheam, NIS-MoP

1-The first sample selection stage

The 81 sample villages were selected based on the updated 2008 Population Census frame conducted by National Institute of Statistics Ministry of Planning. The Linear Systematic Sampling with Probability Proportional to Size (LSS-PPS) method was employed in the selection of PSUs the size of which was based on the number of households in a village as recorded in the frame. This method is explained below:

Step 1: Create a table with seven columns and N rows - one for each of the domain. The seven columns are: 1- Serial number of village (i), 2- Identification of the village consisting of province, district, commune, and village codes, 3- Name of village, 4-Size of village (S_i), 5- Lower limit of selection probability interval (L_i): where L₀=1 and L_i = S₁+S₂+.....+S_(i-1) +1. 6- Upper limit of selection probability interval (U_i): U_i = S₁+S₂+.....+S_i, the cumulative size, for i=1,2,.....,N, 7- Order of selection.

Step 2: Compute the sampling interval as $l=U_N/n$, round off to the nearest integer. U_N is the last cumulative value in column 6, where n is the total number of sample villages (PSUs) in the region.

Step 3: Chose the integer of random number R in the range 1 to l from the supplied table random number.

Step 4: Take R₁= random number R, and generate a sequence of n selector number R₁, R₂, R₃,.....,R_n in this order. To get the next selector number, add (l) to the previous selector number. The sample villages will be selected using a computer program based on the number of households in the village.

2- The second stage sampling selection (household selection)

Twenty (20) households were selected with equal probability in each selected villages using Linear Systematic Sample Selection (LSS).

IV. Sample allocation

Table 1 shows the number and distribution of sample villages and households. The number of sample villages per province was in proportion to the number of households in each province based on the assumption of 20 sample households per village.

V. Sample probability

a. First Stage

The selection probability of village ith in stratum h was computed as:

$$P_{1hi} = \frac{n_h \cdot M_{hi}}{M_h}$$

Where:

P_{1hi} = probability of selecting the ith village in region (h)

n_h = number of sample villages to be drawn from region (h)

M_{hi} = number of households in village (i) as recorded in the sampling frame

M_h = total number of households in region (h) as recorded in the sampling frame.

b. Second Stage

In the second stage, 20 sample households were selected with equal probability in each selected village. The probability of selecting household j in the ith sample village was computed as:

$$P_{2hij} = \frac{20}{V_{hi}}$$

Where:

V_{hi} is the number of households in the selected ith village according to the village chief.

20 is the actual number of sample households in the sample ith village.

The overall selection probability for household (j) in (i^{th}) sample village of region (h) would be:

$$P_{hij} = \frac{n_h \times M_{hi}}{M_h} \times \frac{20}{V_{hi}}$$

VI. Sampling weight

The sampling weight for region (h) information is the inverse of the overall selection probability:

$$W_{hij} = \frac{M_h}{n_h \times M_{hi}} \times \frac{V_{hi}}{20}$$

VII. Estimation procedure (Extrapolation)

a. Estimation Procedure for Household Information

The estimate of the stratum total is given in the following formula:

$$\hat{Y}_h = \sum_{i=1}^{n_h} \sum_{j=1}^{m_{hi}} w_{hij} y_{hij}$$

for $i = 1, 2, \dots, n_h$
 $j = 1, 2, \dots, m_{hi}$

Where:

\hat{Y}_h	=	estimate of characteristic y for region (h)
y_{hij}	=	any characteristic of household (j) in sample village (i) in region (h)
m_{hi}	=	number of sample households in village (i) (20)
n_h	=	number of sample villages in region (h)
W_{hij}	=	as defined

The estimate for the total of all regions (\hat{Y}) was computed as the sum of the estimates for each region, i.e.,

$$\begin{aligned} \hat{Y} &= \sum_{h=1}^L \hat{Y}_h \\ &= \sum_{h=1}^L \sum_{i=1}^{n_h} \sum_{j=1}^{m_{hi}} w_{hij} y_{hij} \end{aligned}$$

The estimated region ratio mean is computed as:

$$\hat{R}_h = \frac{\hat{Y}_h}{\hat{X}_h} = \frac{\sum_{i=1}^{n_h} \sum_{j=1}^{m_{hi}} w_{hij} y_{hij}}{\sum_{i=1}^{n_h} \sum_{j=1}^{m_{hi}} w_{hij} x_{hij}}$$

Where:

$y_{hij}, n_h, m_{hi}, w_{hij}$ is as defined earlier

The population ratio mean is (\hat{R}), which was estimated using the following formula:

Where:

$$\hat{R} = \frac{\hat{Y}}{\hat{X}} = \frac{\sum_h^L \sum_i^{n_h} w_{hij} y_{hij}}{\sum_h^L \sum_i^{n_h} w_{hij} y_{hij}}$$

y_{hij} , a_h , n_{hi} , w_{hij} is as defined earlier

b. Estimation of Variances

Since most of the estimates from the survey were in the form of weighted ratios, variances for ratio estimates will be presented. The procedures in deriving the estimates for the variances are described below.

All variances of the ratio estimates will be given of the form:

$$Var(\hat{R}) = \frac{1}{\hat{X}^2} \left\{ Var(\hat{Y}) + \hat{R}^2 . Var(\hat{X}) - 2\hat{R} . Cov(\hat{X}, \hat{Y}) \right\}$$

Where: $Var(\hat{Y}) = \sum_{h=1}^L \frac{n}{n_h - 1} \left\{ \sum_{i=1}^{n_h} (y'_{hi})^2 - \frac{(\sum_{i=1}^{n_h} y'_{hi})^2}{n_h} \right\}$

And $y'_{hi} = \sum_{j=1}^{m_{hi}} w_{hij} y_{hij}$

Annex 3: Survey Questionnaire and FGD Guide⁷

Questionnaire for Household survey

I. Interview Identification

Province:	
District:	
Commune:	
Village:	

Questionnaire code:		
Name of interviewer:		
Date of Interview:		
Time of Interview:	Start:	End:
Checked by:		Date:

Respondent should be the Household Head or the Spouse of the Household Head

Greetings! My name is _____ and I am working for the Survey Team of the Ministry of Rural Development.

MRD with support from UNICEF/ DFiD, WHO, WB-WSP, Lien Aid, and Plan Cambodia, is conducting a survey of households to find out about the knowledge, attitudes and practices of communities in relation to Sanitation and Hygiene. The information you provide will help your government and international organizations design and monitor projects that will improve the existing sanitation conditions in your area.

Because time is limited, not all households in this village will be included in the survey. We would like to request that only household heads (husband or wife) should answer the questionnaire. Please rest assured that any information you provide us will remain confidential and will not be used for any reason other than the study. Should you choose to participate, please remember that there are no correct or wrong answers. There are no disadvantages if you decide not to participate or not to answer certain questions. However, we would greatly appreciate your cooperation. We would only like you to give us your honest opinion. It will probably take you about 30 minutes to 1 Hour to complete the questionnaire.

Thank you.

⁷Versions used and finalized during the Interviewers' Training conducted by DRHC-MRD

II. Demographic Data (Household Information)

1. Please tell us about yourself and the composition of your household starting with the head of the household?

Household members <i>(no names to be written down)</i>	Gender (1=M; 2=F)	Age	Education [USE CODE]	Marital status [USE CODE]	Primary Occupation [USE CODE]	Disability/ Physical Impairment	Still living in the house?
1.							<input type="checkbox"/> Yes <input type="checkbox"/> No
2. Spouse of household head							<input type="checkbox"/> Yes <input type="checkbox"/> No
3.							<input type="checkbox"/> Yes <input type="checkbox"/> No
4.							<input type="checkbox"/> Yes <input type="checkbox"/> No
5.							<input type="checkbox"/> Yes <input type="checkbox"/> No
6.							<input type="checkbox"/> Yes <input type="checkbox"/> No
7.							<input type="checkbox"/> Yes <input type="checkbox"/> No
8.							<input type="checkbox"/> Yes <input type="checkbox"/> No
9.							<input type="checkbox"/> Yes <input type="checkbox"/> No
10.							<input type="checkbox"/> Yes <input type="checkbox"/> No
11.							<input type="checkbox"/> Yes <input type="checkbox"/> No
12.							<input type="checkbox"/> Yes <input type="checkbox"/> No

Education Codes

Pre-Primary =0 00= ANY YEAR	Primary =1 01=GRADE 1 02=GRADE 2 03=GRADE 3 04=GRADE 4 05=GRADE 5 06=GRADE 6	Lower Secondary =2 07=GRADE 7 08=GRADE 8 09=GRADE 9	Upper Secondary =3 10=GRADE 10 11=GRADE 11 12=GRADE 12	Higher =4 01=YEAR 1 02=YEAR 2 03=YEAR 3 04=YEAR 4	DK =8 98 = DON'T KNOW
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Marital Status Code	Primary Occupation Code	Disability Code
01= Married 02= Single 03= Divorced 04= Stay together 05= Separate 06= Widow/widower	01 = Selling labour 02 = Farmer 03 = Self-employed 04 = Unpaid family worker 05= Housewife 06=Student/too young to work 07=Retired/ too old to work 08 = Unemployed 09= Other specify.....	01= disable 02= not disable

2. How much was the total household income in the last 12 months (this relates to cash income including cash gifts from relatives not living in the household)?

_____Riels

3. Do you receive non-financial income and gifts from others?
10a. If yes, what is the value per year?

<input type="checkbox"/> Yes <input type="checkbox"/> No
_____Riel

4. Can you give an estimate on how much you or your family spend on the following last month?

EXPENDITURE ITEM	Amount (Riel)
<input type="checkbox"/> 1= Food	
<input type="checkbox"/> 2= Education	
<input type="checkbox"/> 3=Health	
<input type="checkbox"/> 4= Entertainment/Leisure activities	
<input type="checkbox"/> 5= Expenses for weddings, funerals etc.	
<input type="checkbox"/> 6= Others, specify _____	

III. Water Sources

5. What is the main source of drinking water for members of this household?	Improved water source	Unimproved water source
	<input type="checkbox"/> 1. Household connection	<input type="checkbox"/> 5. Unprotected dug well
	<input type="checkbox"/> 2. Tubewell or Borehole	<input type="checkbox"/> 6. Pond, river or stream
	<input type="checkbox"/> 3. Protected dug well	<input type="checkbox"/> 7. Unimproved rainwater collection
	<input type="checkbox"/> 4. Improved rainwater collection ¹	<input type="checkbox"/> 8. Vendor-provided water
		<input type="checkbox"/> 9. Bottled water
		<input type="checkbox"/> 10. Tanker truck water
		<input type="checkbox"/> 11. Others, specify _____

¹To be considered improved; the rainwater catchment tank needs to have **all** of the following: **completely closed, tap to withdraw water, and at least 3,000 litres capacity**

6. Do you use the main water source all year or only part of the year?	<input type="checkbox"/> 1. Whole year	→ 8
	<input type="checkbox"/> 2. Dry Season only	→ 7
	<input type="checkbox"/> 2. Wet Season only	→ 7

7. During the other part of the year (dry or wet season), what is the main source of drinking water for members of this household?	Improved water source	Unimproved water source
	<input type="checkbox"/> 1. Household connection	<input type="checkbox"/> 5. Unprotected dug well
	<input type="checkbox"/> 2. Tubewell or Borehole	<input type="checkbox"/> 6. Pond, river or stream
	<input type="checkbox"/> 3. Protected dug well	<input type="checkbox"/> 7. Unimproved rainwater collection
	<input type="checkbox"/> 4. Improved rainwater collection ¹	<input type="checkbox"/> 8. Vendor-provided water

	<input type="checkbox"/> 9. Bottled water
	<input type="checkbox"/> 10. Tanker truck water
	<input type="checkbox"/> 11. Others, specify

8. What is the main source of water used by this household for handwashing?	Improved water source	Unimproved water source
	<input type="checkbox"/> 1. Household connection	<input type="checkbox"/> 5. Unprotected dug well
	<input type="checkbox"/> 2. Tubewell or Borehole	<input type="checkbox"/> 6. Pond, river or stream
	<input type="checkbox"/> 3. Protected dug well	<input type="checkbox"/> 7. Unimproved rainwater collection
	<input type="checkbox"/> 4. Improved rainwater collection ¹	<input type="checkbox"/> 8. Vendor-provided water
		<input type="checkbox"/> 9. Bottled water
		<input type="checkbox"/> 10. Tanker truck water
	<input type="checkbox"/> 11. Others, specify	

IV. Sanitation Facilities

9. Do you have a latrine?	<input type="checkbox"/> Yes	<input type="checkbox"/> No → 25
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9a. If yes, is the latrine functioning/ usable now?	<input type="checkbox"/> Yes → 9c	<input type="checkbox"/> No → 9b
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9b. If no, why not?	Check appropriate boxes → 9d	
	<input type="checkbox"/> 1. Dirty	<input type="checkbox"/> 6. Not finished building
	<input type="checkbox"/> 2. Full	<input type="checkbox"/> 7. Used as storage
	<input type="checkbox"/> 3. No water to flush	<input type="checkbox"/> 8. Smells bad
	<input type="checkbox"/> 4. Slab broken	<input type="checkbox"/> 9. Prefer the field/ forest
	<input type="checkbox"/> 5. Superstructure broken/ missing	<input type="checkbox"/> 10. Other

9c. If yes, why did you build this latrine in the first place?	Check appropriate box	
	<input type="checkbox"/> 1. Program was offering subsidy	<input type="checkbox"/> 7. For events (wedding/ funeral/ wedding/ New Year, etc.)
	<input type="checkbox"/> 2. Someone told me I had to	<input type="checkbox"/> 8. For visitors
	<input type="checkbox"/> 3. Had enough money to buy	<input type="checkbox"/> 9. For relatives coming to visit
	<input type="checkbox"/> 4. For sick/ old relatives	<input type="checkbox"/> 10. Requested by children
	<input type="checkbox"/> 5. Construction of new house	<input type="checkbox"/> 11. Don't know
	<input type="checkbox"/> 6. Neighbour got one	<input type="checkbox"/> 12. Others, specify

9d. Who in your household decided to build a latrine?	<input type="checkbox"/> 1. Husband	<input type="checkbox"/> 4. All (joint decision)
	<input type="checkbox"/> 2. Wife	<input type="checkbox"/> 5. Others, specify
	<input type="checkbox"/> 3. Husband and wife jointly	

10. What kind of latrine do you have? Check appropriate box	Improved	Unimproved
	<input type="checkbox"/> 1. Flush or pour flush to sewerage	<input type="checkbox"/> 5. Flush or pour flush to elsewhere
	<input type="checkbox"/> 2. Flush or pour flush to septic tank or pit	<input type="checkbox"/> 6. Open pit latrine without slab
	<input type="checkbox"/> 3. Pit latrine with slab	<input type="checkbox"/> 7. Latrine overhanging water
	<input type="checkbox"/> 4. Public or shared latrine (any type)	<input type="checkbox"/> 8. Other

11. Was your latrine flooded in the past year?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
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12. How far is your latrine with reference to the closest drinking water sources?	_____ meters (if 15 meters and below, Question 12a should be answered)
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12a. What type is that drinking water source?	Improved water source	Unimproved water source
	<input type="checkbox"/> 1. Household connection	<input type="checkbox"/> 6. Unprotected dug well
	<input type="checkbox"/> 2. Public standpipe	<input type="checkbox"/> 7. Pond, river or stream
	<input type="checkbox"/> 3. Tubewell or Borehole	<input type="checkbox"/> 8. Unimproved rainwater collection

<input type="checkbox"/> 4. Protected dug well	<input type="checkbox"/> 9. Vendor-provided water
<input type="checkbox"/> 5. Improved rainwater collection	<input type="checkbox"/> 10. Bottled water
	<input type="checkbox"/> 11. Tanker truck water
	<input type="checkbox"/> 12. Others, specify

13. How often do you/ your family members clean your latrine? Only one answer.	Check appropriate box	
	<input type="checkbox"/> 1. once a day	<input type="checkbox"/> 6. Others, specify
	<input type="checkbox"/> 2. more than once a day	
	<input type="checkbox"/> 3. once every 2 – 3 days	
	<input type="checkbox"/> 4. not very often (less than once a week)	
	<input type="checkbox"/> 5. almost never	

14. Who among the HHs members help to clean your latrine? Can be more than one answer.	Check appropriate box	
	<input type="checkbox"/> 1. Husband	<input type="checkbox"/> 5. Daughter >15 yrs
	<input type="checkbox"/> 2. Wife	<input type="checkbox"/> 6. Son >15 yrs
	<input type="checkbox"/> 3. Daughter <15 yrs	<input type="checkbox"/> 7. Other relatives, specify
	<input type="checkbox"/> 4. Son <15 yrs	

15. What do you do when your latrine is full?	Check appropriate box	
	<input type="checkbox"/> 1. Build new latrine	<input type="checkbox"/> 5. Use public latrine
	<input type="checkbox"/> 2. Pump-off latrine	<input type="checkbox"/> 6. Others, specify
	<input type="checkbox"/> 3. Use neighbor's latrine	
	<input type="checkbox"/> 4. Use relative's latrine	
	<input type="checkbox"/> 5. Revert to OD	

16. What happens to the waste when it is removed?	Check appropriate box	
	<input type="checkbox"/> 1. Used as fertilizer →16a	<input type="checkbox"/> 5. Other, specify
	<input type="checkbox"/> 2. Dumped in the forest	
	<input type="checkbox"/> 3. Dumped in the river/ pond/ canal	
	<input type="checkbox"/> 4. Empty pit contents in a new hole	

16a. If USED AS FERTILIZER IN THE FIELD, is this done	Check appropriate box	
	<input type="checkbox"/> 1. Immediately	<input type="checkbox"/> 2. Keep for some time _____ Specify number of months

17. What do you do when your latrine is broken/ collapsed/ become unusable?	Check appropriate box	
	<input type="checkbox"/> 1. Build new latrine →18	<input type="checkbox"/> 6. Revert to OD
	<input type="checkbox"/> 2. Fix/ repair latrine →18	<input type="checkbox"/> 7. Others, specify
	<input type="checkbox"/> 3. Use neighbor's latrine	
	<input type="checkbox"/> 4. Use relative's latrine	
	<input type="checkbox"/> 5. Use public latrine	

18. (IF LATRINE IS REBUILT/FIXED/ REPAIRED) When do you re-build/ build new/ fix/ repair your latrine?	Check appropriate box	
	<input type="checkbox"/> 1. Immediately/ ASAP	
	<input type="checkbox"/> 2. When have money/ materials	
	<input type="checkbox"/> 3. When receive external support/ assistance	
	<input type="checkbox"/> 4. After rainy season	
	<input type="checkbox"/> 5. Others, specify	

19. (IF LATRINE IS RE-BUILT/ FIXED/ REPAIRED IMMEDIATELY) Where do you defecate during time when your latrine is unusable?	Check appropriate box	
	<input type="checkbox"/> 1. neighbor's latrine	<input type="checkbox"/> 6. Others, specify
	<input type="checkbox"/> 2. relative's latrine	
	<input type="checkbox"/> 3. public latrine	
	<input type="checkbox"/> 4. Chhikorb	
	<input type="checkbox"/> 5. OD (Bush/ forest/ water body)	

20. Is this your first latrine?	<input type="checkbox"/> Yes → 23	<input type="checkbox"/> No → 20a
20a. If no, how many latrine(s) have you built before?	<input type="checkbox"/> 1. One	
	<input type="checkbox"/> 2. Two	
	<input type="checkbox"/> 3. Three or more	

20b. What type of latrine did you have before this current latrine?	Check appropriate box	
	<input type="checkbox"/> 1. Flush or pour flush to sewerage	<input type="checkbox"/> 6. Flush or pour flush to elsewhere
	<input type="checkbox"/> 2. Flush or pour flush to septic tank or pit	<input type="checkbox"/> 7. Open pit latrine without slab
	<input type="checkbox"/> 3. Pit latrine with slab	<input type="checkbox"/> 8. Latrine overhanging water
	<input type="checkbox"/> 4. Ventilated Improved Pit (VIP) latrine	<input type="checkbox"/> 9. Other
<input type="checkbox"/> 5. Public or shared latrine (any type)		

20c. Is your latrine same as previous one? 1. Yes → 21 2. No → 22

21. What are your reasons for not improving/ changing your latrine type? (If the current latrine is the same as the previous latrines built)	<input type="checkbox"/> 1. No money/ Cost is too high
	<input type="checkbox"/> 2. No materials to build improved latrine
	<input type="checkbox"/> 3. No external support/ assistance
	<input type="checkbox"/> 4. Don't know how to build improved latrine
	<input type="checkbox"/> 5. We do not have a nearby water source for a flush toilet
	<input type="checkbox"/> 6. Satisfied with same latrine type
	<input type="checkbox"/> 7. No space in or near house for improved latrine
	<input type="checkbox"/> 8. No one to build improved latrine
	<input type="checkbox"/> 9. Others, specify

22. What are your reasons for improving/ changing your latrine type? (If the current latrine is improved/ changed from the previous latrines built)	<input type="checkbox"/> 1. Have enough money/ resources
	<input type="checkbox"/> 2. For more privacy
	<input type="checkbox"/> 3. For more comfort/ convenience
	<input type="checkbox"/> 4. Improve status/prestige
	<input type="checkbox"/> 5. Improved safety
	<input type="checkbox"/> 6. Not satisfied with previous latrine
	<input type="checkbox"/> 7. Many problems with previous latrine (bad smell, collapse, ants, flooding, etc.)
	<input type="checkbox"/> 8. Others, specify
	<input type="checkbox"/> 9.

23. What are the <u>advantages</u> of owning your own latrine? Please check all that apply	<input type="checkbox"/> 1. Improve hygiene/ cleanness	<input type="checkbox"/> 6. Improve safety
	<input type="checkbox"/> 2. Improve health	<input type="checkbox"/> 7. Improve status/prestige
	<input type="checkbox"/> 3. More privacy	<input type="checkbox"/> 8. Do not Know
	<input type="checkbox"/> 4. More comfortable	<input type="checkbox"/> 9. Others, Specify
	<input type="checkbox"/> 5. Convenience/save time	

24. What specific problems do you encounter with your latrine? Please check all that apply (Skip to 35)	Dry Season	Wet Season
	<input type="checkbox"/> 1. Bad smell	<input type="checkbox"/> 1. Bad smell
	<input type="checkbox"/> 2. Flies/ insects	<input type="checkbox"/> 2. Flies/ insects
	<input type="checkbox"/> 3. Animals	<input type="checkbox"/> 3. Animals
	<input type="checkbox"/> 4. Flooding	<input type="checkbox"/> 4. Flooding
	<input type="checkbox"/> 5. Difficulty in cleaning	<input type="checkbox"/> 5. Difficulty in cleaning
	<input type="checkbox"/> 6. Lack of water	<input type="checkbox"/> 6. Lack of water
	<input type="checkbox"/> 7. Collapse/ frequent repairs	<input type="checkbox"/> 7. Collapse/ frequent repairs
	<input type="checkbox"/> 8. Ants/ termites	<input type="checkbox"/> 8. Ants/ termites
	<input type="checkbox"/> 9. Others, specify	<input type="checkbox"/> 9. Others, specify

25. If no, what are the reasons why you don't have a latrine?	Reasons	Rank
	<input type="checkbox"/> 1. No money/ Cost is too high	

Check all appropriate boxes and then ask to rank given reasons from main to least reason. DO NOT READ OUT CHOICES, CHECK THOSE THAT CORRESPOND TO RESPONSES	<input type="checkbox"/> 2. No materials to build latrine	
	<input type="checkbox"/> 3. Latrine not important	
	<input type="checkbox"/> 4. Open defecation tradition	
	<input type="checkbox"/> 5. Habit of open defecation during field or forest work	
	<input type="checkbox"/> 6. Vast/ available area (open fields/ forests/ water bodies for open defecation)	
	<input type="checkbox"/> 7. No external support/ assistance/ Never been offered toilet facilities	
	<input type="checkbox"/> 8. Never receive information on the importance of using latrine	
	<input type="checkbox"/> 9. Prefer the field/ forest	
	<input type="checkbox"/> 10. No one to build latrine	
	<input type="checkbox"/> 11. No space in or near house	
	<input type="checkbox"/> 12. A pit toilet smells too much	
	<input type="checkbox"/> 13. We do not own the house/land	
	<input type="checkbox"/> 14. We do not have a nearby water source for a flush toilet	
	<input type="checkbox"/> 15. Don't want to spend time on cleaning	
	<input type="checkbox"/> 16. Not thought about it: we are fine the way we do it now	
	<input type="checkbox"/> 17. Others, specify	

For Households who have no latrines

26. What are the possible ways of making/ encouraging you and people like you change your present defecation practices/ build a latrine?	Reasons	Rank
	<input type="checkbox"/> 1. Full subsidy	
	<input type="checkbox"/> 2. Contribution from NGOs	
	<input type="checkbox"/> 3. Provision of latrine materials (ring, slab)	
	<input type="checkbox"/> 4. Microfinance/ loan sources	
	<input type="checkbox"/> 5. Government law/ regulation	
	<input type="checkbox"/> 6. Community pressure	
	<input type="checkbox"/> 7. Community pressure and material and labor assistance	
	<input type="checkbox"/> 8. If have money	
	<input type="checkbox"/> 9. Others, specify	

27. What would be the most important characteristics/ features of a latrine if you build or buy by yourself? Why?

Latrine characteristics/ features
<input type="checkbox"/> 1. Latrine that looks nice
<input type="checkbox"/> 2. Easy to operate and maintain
<input type="checkbox"/> 3. Easy to build and cheap
<input type="checkbox"/> 4. Strong and durable/ can last long
<input type="checkbox"/> 5. Can provide privacy
<input type="checkbox"/> 6. Clean and no bad smell
<input type="checkbox"/> 7. Water-flushed latrine
<input type="checkbox"/> 8. Others, specify

28. Has your household ever thought about or discussed building a latrine for your family?	<input type="checkbox"/> Yes → 28a	<input type="checkbox"/> No, → 35
28a. If yes, when was the last time you discussed this?	<input type="checkbox"/> 1. Less than 1 month ago	<input type="checkbox"/> 4. More than a year ago
	<input type="checkbox"/> 2. 1 – 6 months ago	<input type="checkbox"/> 5. Others, specify
	<input type="checkbox"/> 3. 7 – 12 months ago	

29. Who in your household would make the final decision to build a latrine?	<input type="checkbox"/> 1. Husband <input type="checkbox"/> 2. Wife <input type="checkbox"/> 3. Husband and wife jointly	<input type="checkbox"/> 4. Others, specify
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30. How would you obtain the materials for toilet construction? Check appropriate responses.	<input type="checkbox"/> 1. Buy from market <input type="checkbox"/> 2. Find it locally <input type="checkbox"/> 3. Use my existing construction materials	<input type="checkbox"/> 4. Others, specify
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31. If you bought a latrine, where would you buy the materials from? How far in kilometers?	_____ Kilometers
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32. What is the highest amount that you would need to spend to have an acceptable latrine for your family?	_____ Riel		
33. Do you currently have any money saved towards having a latrine?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
34. Would you consider taking a microfinance loan to purchase a latrine?	<input checked="" type="checkbox"/> <input type="checkbox"/> Yes → 34a	<input type="checkbox"/> No → 34b	<input type="checkbox"/> Don't know
a. If yes, why?			
b. If no, why?			

V. Knowledge/ Attitudes on Sanitation and Hygiene

35. What is your understanding of sanitation and hygiene? Check all that apply	<input type="checkbox"/> 1. Hand hygiene/ cleanliness
	<input type="checkbox"/> 2. Food hygiene/ cleanliness (proper cooking, storing, preventing cross contamination, washing vegetables)
	<input type="checkbox"/> 3. Safe disposal of faeces (human and animal)
	<input type="checkbox"/> 4. General hygiene/ cleanliness (laundry, cleanliness of surfaces, toilets, baths, sinks)
	<input type="checkbox"/> 5. Clean/ safe water (ensuring safe water at "point of use")
	<input type="checkbox"/> 6. Disposal of solid waste and control of wastewater
	<input type="checkbox"/> 7. Personal hygiene
	<input type="checkbox"/> 8. Don't know
	<input type="checkbox"/> 9. Others, Specify _____
36. Why do you think you need to maintain good hygiene? Check all that apply	<input type="checkbox"/> 1. Be healthy/ free from sickness
	<input type="checkbox"/> 2. Be/ feel clean
	<input type="checkbox"/> 3. Feel good/ for well-being
	<input type="checkbox"/> 4. Others, specify _____
37. What are the ways to maintain good hygiene/ be hygienic? Check all that apply	<input type="checkbox"/> 1. Hand-washing with soap
	<input type="checkbox"/> 2. Treat drinking water (boil, filter, chemical treatment e.g. chlorination)
	<input type="checkbox"/> 3. Consistent use of latrines
	<input type="checkbox"/> 4. Cook food well
	<input type="checkbox"/> 5. Store water properly
	<input type="checkbox"/> 6. Store food properly
	<input type="checkbox"/> 7. Bathing/ taking a bath
	<input type="checkbox"/> 8. Clean the environment
	<input type="checkbox"/> 9. Don't know
	<input type="checkbox"/> 10. Others: _____
38. In your opinion, when do you think are the critical times to wash your hands? Check all that apply	<input type="checkbox"/> 1. After using latrine
	<input type="checkbox"/> 2. After cleaning children's bottom
	<input type="checkbox"/> 3. Before preparing meal
	<input type="checkbox"/> 4. After handling children's faeces
	<input type="checkbox"/> 5. After defecation
	<input type="checkbox"/> 6. After touching animals
	<input type="checkbox"/> 7. After handling animal faeces
	<input type="checkbox"/> 8. Before feeding others
	<input type="checkbox"/> 9. After taking care of sick family members
	<input type="checkbox"/> 10. Before eating
	<input type="checkbox"/> 11. Don't know
	<input type="checkbox"/> 12. Others, specify _____
39. What are the ways to maintain good sanitation? Check all that apply	<input type="checkbox"/> 1. Safe disposal of adult and infant faeces
	<input type="checkbox"/> 2. Safe disposal of animal faeces
	<input type="checkbox"/> 3. Proper disposal of garbage and wastewater
	<input type="checkbox"/> 4. No open defecation/ consistent use of latrines

	<input type="checkbox"/> 5. Clean house
	<input type="checkbox"/> 6. Don't know
	<input type="checkbox"/> 7. Others, Specify

40. What are the signs or evidences of lack of sanitation and hygiene in your surrounding environment? Check all that apply	<input type="checkbox"/> 1. Adult and infant faeces
	<input type="checkbox"/> 2. Animal faeces
	<input type="checkbox"/> 3. Garbage and wastewater in surroundings
	<input type="checkbox"/> 4. Bad/ foul smell in the environment/ village
	<input type="checkbox"/> 5. No/ lack of latrines
	<input type="checkbox"/> 6. Open defecation
	<input type="checkbox"/> 7. Don't know
	<input type="checkbox"/> 8. Others, specify

41. How does a person get diarrhea? Check all that apply	<input type="checkbox"/> 1. No/ lack of hand-washing before eating
	<input type="checkbox"/> 2. No/ lack of hand-washing after defecation
	<input type="checkbox"/> 3. No/ lack of hand-washing after cleaning children's/ disposal of faeces
	<input type="checkbox"/> 4. Drinking untreated water
	<input type="checkbox"/> 5. Use of untreated/ improperly stored water for cooking
	<input type="checkbox"/> 6. Improper/ lack of cooking of food
	<input type="checkbox"/> 7. Improper/not cleaning/washing vegetables before cooking/eating
	<input type="checkbox"/> 8. Don't know
	<input type="checkbox"/> 9. Others, specify

42. What are the 3 most important ways to prevent diarrhea? DO NOT READ CHOICES. ONLY 3 RESPONSES	<input type="checkbox"/> 1. Hand-washing with soap
	<input type="checkbox"/> 2. Use toilet facility to defecate
	<input type="checkbox"/> 3. Dispose of children's feces in toilet facility
	<input type="checkbox"/> 4. Bury feces
	<input type="checkbox"/> 5. Drink clean water
	<input type="checkbox"/> 6. Store water safely
	<input type="checkbox"/> 7. Prepare and protect food hygienically
	<input type="checkbox"/> 8. Dispose of garbage in a pit
	<input type="checkbox"/> 9. Don't know
	<input type="checkbox"/> 10. Others, specify

43. In the last 2 weeks, how many HH members have had diarrhea? Please check appropriate code/s. <u>IF NO HH MEMBER EXPERIENCED DIARRHEA, GO TO 45</u>	Household member Code	
	<input type="checkbox"/> 1.	<input type="checkbox"/> 7.
	<input type="checkbox"/> 2.	<input type="checkbox"/> 8.
	<input type="checkbox"/> 3.	<input type="checkbox"/> 9.
	<input type="checkbox"/> 4.	<input type="checkbox"/> 10.
	<input type="checkbox"/> 5.	<input type="checkbox"/> 11.
	<input type="checkbox"/> 6.	<input type="checkbox"/> 12.

44. If your family members got diarrhea where do they go for treatment? <i>DO NOT READ OUT CHOICES.</i> <i>Respondent could have more than one answer</i>	Public Sector	Private Medical	Not Medical Sector
	<input type="checkbox"/> 1. National Hosp. (PP)	<input type="checkbox"/> 8. Private Hosp.	<input type="checkbox"/> 13. Shop selling drugs/ Market
	<input type="checkbox"/> 2. Provincial Hosp. (RH)	<input type="checkbox"/> 9. Private Clinic	<input type="checkbox"/> 14. Kru Khmer/ Magician
	<input type="checkbox"/> 3. District Hosp. (RH)	<input type="checkbox"/> 10. Private Pharmacy	<input type="checkbox"/> 15. Monk/ Religious leader
	<input type="checkbox"/> 4. Health Center	<input type="checkbox"/> 11. Home/ Office of Trained Health Worker/ Nurse	<input type="checkbox"/> 16. Traditional birth attendant
	<input type="checkbox"/> 5. Health Post	<input type="checkbox"/> 12. Visit of Trained Health Worker/ Nurse	<input type="checkbox"/> 17. Don't know
<input type="checkbox"/> 6. Outreach		<input type="checkbox"/> 18. Other, please specify...	

7. Other Public

45. Your opinion how is diarrhea spread? <i>DO NOT READ OUT CHOICES. There can be more than one answer</i>	<input type="checkbox"/> 1. Dirty hands
	<input type="checkbox"/> 2. dirty water
	<input type="checkbox"/> 3. flies
	<input type="checkbox"/> 4. solid waste
	<input type="checkbox"/> 5. Unclean food
	<input type="checkbox"/> 6. Dirty latrine
	<input type="checkbox"/> 7. Open defecation
	<input type="checkbox"/> 8. Through animal waste/ manure
	<input type="checkbox"/> 9. Don't know
	<input type="checkbox"/> 10. Other, specify

VI. Practices on Sanitation and Hygiene

a. Sanitation/ Excreta disposal

46. Where do <u>you</u> usually defecate when <u>at home during daytime</u> ? Please check only one	Dry Season	Wet Season
	<input type="checkbox"/> 1. OD (ground/ forest, water body)	<input type="checkbox"/> 1. OD (ground/ forest, water body)
	<input type="checkbox"/> 2. In your own latrine	<input type="checkbox"/> 2. In your own latrine
	<input type="checkbox"/> 3. In neighbour latrine	<input type="checkbox"/> 3. In neighbour latrine
	<input type="checkbox"/> 4. In public latrine	<input type="checkbox"/> 4. In public latrine
	<input type="checkbox"/> 5. Others, Specify	<input type="checkbox"/> 5. Others, Specify

47. Where do you usually defecate when <u>at home during night-time</u> ? Please check only one	Dry Season	Wet Season
	<input type="checkbox"/> 1. OD (ground/ forest, water body)	<input type="checkbox"/> 1. OD (ground/ forest, water body)
	<input type="checkbox"/> 2. In your own latrine	<input type="checkbox"/> 2. In your own latrine
	<input type="checkbox"/> 3. In neighbour latrine	<input type="checkbox"/> 3. In neighbour latrine
	<input type="checkbox"/> 4. In public latrine	<input type="checkbox"/> 4. In public latrine
	<input type="checkbox"/> 5. Others, Specify	<input type="checkbox"/> 5. Others, Specify

48. Where do you usually defecate when in public <u>places</u> (<u>pagoda, school, health center, etc.</u>)? Please check only one	Dry Season	Wet Season
	<input type="checkbox"/> 1. OD (ground/ forest, water body)	<input type="checkbox"/> 1. OD (ground/ forest, water body)
	<input type="checkbox"/> 2. In neighbour latrine	<input type="checkbox"/> 2. In neighbour latrine
	<input type="checkbox"/> 3. In public latrine	<input type="checkbox"/> 3. In public latrine
	<input type="checkbox"/> 4. Others, Specify	<input type="checkbox"/> 4. Others, Specify

49. Where do children of your household usually defecate when at home <u>during day-time</u> ? Please check only one.	Dry Season	Wet Season
	<input type="checkbox"/> 1. OD (ground/ forest, water body)	<input type="checkbox"/> 1. OD (ground/ forest, water body)
	<input type="checkbox"/> 2. In your own latrine	<input type="checkbox"/> 2. In your own latrine
	<input type="checkbox"/> 3. In neighbour latrine	<input type="checkbox"/> 3. In neighbour latrine
	<input type="checkbox"/> 4. In public latrine	<input type="checkbox"/> 4. In public latrine
	<input type="checkbox"/> 5. Others, Specify	<input type="checkbox"/> 5. Others, Specify

50. Where do children of your household usually defecate when at home <u>during night-time</u> ? Please check only one.	Dry Season	Wet Season
	<input type="checkbox"/> 1. OD (ground/ forest, water body)	<input type="checkbox"/> 1. OD (ground/ forest, water body)
	<input type="checkbox"/> 2. In your own latrine	<input type="checkbox"/> 2. In your own latrine
	<input type="checkbox"/> 3. In neighbour latrine	<input type="checkbox"/> 3. In neighbour latrine
	<input type="checkbox"/> 4. In public latrine	<input type="checkbox"/> 4. In public latrine
	<input type="checkbox"/> 5. Others, Specify	<input type="checkbox"/> 5. Others, Specify

51. Where do children of your household usually defecate when in public <u>places</u> (<u>pagoda, school, health center, etc.</u>)? Please check only one.	Dry Season	Wet Season
	<input type="checkbox"/> 1. OD (ground/ forest, water body)	<input type="checkbox"/> 1. OD (ground/ forest, water body)
	<input type="checkbox"/> 2. In neighbour latrine	<input type="checkbox"/> 2. In neighbour latrine
	<input type="checkbox"/> 3. In public latrine	<input type="checkbox"/> 3. In public latrine
	<input type="checkbox"/> 4. Others, Specify	<input type="checkbox"/> 4. Others, Specify

52. (If there is an infant in the HHs) Where do you usually dispose of infants' faeces? Please check only one.	Dry Season	Wet Season
	<input type="checkbox"/> 1. Bury	<input type="checkbox"/> 1. Bury
	<input type="checkbox"/> 2. Throw in forest/ bush/ water	<input type="checkbox"/> 2. Throw in forest/ bush/ water

	body	body
	<input type="checkbox"/> 3. Throw in your own latrine	<input type="checkbox"/> 3. Throw in your own latrine
	<input type="checkbox"/> 4. Throw in neighbour latrine	<input type="checkbox"/> 4. Throw in neighbour latrine
	<input type="checkbox"/> 5. Throw in public latrine	<input type="checkbox"/> 5. Throw in public latrine
	<input type="checkbox"/> 6. Throw in community dumpsite	<input type="checkbox"/> 6. Throw in community dumpsite
	<input type="checkbox"/> 7. Others, Specify	<input type="checkbox"/> 7. Others, Specify

53. What do you usually use for anal cleansing after defecation? Please check only one.	Dry Season	Wet Season
	<input type="checkbox"/> 1. Water only	<input type="checkbox"/> 1. Water only
	<input type="checkbox"/> 2. Leaves	<input type="checkbox"/> 2. Leaves
	<input type="checkbox"/> 3. Paper	<input type="checkbox"/> 3. Paper
	<input type="checkbox"/> 4. Stone	<input type="checkbox"/> 4. Stone
	<input type="checkbox"/> 5. Wood	<input type="checkbox"/> 5. Wood
	<input type="checkbox"/> 6. Corn cob	<input type="checkbox"/> 6. Corn cob
	<input type="checkbox"/> 7. Others, Specify	<input type="checkbox"/> 7. Others, Specify

54. What do your children/ children in the HH usually use for anal cleansing after defecation? Please check only one	Dry Season	Wet Season
	<input type="checkbox"/> 1. Water only	<input type="checkbox"/> 1. Water only
	<input type="checkbox"/> 2. Leaves	<input type="checkbox"/> 2. Leaves
	<input type="checkbox"/> 3. Paper	<input type="checkbox"/> 3. Paper
	<input type="checkbox"/> 4. Stone	<input type="checkbox"/> 4. Stone
	<input type="checkbox"/> 5. Wood	<input type="checkbox"/> 5. Wood
	<input type="checkbox"/> 6. Corn cob	<input type="checkbox"/> 6. Corn cob
	<input type="checkbox"/> 7. Others, Specify	<input type="checkbox"/> 7. Others, Specify

55. Are there disabled persons in the household? REFER to Question 1, Disability Column	<input type="checkbox"/> Yes	<input type="checkbox"/> No, → 56
56a. If yes, do they experience difficulty in using latrines?	<input type="checkbox"/> Yes	<input type="checkbox"/> No, → 56
56b. If yes, what difficulties do they experience and how do they cope with these difficulties	Difficulties/ Problems	Coping means

b. Hand-washing

56. Do you have a habit of handwashing?	<input type="checkbox"/> Yes	<input type="checkbox"/> No, → 57
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56a. If yes, what do you usually use in handwashing? Choose only one.	<input type="checkbox"/> 1. Water only	<input type="checkbox"/> 4. Others, specify
	<input type="checkbox"/> 2. Water and soap	
	<input type="checkbox"/> 3. Water with ash	

56b. If yes, how often do you usually wash your hands with _ (Response in 57a)?	_____ Number of times/ Frequency of hand-washing
--	--

56c. If yes, when do you wash your hands with _ (Response in 56a)? Please check all that apply	<input type="checkbox"/> 1. when hands are dirty	<input type="checkbox"/> 6. Before preparing food
	<input type="checkbox"/> 2. when returning to house from work/ from outside	<input type="checkbox"/> 7. After cleaning infant who has defecated
	<input type="checkbox"/> 3. Before eating	<input type="checkbox"/> 8. After touching animals
	<input type="checkbox"/> 4. After eating	<input type="checkbox"/> 9. After disposal of animal faeces
	<input type="checkbox"/> 5. After defecation	<input type="checkbox"/> 10. Others, specify

57. Do your children (1-14 yrs) have a habit of handwashing?	<input type="checkbox"/> Yes	<input type="checkbox"/> No, → 61
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57a. If yes, what do your children usually use in	<input type="checkbox"/> 1. Water only	<input type="checkbox"/> 4. Others, specify
---	--	---

handwashing? Choose only one.	<input type="checkbox"/> 2. Water and soap	
	<input type="checkbox"/> 3. Water with ash	

57b. If yes, how often do your children usually wash their hands with _ (Response in 58a)?	_____ Number of times/ Frequency of hand-washing	
--	--	--

57c. If yes, when do your children wash their hands with _ (Response in 58a)? Please check all that apply	<input type="checkbox"/> 1. when hands are dirty	<input type="checkbox"/> 6. Before preparing food
	<input type="checkbox"/> 2. when returning to house from work/ from outside	<input type="checkbox"/> 7. After cleaning infant who has defecated
	<input type="checkbox"/> 3. Before eating	<input type="checkbox"/> 8. After touching animals
	<input type="checkbox"/> 4. After eating	<input type="checkbox"/> 9. After disposal of animal faeces
	<input type="checkbox"/> 5. After defecation	<input type="checkbox"/> 10. Others, specify

58. What type of soap do you usually use for hand-washing? (Please check only one)	<input type="checkbox"/> 1. Bar soap	<input type="checkbox"/> 4. Others, specify
	<input type="checkbox"/> 2. Liquid soap	
	<input type="checkbox"/> 3. Powder soap	

59. Where do you get your soap for handwashing? (Please circle all apply)	<input type="checkbox"/> 1. Buy from market	<input type="checkbox"/> 6. Buy from health center
	<input type="checkbox"/> 2. From neighbors	<input type="checkbox"/> 7. Others, specify
	<input type="checkbox"/> 3. Buy from NGO	
	<input type="checkbox"/> 4. Buy from village chief/ commune	
	<input type="checkbox"/> 5. Buy from provincial agency	

60. How much do you do you send for soap per month?	_____ Riels per month	
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61. At home, do you have a fixed hand-washing place/ station?	<input type="checkbox"/> Yes	<input type="checkbox"/> No → 61c
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61a. If yes, does it always have water and soap?	<input type="checkbox"/> Yes	<input type="checkbox"/> No → 62
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61b. If yes, where is your fixed hand-washing place located? <u>Note: Visit the reported handwashing area for observations</u>	<input type="checkbox"/> 1. Inside the house, specify location:	
	<input type="checkbox"/> 2. Outside the house, specify location:	
	<input type="checkbox"/> 3. Other, specify location:	

61c. If no, where else do you/ your children wash your hands with soap?	<input type="checkbox"/> 1. At the water source	<input type="checkbox"/> 4. In the kitchen area
	<input type="checkbox"/> 2. In the latrine	<input type="checkbox"/> 5. Other, specify
	<input type="checkbox"/> 3. Near the latrine	

62. Why is it important for you to wash your hands with soap?	<input type="checkbox"/> 1. Prevents disease	<input type="checkbox"/> 9. Heard from other people
	<input type="checkbox"/> 2. Prevents diarrhea	<input type="checkbox"/> 10. Heard from radio/TV
	<input type="checkbox"/> 3. Cleans hands/removes dirt	<input type="checkbox"/> 11. Have seen other people do so
	<input type="checkbox"/> 4. Is good hygiene	<input type="checkbox"/> 12. Smells good
	<input type="checkbox"/> 5. Prevents dirt from getting into mouth	<input type="checkbox"/> 13. Looks/feels clean
	<input type="checkbox"/> 6. Prevents dirt from getting into food	<input type="checkbox"/> 14. Others, specify
	<input type="checkbox"/> 7. Removes germs	
	<input type="checkbox"/> 8. Heard from parents/other family	

c. Drinking water treatment and storage

63. Who in your household usually goes to collect water? Check one only	<input type="checkbox"/> 1. Adult woman	<input type="checkbox"/> 4. Male child (under 15)
	<input type="checkbox"/> 2. Adult man	<input type="checkbox"/> 5. Don't know
	<input type="checkbox"/> 3. Female child (under 15)	<input type="checkbox"/> 6. Others, specify

64. Do you store your drinking water at home?	<input type="checkbox"/> Yes, → 66	<input type="checkbox"/> No, → 65
---	---	--

65. If no, is your house connected to piped water supply, have own well, have own RWH tank??	<input type="checkbox"/> Yes, → 65a	<input type="checkbox"/> No, → 69
65a. If yes, to which is your house connected to?	Check appropriate box	
	<input type="checkbox"/> 1. Connected to piped water supply	<input type="checkbox"/> 4. Others, specify
	<input type="checkbox"/> 2. Have own well	
	<input type="checkbox"/> 3. Have own RWH tank	

66. Why do you store your drinking water?	Check appropriate box	
	<input type="checkbox"/> 1. Prevent contamination	<input type="checkbox"/> 5. Others, specify
	<input type="checkbox"/> 2. Keep clean	
	<input type="checkbox"/> 3. Limit/ reduce water treatment tasks	
	<input type="checkbox"/> 4. Keep safe	

67. How long does the drinking water in the storage container stay stored before it is refilled?	Wet Season	Dry Season
	<input type="checkbox"/> 1. Every day	<input type="checkbox"/> 1. Every day
	<input type="checkbox"/> 2. Every week	<input type="checkbox"/> 2. Every week
	<input type="checkbox"/> 3. Every two weeks	<input type="checkbox"/> 3. Every two weeks
	<input type="checkbox"/> 4. Every month	<input type="checkbox"/> 4. Every month
	<input type="checkbox"/> 5. Every six months	<input type="checkbox"/> 5. Every six months
	<input type="checkbox"/> 6. Others, specify	<input type="checkbox"/> 6. Others, specify

68. Do the drinking water storage containers get cleaned?	<input type="checkbox"/> Yes	<input type="checkbox"/> No → 69
68a. If yes, when was the last time these were cleaned?	Check appropriate box	
	<input type="checkbox"/> 1. Today/ This week	<input type="checkbox"/> 4. Don't know
	<input type="checkbox"/> 2. This month	<input type="checkbox"/> 5. Others, specify
	<input type="checkbox"/> 3. More than a month ago	

69. Do you treat your drinking water?	<input type="checkbox"/> Yes	<input type="checkbox"/> No, → 71
69a. If yes, why do you treat your drinking water?	<input type="checkbox"/> 1. Boil	<input type="checkbox"/> 3. Put against the sun
	<input type="checkbox"/> 2. Water filter	<input type="checkbox"/> 4. Others
69b. If yes, why do you treat your drinking water?	Check appropriate box	
	<input type="checkbox"/> 1. Contaminated with dirt	<input type="checkbox"/> 7. Water looks bad
	<input type="checkbox"/> 2. Contaminated with feces/human/animal waste	<input type="checkbox"/> 8. Insects in the water
	<input type="checkbox"/> 3. Contaminated with germs, bacteria, viruses	<input type="checkbox"/> 9. So I don't get sick/ Prevent sickness
	<input type="checkbox"/> 4. Good for health/appearance	<input type="checkbox"/> 10. Don't know
	<input type="checkbox"/> 5. Animals use the water	<input type="checkbox"/> 11. Other, specify
	<input type="checkbox"/> 6. Water smells bad	

70. How often do you treat drinking water?	Check appropriate box	
	<input type="checkbox"/> 1. Always	<input type="checkbox"/> 4. Never
	<input type="checkbox"/> 2. Usually	<input type="checkbox"/> 5. Don't know
	<input type="checkbox"/> 3. Sometimes	<input type="checkbox"/> 6. Others, specify

VII. Messages on sanitation and hygiene

71. In the last year, have you seen, heard or received any messages or materials on sanitation and hygiene?	<input type="checkbox"/> Yes	<input type="checkbox"/> No (Finish the Interview and proceed to Observations Part)
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71a. If yes, what sanitation and hygiene messages have you seen, heard or received?	<input type="checkbox"/> 1. Build a latrine	<input type="checkbox"/> 8. Good food hygiene
	<input type="checkbox"/> 2. Always use a latrine/ stop open defecation	<input type="checkbox"/> 9. Wastewater/stagnant water management
	<input type="checkbox"/> 3. Safe disposal of infants' faeces	<input type="checkbox"/> 10. Proper solid waste disposal/ management
	<input type="checkbox"/> 4. Wash hands with soap	<input type="checkbox"/> 11. Don't know

	<input type="checkbox"/> 5. Drink safe water	<input type="checkbox"/> 12. Others, specify
	<input type="checkbox"/> 6. Treat drinking water	
	<input type="checkbox"/> 7. Store drinking water safely	

71b. If yes, where did you see, hear, receive these messages?	<input type="checkbox"/> 1. Posters or leaflets in village/ commune	<input type="checkbox"/> 7. On TV
	<input type="checkbox"/> 2. At community meetings	<input type="checkbox"/> 8. On radio
	<input type="checkbox"/> 3. In government offices	<input type="checkbox"/> 9. Don't know
	<input type="checkbox"/> 4. When visiting a health facility	<input type="checkbox"/> 10. Other, specify
	<input type="checkbox"/> 5. Material received at your home	
	<input type="checkbox"/> 6. In newspapers or magazines	

71c. If yes, when did you see, hear, receive these messages?	<input type="checkbox"/> 1. Today	<input type="checkbox"/> 7. 6 months ago
	<input type="checkbox"/> 2. Yesterday	<input type="checkbox"/> 8. Don't know
	<input type="checkbox"/> 3. This week	<input type="checkbox"/> 9. Other, specify
	<input type="checkbox"/> 4. Last two weeks	
	<input type="checkbox"/> 5. Last month	
	<input type="checkbox"/> 6. More than a month ago	

71d. If yes, from whom did you hear/ receive these messages?	<input type="checkbox"/> 1. Village chief
	<input type="checkbox"/> 2. Commune chief/ council
	<input type="checkbox"/> 3. Government agency, specify _____
	<input type="checkbox"/> 4. NGO, specify name _____
	<input type="checkbox"/> 5. From family members
	<input type="checkbox"/> 6. From neighbors
	<input type="checkbox"/> 7. Don't know
	<input type="checkbox"/> 8. Can not remember
	<input type="checkbox"/> 9. Other, specify

HOUSEHOLD OBSERVATION GUIDE
(To be used after administering the Household Questionnaire)

A. Latrines

					Observation Notes
1. (For Pit Latrines) – Is there a cover for the hole?	Yes		No		
2. Is the slab smooth and easy to clean?	Yes		No		
3. Does the latrine have walls, a roof, and a door?	Yes		No		
4. Are the latrine roof/ walls/ door well maintained?	Yes		No		
5. Is there a well-trodden (well-used) footpath/ access path towards the latrine?	Yes		No		
6. Are human faeces visible on the floor or slab of latrine?	Yes		No		
7. Are there flies near/ at the latrine?	Yes		No		
8. In your opinion, is the general appearance/ condition of the latrine area clean	Yes		No		
9. Is there a handwashing place inside or just outside the latrine?	Yes		No		
a. If yes, please note down what types of handwashing materials	Yes		No		
Jar and Water	Yes		No		
Soap	Yes		No		
Ash	Yes		No		
b. Are there materials to cover the faeces after defecation? What type of materials?	Yes		No		
Ash	Yes		No		
Sawdust	Yes		No		
Rice husk					
Soil/ Sand					
10. Where is the latrine located with respect to the reported regular water source/s?	Distance in meters				
11. (IF THE HOUSEHOLD HAS CHILDREN <5 YEARS) Are there children's potty/ies in the house or around the house?	Yes		No		
12. If yes, are there observable evidence that the potties are used?	Yes		No		

B. Main Drinking Water Sources

13. Are the immediate surroundings of the drinking water source clean? (not muddy, no human or animal faeces/ wastes, no trash/ garbage)	Yes		No	
14. Are animals loitering and/ or drinking from the drinking water source?	Yes		No	
15. Are there observable indications that people take a bath in/at the drinking water source? (Soap/ soap leftovers, clothes, towels, etc.)	Yes		No	

16. What observable equipment at the HH is/ are used for collecting/ getting water from the drinking water source?	Check appropriate box			
	<input type="checkbox"/> 1. Narrow-mouthed <u>capped</u> containers		<input type="checkbox"/> 4. Wide mouthed containers without covers (pails, paint cans, etc.)	
	<input type="checkbox"/> 2. Narrow-mouthed <u>uncapped</u> containers		<input type="checkbox"/> 5. Others, specify	
a. Are the equipment clean?	Check appropriate box			
	<input type="checkbox"/> 1. Clean		<input type="checkbox"/> 2. Dirty	

C. Hand-washing facility/ area

17. IF IN Question 61 of the Questionnaire, A fixed HAND-WASHING AREA IS IDENTIFIED, OBSERVE FOR THE FOLLOWING:

a. Is there water at the fixed handwashing facility?	Yes		No	
b. What handwashing materials are observed?	Check appropriate box			
	<input type="checkbox"/> 1. Bar soap		<input type="checkbox"/> 5. Sand	
	<input type="checkbox"/> 2. Liquid soap		<input type="checkbox"/> 6. Others, specify	
	<input type="checkbox"/> 3. Powder soap			
c. Is there a water jar with bucket?	Yes		No	
	Yes		No	
d. Is there a tap on the water container?	Yes		No	
e. Is there a towel or cloth to dry hands?	Yes		No	
f. condition of the towel if it is there (clean, dirty, evidence of use)	Yes		No	
g. Is there evidence of having been recently used (wet ground/ cement/ presence of water, etc.)?	Yes		No	

18. If in Question 61c of the Questionnaire, No DESIGNATED HAND-WASHING AREA IS IDENTIFIED, observe for the following in the area where hand-washing is usually done:

a. Is there a place for hand-washing?	Yes		No	
b. Is there water?	Yes		No	
c. What handwashing materials are observed?	Check appropriate box			
	<input type="checkbox"/> 1. Bar soap		<input type="checkbox"/> 4. Ash	
	<input type="checkbox"/> 2. Liquid soap		<input type="checkbox"/> 6. Others, specify	
	<input type="checkbox"/> 3. Powder soap			
d. Is there a towel or clothe to dry hands?	Yes		No	
e. condition of the towel if it is there (clean, dirty, evidence of use)	Yes		No	
f. Is there evidence of having been recently used (wet ground/ cement/ presence of	Yes		No	

water, etc.)?					
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19. Ask to wash your hands...	Yes		No		
a. Were you offered soap?					
b. If no, ask if they have soap – Is soap provided?	Yes		No		

D. Drinking water storage and water treatment

20. What kind of drinking water storage containers are observed?	Type	Number
	<input type="checkbox"/> 1. Narrow mouthed	<input type="checkbox"/> 3. Both types
	<input type="checkbox"/> 2. Wide mouthed	<input type="checkbox"/> 4. Others, specify

21. Are the drinking water containers covered?	Check appropriate box	
	<input type="checkbox"/> 1. all are covered	<input type="checkbox"/> 4. Others, specify
	<input type="checkbox"/> 2. some are covered	
	<input type="checkbox"/> 3. none are covered	

22. Is the water in the drinking water storage containers clean?	Clean	Not clean
	<input type="checkbox"/> 1. All are clean and covered	<input type="checkbox"/> 1. Water is turbid
	<input type="checkbox"/> 2. Some are clean and un-covered	<input type="checkbox"/> 2. Algal growth in water
	<input type="checkbox"/> 3. All are dirty and covered	<input type="checkbox"/> 3. Mosquitoes/ Larvae
	<input type="checkbox"/> 4. Some are dirty and un-covered	<input type="checkbox"/> 4. Leaves or other floating material

23. Where are the drinking water storage containers placed?	Check appropriate box	
	<input type="checkbox"/> 1. On the floor	<input type="checkbox"/> 3. Others, specify
	<input type="checkbox"/> 2. Elevated above the floor	

24. How is water taken from the drinking water containers?	Check appropriate box	
	<input type="checkbox"/> 1. Pouring	<input type="checkbox"/> 4. Don't know
	<input type="checkbox"/> 2. Dipping (dipper/ ladle/)	<input type="checkbox"/> 5. Other, specify
	<input type="checkbox"/> 3. Container has spigot or tap	

25. Observe for different types of water treatment practices/ equipment	Check appropriate boxes	
	<input type="checkbox"/> 1. Boil	<input type="checkbox"/> 6. Solar disinfection
	<input type="checkbox"/> 2. Add Bleach/ Chlorine?	<input type="checkbox"/> 7. Let it Stand and Settle
	<input type="checkbox"/> 3. White Alum	<input type="checkbox"/> 8. Others, specify
	<input type="checkbox"/> 4. Strain through a cloth	
	<input type="checkbox"/> 5. Water Filters (Ceramic, Sand, Composite, etc.)	

E. Messages

26. <i>Inside the house, in the outside walls, or within immediate vicinity of the house (on trees, latrines, etc.), are there posters/ signs showing/ encouraging good/ proper sanitation and hygiene practices?</i>	<input type="checkbox"/> Yes	<input type="checkbox"/> No/ None
a. If yes, what types/ kinds of messages are observed in the posters/ signs?	Check appropriate boxes	
	<input type="checkbox"/> 1. Stop open defecation	<input type="checkbox"/> 4. Ways to avoid/ prevent diarrhea
	<input type="checkbox"/> 2. Consistent hand-washing with soap	<input type="checkbox"/> 5. Other, specify
	<input type="checkbox"/> 3. Proper treatment and storage of drinking water	

Focus Group Discussions Guide

Greetings! My name is _____ and I am working for the Survey Team of the Ministry of Rural Development.

MRD with support from UNICEF/ DFID, WHO, WB-WSP, Lien Aid, and Plan Cambodia, is conducting FGDs in selected villages to find out about the knowledge, attitudes and practices of communities in relation to Sanitation and Hygiene. The information you provide will help your government and international organizations design and monitor projects that will improve the existing sanitation conditions in your area.

Because time is limited, not all households in this village will be included in the meeting. We would like to request that ordinary community members (men and women) join the discussion. Please rest assured that any information you provide us will remain confidential and will not be used for any reason other than the study. Should you choose to participate, please remember that there are no correct or wrong answers. There are no disadvantages if you decide not to participate or not to answer certain questions. However, we would greatly appreciate your cooperation. We would only like you to give us your honest opinion. The discussion will probably take us about 3 hours. Thank you.

1. FGD Guidelines:

- a. Two (2) FGDs will be conducted in 40 of the 81 survey villages
- b. Two PDRD staff will facilitate the discussions
- c. The maximum number of FGD participants will be 10 persons
- d. Participants:
 - i. Women FGD - Elderly women and young/ middle-aged women
 - ii. Men FGD - Elderly men and young/ middle-aged men
- e. At least 3 among 10 participants have latrine
- f. FGDs will last for at least 2 hours (refreshments will be provided)
- g. Venue: Inside survey village – at the village meeting area, the local pagoda or the village chief's house

2. Materials needed: markers, paper tape, paper, flipchart paper, Information Sheets, recorders (if necessary), and cameras (if pictures are allowed by participants)

3. Methods:

- a. Self-introduction of PDRD Staff and of participants.
- b. Introduction of purpose of group discussion by Facilitators and group discussions of main topics prompted by the guide questions.
- c. Allow group to discuss main topics among themselves, generating consensus but also allow differences of ideas
- d. Only one PDRD Staff will facilitate the FGDs to ensure consistency of process, in framing of questions, and in probing of knowledge, attitudes, practices on sanitation and hygiene.
- e. The lead facilitator should encourage active participation from all participants.
This PDRD staff should be fully knowledgeable of the village-level activities on sanitation and hygiene implemented DRHC-PDRDs.
- f. One PDRD Staff will act as note taker, documenting attendance, process, and discussions results – points of agreement and individual views/ beliefs in flipcharts so that participants can see what is noted.

Pocket Vote:

The Pocket vote should be start ahead before the discussion, the election should be follow the guideline of MRD by focusing on use of latrine, hand-washing with soap and drinking safe water. The result of the election will be written in the flipchart and present to the group.

Guide Questions

The facilitator used the result of the election as based for the discussion. There are 3 main topics for discussion (use of latrines, hand-washing with soap, and drinking safe water).

a. Use of Latrine

Present the result of the election on use of latrine. How many families have latrine? And how many families do not have latrine?

Access to, location of latrines families

- i. How many people in the village have access to a latrine?
- ii. Are they regularly use the latrine?
- iii. What types of latrines are used in our village?
- iv. Why people in your area have latrine?
- v. How do people in your village maintain their latrine?
- vi. What are the benefits of having latrine in your village?
- vii. What are the constraint/problem of people who own latrine in your village? Eg. Flooded...

Not access to latrine families

- viii. How many family in your village do not have latrine?
- ix. For households that do not have latrines, what are the reasons why they do not have latrines?
- x. Where do members of these households defecate?
- xi. When/ what time of the day is this usually done?
- xii. What are the constraint/problem of people who do not own latrine in your village?

For whole group:

- xiii. How do people dispose of faeces from young babies? Do young children use potties for defecation?
- xiv. Who mostly use latrines in the village? Men? Women? Children?
- xv. Do people use cleansing materials (water, leaves, paper, etc.) after defecation?

b. Hand-washing with soap

Present the result of the election on have hand-washing habits. How many families have hand-washing habits? And how many families do not have hand-washing habits?

For hand-washing with soap families

- i. For those that have the habit of hand-washing, do they always/ regularly use soap in hand washing?
- ii. When do people wash their hands with soap?
- iii. Can you identify at least 3 most important times for hand-washing?
- iv. Do these people believe that hand-washing with soap is important? Why?
- v. Do these people have fixed hand-washing stations in their houses? Why? Why not?
- vi. If people have fixed hand-washing stations, is soap and water always available there?

For not regularly hand-washing with soap families

- i. What is/ are the reason/s for this practice?
- ii. What do they do instead to clean their hands?

Safe treatment and storage of drinking water

Present the result of the election on have drinking safe water habits. How many families have drinking safe water habits? And how many families do not have drinking safe water habits?

On Drinking Water storage

- i. Do people in this village usually store their drinking water?
- ii. Where do people store their drinking water?
- iii. What are the reasons for these preferences?
- iv. Do people clean their drinking water containers? Why?
- v. How often people clean their containers?
- vi. How do people get drinking water from the storage containers? Do storage containers have taps?

On Drinking Water Treatment

- i. What is the main source of drinking water in your village?
- ii. Is the main source of water safe for them to drink? If yes, why? If not, why?
- iii. How do they treat water to make it safe?
- iv. Why are these treatment practices preferred?

For whole group:

- v. Do people always drink safe water? Why?
- vi. What are the situations where people drink unsafe water?

Annex 4: List of Persons involved in KAP Survey

A. Survey Monitors and Interviewers

Nº	Name of Province		National Team (Survey Monitors)		Name of Provincial and District Team (Interviewers)
1	Kampot	1	Ly Sangvar	1	Kong Ieng Ry
		2	Leang Solitha	2	Nin Noch
				3	Ngorn Phally
				4	Ly Iev
				5	Seng Dara
2	Koh Kong	3	Sim Sitha	6	Pol Chantha
				7	Khat Chanbol
3	Kampong Cham	4	Chhim Chansovanna	8	Chang Kimseang
		5	Sam Sarun	9	Nam Vannarin
				10	Khim Song
				11	Chhay Phally
				12	Nai Sean
				13	Tith Sophea
				14	Im Sovanny
				15	Thlang Sarath
				16	Toch Peuv
4	Prey Veng			17	Yorm Liva
				18	Hot Keat
		6	Van Sarith	19	Nop Phan
		7	Leng Rasy	20	Sin Samedi
				21	San Phalla
				22	Iy Khim
				23	Sean Sorn
				24	Yem Khemra
				25	Kong Sopha
5	Takeo	8	Chea Sameth	26	Tun Or
		9	Soung Ravuth	27	Neth Sarath
				28	Duk sarin
				29	Phan Sareth
				30	Chea Soketya
				31	Vong Sambath
6	Kampong Speu	10	Sam Sophy	32	Van Chantha
		11	Ath Silun	33	Pheakdei Vong Dara
				34	Som Duong Dara
				35	Kong Ravuth
				36	Kao Thavarith
7	Rattanakiri	12	Or Son	37	Un Khan
8	Steung Treng			38	Ser Saveth
9	Kampong Thom	13	They Chanto	39	Svay Sophy
		14	Heng Vannarith	40	Sin Vuthea
				41	Oung Saroeun
				42	Prak Sovann
				43	Sun Chout
10	Otdar Meanchey	15	Khonn Lydo	44	Kuoy Peng Kear

N°	Name of Province		National Team (Survey Monitors)		Name of Provincial and District Team (Interviewers)
11	Pursat	16	Lun Sayteng	45	Lao Kosal
		17	Yeang Sokhom	46	Rai Ya
				47	Sok Seda
				48	Ek Saroeun
12	Siem Reap	18	Kong Saly	49	Sin Hoeun
		19	Tep Chhorpoan	50	Pot Saroeut
				51	Yaon Vanly
				52	Kai Kimsay
				53	Kao Thavarith

B. Consultant Team

1	Mr. Dul Ponlork	NA	National	Research Associate
2	Mr. So Dane	NA	National	Database Specialist
3	Mr. Theay Kheam	NIS-MoP	National	Statistician
4	Mr. Rafael NF Catalla	NA	National	Consultant

C. MRD Support Group

1	Dr. Chea Samnang	Director, DRHC-MRD	National	Member
2	Mr. Chhrey Pom	Deputy Director, DRHC-MRD	National	Survey Coordinator
3	Ms. Hilda Winarta	WES Specialist, UNICEF	National	Member
4	Mr. Santepheap	UNICEF	National	Member
5	Dr. Nasir Hassan	WHO	National	Member
6	Ms. Lyn McLennan	LienAid	National	Member
7	Mr. Oun Syvibola	WES Adviser, Plan International	National	Member
8	Mr. Kov Phyrum	WSP	National	Member
9	Mr. Chan Vichet	WSP	National	Member

Annex 5: Training Schedule and Agenda

(KAP Survey on Sanitation and Hygiene) Agenda of Surveyor Training for National Sanitation and Hygiene KAP Survey Phnom Penh 02-03 September 2010

Day 1 (02/09/10)

Time	Topic	Facilitator
7:30 – 8:00	Participant Registration	
8:00 - 8:30	Opening	
	KAP Survey on Sanitation and Hygiene	RAFAEL
8:30 – 9:00	Objective, methodology and use of KAP Tools	
9:00- 9:30	Break	
9:30 – 11:30	HH Questionnaire	
11:30 – 2:00	Lunch Break	
	(Mock Test)	RAFAEL
2:00 – 3:00	HH Questionnaire MOCK test	
3:00 – 3:30	Break	
3:30 – 4:30	HH Observation	

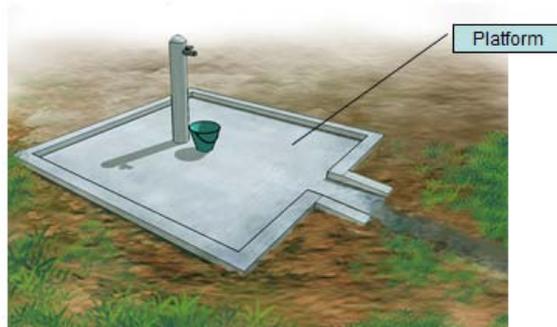
Day 2 (03/09/10)

8:00 – 9:30	FGD	RAFAEL/ Ponlork
9:30 – 10:00	Break	
10:00 – 11:30	FGD MOCK Test	
11:30 – 2:00	Lunch Break	
2:00 – 4:00	Survey Work Plan	
4:00 – 4:15	Closing	

Annex 6: Illustrations of Improved and Unimproved Water Access and Sanitation⁸

Improved and Unimproved Water Access

Public standpipe



Public standpipe with platform.

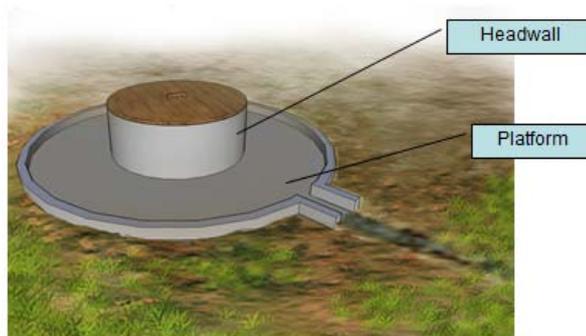
Tubewell



Tubewell with platform and fence.

⁸ Improved and Unimproved Access to Water and Sanitation, PowerPoint Presentation prepared by WSP, October 2008

Protected dug well



Lined dug well with platform, headwall, and cover

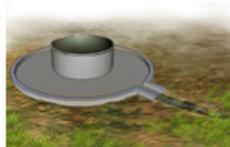
Improved rain water collection



- Remarks:
1. Completely closed
 2. Tap to withdraw water
 3. At least 3000 liters capacity

Unprotected dug well

☒ Water can be easily contaminated...



1). Dug well with lining, with headwall, with platform, **NO** cover



2). Dug well with lining, with headwall, with cover, **NO** platform



3). Dug well with lining, with cover, **NO** platform, **NO** headwall

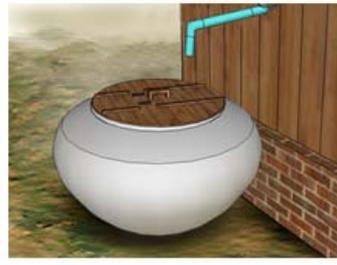


4). Dug well with lining, **NO** cover, **NO** platform, **NO** headwall

Unimproved rain water collection



1). Rain water jar without cover

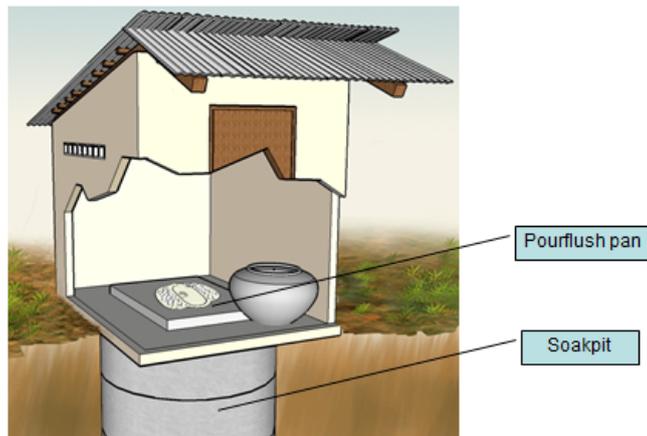


2). Rain water jar with cover

☒ Water can be easily contaminated...

Improved and Unimproved Sanitation

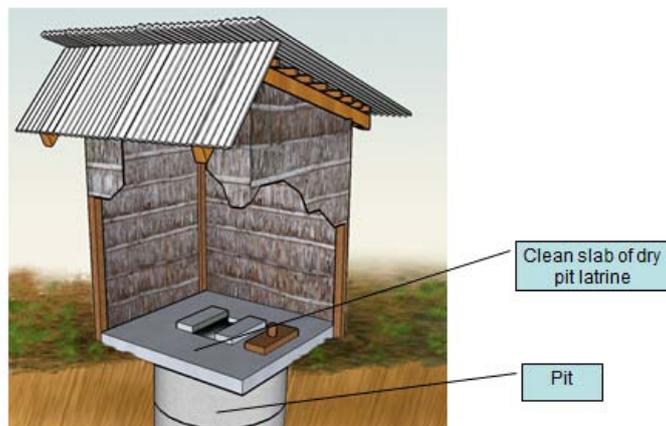
Flush or pour flush to septic tank or pit



Pourflush pan

Soakpit

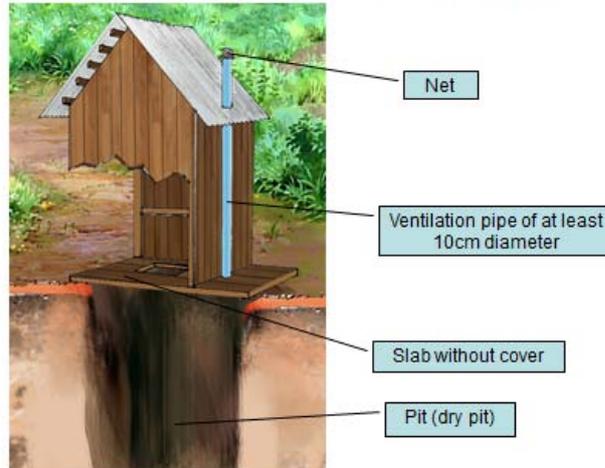
Pit latrine with (clean) slab



Clean slab of dry pit latrine

Pit

Ventilated Pit Latrine (VIP)



Public or shared latrine



☒ Not because it's unclean, but it's because it is not private...

Flush or pour flush to elsewhere



1). Toilet is flushed to open sewage system (urban)

2). Toilet is flushed to an open canal (rural)



Open pit latrine without slab



Squatting poles

The squatting poles can't separate the feces from users...