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MINISTRY OF LOCAL GOVERNMENT AND RURAL DEVELOPMENT

GA SOUTH (WEIJA) MUNICIPAL ASSEMBLY

GREATER ACCRA METROPOLITAN AREA (GAMA) SANITATION AND WATER PROJECT

CONSULTING SERVICES FOR COMMUNITY ENGAGEMENT/MOBILIZATION, DESIGN AND IMPLEMENTATION SUPERVISION FOR THE PROVISION OF IMPROVED SANITATION AND WATER SUPPLY IN NGLESHIE AMANFRO COMMUNITY-GA SOUTH (WEIJA) MUNICIPAL ASSEMBLY

FINAL BASELINE SURVEY REPORT

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ACRONYMS

CSO	-	Civil Society Organisation
EHSD	-	Environmental Health and Sanitation Directorate
GAMA	-	Greater Accra Metropolitan Area
GES	-	Ghana Education Service
GHC	-	Ghana Cedis
GHS	-	Ghana Health Service
GSMA	-	Ga-South Municipal Assembly
GWCL	-	Ghana Water Company Limited
HH	-	Household
HHH	-	Household Head
KVIP	-	Kumasi Ventilated Improved Pit
LGPCU	-	Local Government Policy Coordination Unit
LIUC	-	Low-Income Urban Community
MA	-	Municipal Assembly
MESSAP	-	Municipal Environmental Sanitation Strategy and Action Plan
MFI	-	Micro-finance Institution
MLGRD	-	Ministry of Local Government and Rural Development
NGO	-	Non-Governmental Organisation
NHPC	-	National Population and Housing Census
PCU	-	Project Coordinating Unit
SWP	-	Sanitation and Water Project
VIP	-	Ventilated Improved Pit
WASH	-	Water, Sanitation and Hygiene
WC	-	Water Closet

Summary of Community Level Data

Population

Based on the 2010 National Population and Housing Census (NPHC), the projected current population of Ngleshie Amanfro is 20,238[1]. However, the population obtained from the baseline survey at 75% coverage (sample size) is 19,405. Table S1 below provides a summary of demographic indicators. Ngleshie Amanfro is a predominantly a peri-urban community.

Table S1: Summary of demographic indicators

	NPHC 2010 AND MESSAP	**GAMA SWP COMMUNITY BASELINE SURVEY** (at 75% coverage)
Population	20,238	19,405
Household Size	4[2]	4.958
Estimated No. of Households	5,060	3,914

Location of Ngleshie Amanfro Community

The Ngleshie Amanfro community is located in the Ga-South Municipal Assembly and has the N1 Highway/Accra-Cape Coast Road passing through it. The settlement has two electoral areas - Ngleshie Amanfro Electoral Area and Amanfro Galelia Electoral Area. Suburbs in the community include Iron City, Kalabule, Top Town, Zongo, Mamheami, Galelia, America farm and Omai Kope. Figures S1 and S2 present the boundary map and location map (showing some suburbs) of the community respectively.

Total Number of Households

With an estimated total population of 25,873 and an average household size of 4.96 based on the survey; the total number of households is estimated at 5,291[3].

Access to Sanitation Facilities

22.6% of the households rely solely on public toilets while people who use shared compound toilets account for 30.1% of households in the community. Households with dedicated toilet facilities account for 23.5% while 6.8% defecate in the bush. The common household toilet facility types include pit latrine with slab/VIP (50%), Water Closet (WC) toilets with septic tanks (22.1%) and unimproved traditional pit latrines (17.1%). Accessing a public facility takes less than ten (10) minutes on the average. Majority of the public toilets in the community are privately owned. The municipal assembly owns four (4) public toilets two (2) of which are in very deplorable states. Conditions at these facilities are characterised by mal-odour, flies, soiled floors and defective fixtures.

[1] Source: GAMA SWP Monitoring and Evaluation Team
[2] Obtained from the Ghana Statistical Service (GSS) 2010 NPHC District Report
[3] Based on the baseline survey projections

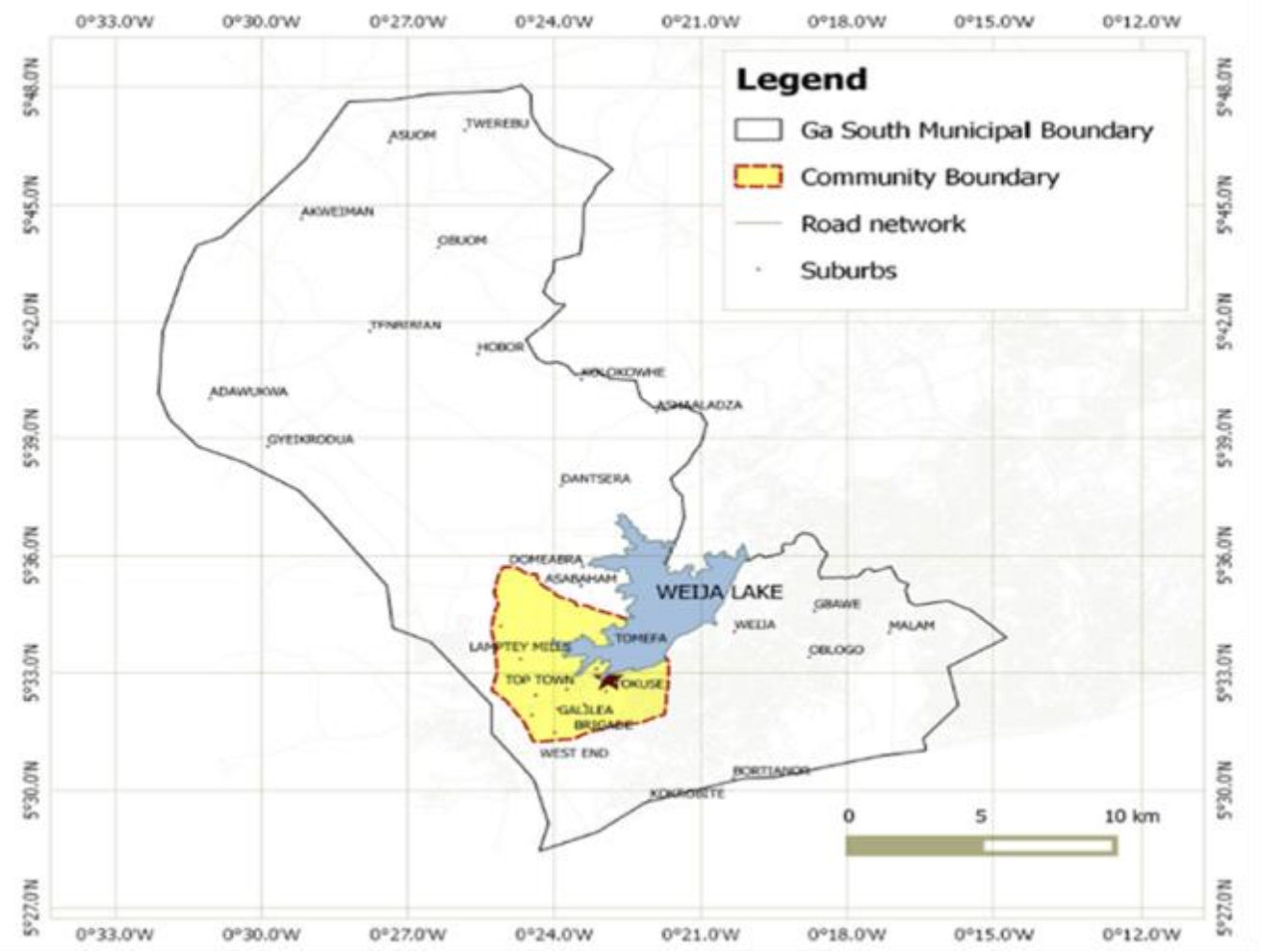

Figure S1: Boundary map of Ngleshie Amanfro in Ga South South Municipal Assemble (GSMA)

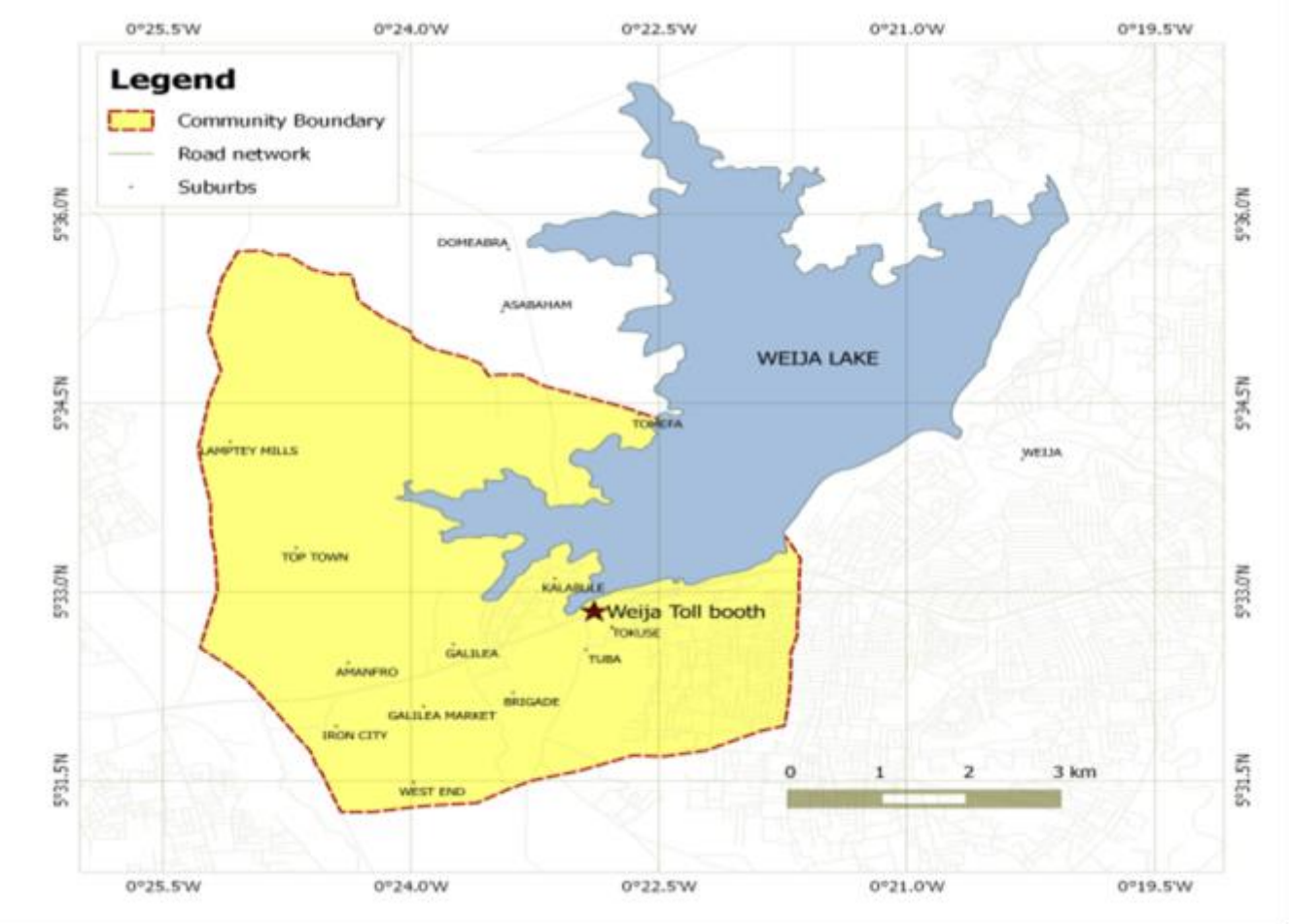

Figure S2: Locational map of Ngleshie Amanfro

Drainage

The community has no effective drainage system resulting in the formation of deep gullies, erosion, ponding and flooding in most parts of the community. As a result of the lack drains, sullage from households is disposed on open lots/space. 80% and 63.7% of the households dispose of wastewater from kitchens and bathrooms respectively, on to the bare ground/floor. Natural gullies and earth drains are the most common means of stormwater conveyance as there are very few channelized concrete drains (e.g. in Iron City and Amanfro Taxi Rank area).

Incidence of flooding

Incidence of flooding in the community is quite low. 20% of the respondents indicated occurrence of floods after heavy rainfall. Erosion is however widespread in the community.

Average household size

Average household size in the community is 4.96 with 55% being adults.

MFIs in the community

There are no recognised MFIs within the community however adjoining communities such as Kasoa, Weija and Mallam have some operational MFIs. These include Procredit Savings and Loans Co. Ltd., Opportunity International Savings, and Loans Ltd. and Express and Loans Co. Ltd.

Ghana Water Company Limited (GWCL) piped water coverage

Half of the households (50.8%) surveyed indicated use of water from GWCL. Considering specific water use needs, 14.7%, 64.8% and 51.8% also rely on GWCL water supply for drinking, cooking and general purposes respectively. From the survey, a large majority of the people rely on packaged (sachet) water as their drinking water source.

1. Introduction

1.1 General

The Government of Ghana, acting through the Ministry of Local Government and Rural Development, is implementing the Greater Accra Metropolitan Area Sanitation and Water Project (GAMASAWAP), funded through an International Development Agency (IDA) grant. This seeks to increase access to improved sanitation and improved water supply in the Greater Accra Metropolitan Area (GAMA), with emphasis on low income urban communities, and to strengthen management of environmental sanitation across the GAMA.

An important component of this project is the upgrading of sanitation for a total of 250,000 people in low-income urban communities (LIUCs) selected within the 11 Metropolitan and Municipal Assemblies (MMAs) in the project area. For the purposes of this project, low income urban communities have been defined as those in which at least 75% of households live in a single room, and at least 75% of households use public toilets or other unacceptable toilet facilities.

Project interventions will include:

- Partially subsidized sanitation facilities for compound housing meeting project criteria;
- Establishment of public toilets under sustainable Public Private Partnership (PPP) management arrangements, where compound level facilities are not possible;
- Technical assistance and facilitation of micro-finance for single households to build improved sanitation facilities;
- Development, if necessary, of fecal sludge management services so as to enable the servicing of all facilities in the selected community;
- Improved water supply arrangements;
- Implementation of a program to promote improved hygiene-related behavior;
- Where appropriate, development of sustainable improved local-level management of drainage systems;
- Improvement of local-level solid waste management in order to ensure effective drainage and reduce solid waste accumulation in latrine pits.
- An action learning initiative to generate empirical evidence on the gender dimensions, impacts and implications of sustainable urban sanitation for poor men and women, girls and boys. The action learning will assess and gather evidence on the gendered implications of the intervention regarding policy, financing, design, operation, maintenance, use and sustainability.

1.2 Objectives

The objectives of the assignment are to:

a. Support the GSMA Municipal and Metropolitan Assemblies (MMAs) in engaging low income urban communities (LIUCs) to establish existing baseline and end line situations for sanitation, water supply, and hygiene conditions and practices, as well as Socioeconomic and demographic characteristics of the low income community

b. Support the design and construction supervision of sanitation and environmental infrastructure to improve services in the LIUCs.
c. Support the design implementation of hygiene promotion and behavioral change campaigns, including due consideration of gender aspects.
d. Establish a simple, sustainable community-based monitoring and feedback system.

The above is to be achieved in close collaboration with the communities, local and central agencies concerned, and with the formal and informal private sector, where appropriate.

In the case of the Ga-South Municipal Assembly (GSMA), Ngleshie Amanfro was selected as the LIUC by the Municipal Assembly.

1.3 Scope of Services

The scope of services for the assignment includes:

a. Prepare a base map of the target community by defining the geographic area/mapping in consultation with the MA
b. Carry out a baseline study and inventory of water, sanitation and hygiene (WASH) infrastructure and services, habits, preferences, water and sanitation related health data/characteristics
c. Conduct gender informed needs and preference assessment to identify technically, socially, financially, and environmentally appropriate solutions
d. Recruit and train local community activists to support the work of a dedicated Sanitation Improvement Facilitation Team (SIFT)-comprise community members, Consultant and other relevant stakeholder and facilitate communication with the community, including hygiene promotion
e. Hold public consultations to validate the baseline assessment and discuss possible interventions and future management arrangements with clear roles for the community and all other stakeholders
f. Develop a list of feasible sanitation and water supply service options in discussion with MA, Capacity Building Team/Environmental Health and Sanitation Directorate (CBT/EHSD), Ghana Water Company Limited (GWCL), and project staff
g. Prepare designs for the sanitation infrastructure in accordance with appropriate local standards
h. Identify and negotiate preferred sanitation solutions with the community
i. Identify and agree on a body to represent the community
j. Prepare a budgeted plan for infrastructure investment and development of services and service providers (if relevant)
k. Mobilize resources, with the support of the CBT, submitting plans through the MA to the Local Government and Policy Coordination Unit (LGPCU), and in discussion with microfinance partners where household or compound level infrastructure (toilets, bathrooms, water connections) is involved
l. Assist the MA to select and supervise contractors for community infrastructure with the support of the CBT
m. Support the formative research on hygiene promotion, and the delivery of the resulting campaign messages, with the support of the CBT and the EHSD.

n. Establish community-based monitoring and feedback system for all the services provided under the project, and facilitate the production of the first three 6-monthly reports to the MMA, EHSD and GWCL.
o. Undertake an end line study, update the inventory of WASH infrastructure and services and create an updated community WASH scorecard

1.4 Expected Outputs/Deliverables

The expected outputs of the assignment include the following:

a. Community base maps
b. An inception report including an updated work programme and selection of communities for survey
c. WASH inventory and community scorecard
d. WASH Service and Infrastructure Options
e. Environmental and Social Screening Report
f. Environmental Impact Assessment (EIA) scoping report (if EIA is required); Resettlement Action Plan (RAP) report (if required)
g. EIA, Environmental Management Plan (EMP) and RAP/ARAP reports (if required)
h. Detail Design, Tender Documents and Financing Plan
i. Design of a community-based monitoring and feedback system
j. Post Intervention WASH Inventory and Community Scorecard
k. 3 No. Bi-annual Monitoring Report
l. 11 No. Quarterly Monitoring Report
m. Final/Completion Report

1.5 Objective of Baseline Study

The household baseline survey and inventory of WASH facilities and services was conducted to ascertain the existing situations for sanitation, water supply, and hygiene conditions and practices, as well as socio-economic and demographic characteristics of Ngleshie Amanfro. Ngleshie Amanfro is one of the largest twenty (20) communities in the Ga South Municipal Assembly with an estimated population of over twenty thousand (20,000)4. The Consultant's field teams surveyed 3,914 households representing more than 75%5 of the total number of households in the community LIUC between August and September 2015.

The thematic areas of the information gathered include:

- Demographic and socio-economic characteristics- e.g. population, age, occupation, income, education, etc.
- Environmental Sanitation- e.g. access and type of toilet facility, household refuse collection, disposal, liquid waste disposal, drainage, flooding, etc.

[4] MESSAP (Ga South)
[5] Estimated number of households is based on NPHC 2010 district average household size of 4.0

- Water Supply- e.g. available water sources, storage facilities, usage, service costs, regularity of supply, etc.
- WASH knowledge, attitudes, practices and behaviours (KAPBs)- e.g. frequency of hand washing practices, personal hygiene, sanitation related diseases, willingness/ability to pay (WTP/ATP) for improved WASH services, etc
- Housing and occupancy- e.g. type of housing, tenancy, etc.
- General information- e.g. soil types, etc.

2. Methodology of Baseline Survey

2.1 Literature Review

The following documents were assembled and reviewed in planning the assessment and audit protocols and procedures:

- National Population and Housing Census Report (NPHC, 2010)
- District (Ga South) Population and Housing Census Report, 2010
- Household Sample Surveys in Developing and Transition Countries (UN, 2005)
- Municipal Environmental Sanitation Strategy and Action Plan (MESSAP)
- Revised Environmental Sanitation Policy, 2009
- National Environmental Sanitation Strategy and Action Plan, (NESSAP, 2010)

Information gathered from the review was used to inform the development of the sampling techniques and frame for the baseline survey.

2.2 Study Tools

Both qualitative and quantitative methods were used in the baseline survey. The quantitative involved the administration electronic-based structured household questionnaires using smart phones and tablets. The e-based questionnaire was developed and recommended for use by the LGPCU in collaboration with the MA and consultant. The e-based questionnaire was developed on the Kobo Collect Platform. A sample questionnaire provided by the Project Coordinating Unit was reviewed and modified appropriately (see Annex 1).

The qualitative methods used included key person interviews (KPIs), physical observations and literature review. Key persons interviewed included the local representatives of community at the assembly (assembly men), opinion leaders, Environmental Health Officers (EHO) responsible for the community and caretakers/owners of communal WASH facilities.

For uniformity of results, the LGPCU provided a number of key indicators which were discussed and agreed upon. The final indicators employed in the baseline survey for measuring the status of five (5) sub-sectors comprising: demographic and socio-economic characteristics; environmental sanitation; water knowledge, attitudes and practices; housing and occupancy characteristics (see Box 1.1).

Box 1.1: WASH Baseline Indicators and Findings- Ngleshie Amanfro

Demographic and Socio - Economic Characteristics

Ngleshie Amanfro can be described as an adult community with 55% of the people at least 18 years. Females are more than males in the community. The community has an average household size of 4.95; one (1) more than over the regional average. Many of the households are headed by males with most of them within the age bracket of 31-40 years. One out of every ten household heads does not have any form of education. Many more girls (4%) attend schools than boys of same school going age. Professions such as petty trading, artisanship, labour work, public services and agriculture are some of the main sources of occupation in the community. Typical sources of income include business and trading, employment, labour and remittances.

Environmental Sanitation

Open defecation is at 6.8% and more prevalent in the remote suburbs (e.g. Tormefa). 22.6% of the households rely exclusively on public toilet with most of them privately owned. Pit latrines with slab/VIP are the common household toilet facility type.

Solid waste disposal is mainly thorough door-to –door services and domestic trench. Crude dumping is practiced by 6.5% of the residents. Bins, sacks and polythene bags are common receptacles for storing household waste. Disposal of sullage into open lots/bare ground is the norm due to the lack of drains. Deep gullies as result of erosion are common in the community.

Water

Drinking water source is mainly sachet water. Some residents (especially residents around Tormefa) depend on rivers and streams for drinking, cooking and general use. Other sources of water include rain harvesting, tanker supply, well and dug out wells. In-house water supply from GWCL has a low coverage in the community; and water supply from the urban supplier is inconsistent. Storage of water is mainly in small container and jerry cans.

Knowledge, Attitude & Practices

Majority of the residents wash their hands after visiting the toilet. Handwashing with soap under running water is practiced by more than a quarter (25%) of the people. A quarter of the households have handwashing facilities provided after toilet use. The main motivation for handwashing is to keep hands clean and prevent oral/faecal diseases. The major WASH related diseases in the community include malaria, cholera, diarrhoea, typhoid, dysentery.

Housing and Occupancy

The most common house type is the compound house (57%). Almost half of the community's households dwell in single rooms, and a further quarter dwell in a hall and chamber. About two out of every five residents are tenants. Most residences in the community are built of cement/brick blocks with iron sheet roofs.

2.3 Sampling Procedure

2.3.1 Household Sample Design

In designing the sampling frame, the total number of households for the community was first determined based on projected 2015 population provided by the project monitoring and evaluation team of LGPCU and the average district household size indicated in the 2010 Population & Housing Census Summary Report of Final Results by the Ghana Statistical Service (GSS). 75% of the estimated total number of households was used as the sample size. Table 2.1 below shows the representative number of households sampled as per the 75% threshold indicated by the LGPCU and the actual number of households (HH) interviewed in the study community.

Table 2.1: Estimation of Sample Size (No. of Households)

Population (2015)[6]			Average District HH Size	Est. No. of HH	75% Minimum Threshold by LGPCU	Actual No. of HH Interviewed
Male	Female	Total	4.0	5,060	3,795	3,914
10,093	10,145	20,238				

The survey area was stratified according to the suburbs within the community. The suburbs were clustered into twenty one (21) enumeration areas (see Figure 2.2 below). Using acquired orthophotos showing the various suburbs, a listing of buildings and selection of dwellings for household listing was carried out for each suburb. This provided a sampling frame for selection of households. A household was defined as a single-person household or a group of people living in the same housing unit, sharing meals and jointly providing food and other essentials for living.

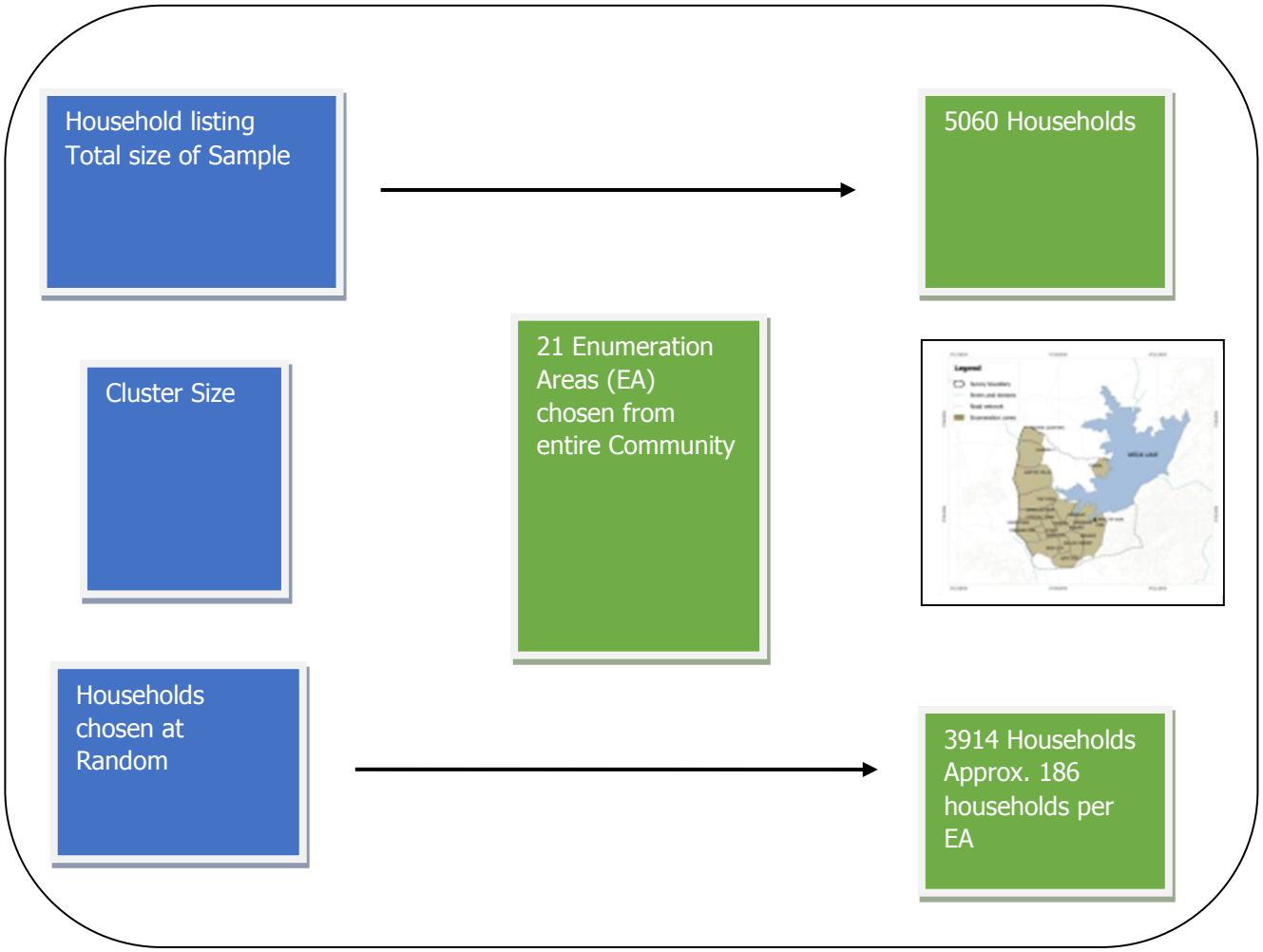

Figure 2.1: Layout of sample design

[6] Provided by LGPCU M&E Team

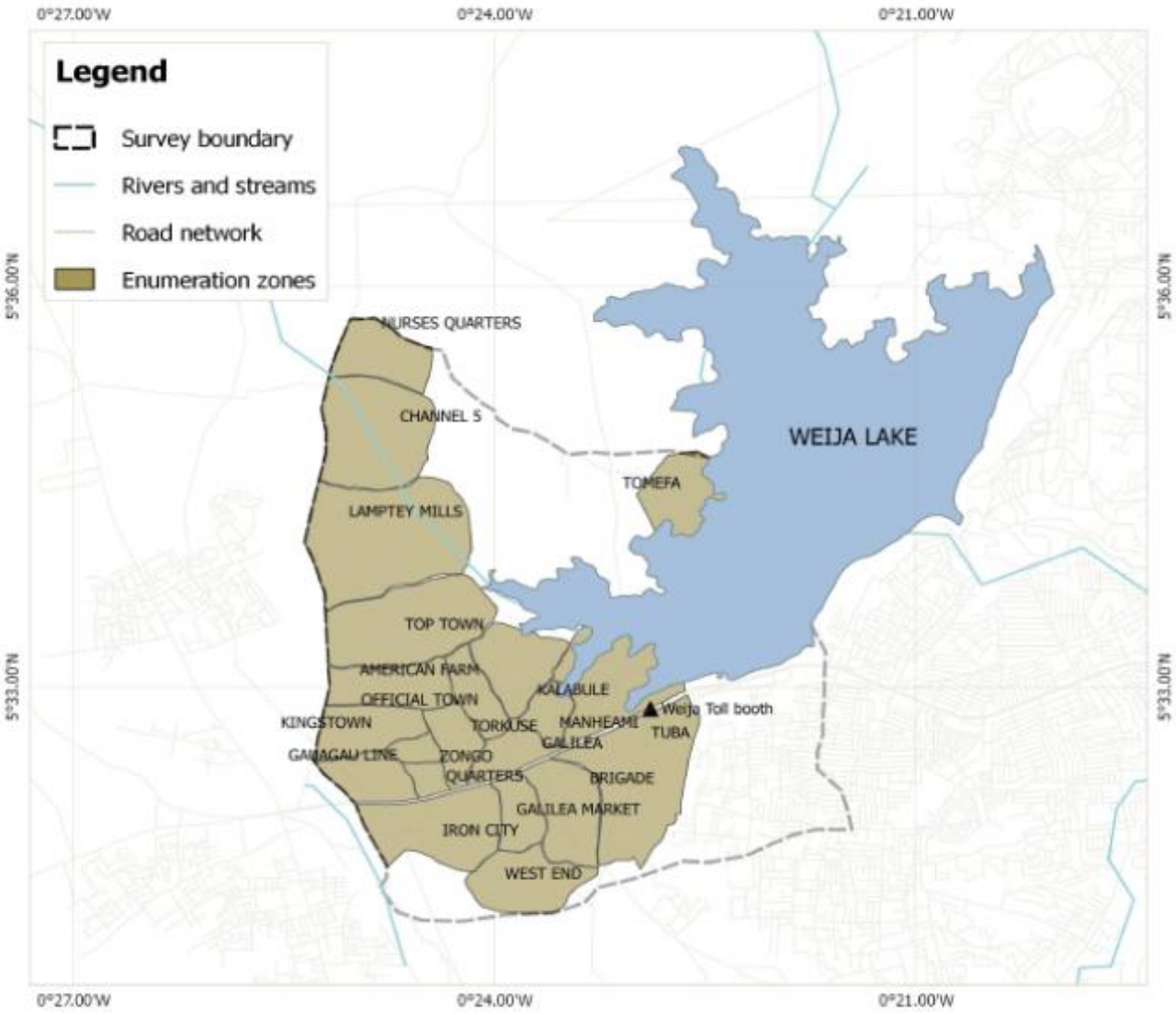

Figure 2.2: Enumeration areas/suburbs used in the baseline survey

2.3.2 Personnel Mobilisation and Training

The field data collection/survey team comprised forty (40) enumerators, three (3) field supervisors and data validation & quality control officer. In meeting the Client's requirement for community involvement indicated in the Terms of Reference (ToRs), at least 35% of the enumerators were from within the community or district. The enumerators also included Environmental Health Officers from the MA. A one-day training session was organised for the enumerators and a recap done on the first day of enumeration. The training involved:

- Overview of the project and project area
- Introduction to the baseline survey themes
- Introduction to the Kobo Collect and e-questionnaire

- Administration of the e-questionnaires/mock data collection

2.3.3 Community Entry and Demarcation

Based on our initial interactions with the local assembly representatives (assembly men) during the inception stage, the assembly men acted as the main entry point to the community. The MA's public address vans were used in sensitizing the community on the survey. The sensitization lasted for three (3) days covering the entire community. Key members/ opinion leaders in the community helped in establishing the boundaries of the community and suburbs.

2.3.4 Data Collection and Quality Control

Prior to field data collection a pretesting of the survey instruments was carried to assess the sampling mechanisms developed and also have an estimate of the time/effort input required for the entire survey. The survey covered all the suburbs in the communities. Table 2.2 below shows the number households surveyed per EA. Selection of households for interview was done randomly. Only adult representatives of households were targeted. Data collection lasted for about two (2) weeks including weekends.

Data collected by the enumerators was checked by the supervisors as a first level of quality assurance. The second level of quality assurance involved checking of all data entry records on the phones and tablets with data received on the web-based KoboCollect platform. Internal consistency checks and daily reporting of entries were also carried out.

Table 2.2: Number of households sampled in each enumeration area

ZONE	SUBURBS	No. OF HH	PERCENTAGE
American Farm	American Farm,,C3	208	5.31%
Brigade	Brigade	107	2.73%
Channel 5	Channel 5, Semanhia, Prayer Camp, Darunsalam, Blue Kiosk	164	4.19%
Galilea	Galilea, Machigani	277	7.08%
Galilea Market	Galilea Market	126	3.22%
Gaugau Line	Gauagau Line	219	5.60%
Iron City	Iron City	429	10.96%
Kalabule	Kalabule	150	3.83%
Kingstown	Kingstown, AP	103	2.63%
Lamptey Mills	Lamptey Mills, Masalahye	312	7.97%
Manheami	Manheami	207	5.29%
North Galilea	North Galilea	243	6.21%

ZONE	SUBURBS	No. OF HH	PERCENTAGE
Nurses Quarters	Nurses Quarters, Abbeam	98	2.50%
Official Town	Official Town	156	3.99%
Quarters	Quarters	84	2.15%
Tomefa	Tomefa	199	5.08%
Top Town	Top Town, Bigman town	151	3.86%
Torkuse	Torkuse	256	6.54%
Tuba	Tuba, Tuba Junction	88	2.25%
West End	West End, Mawuko	175	4.47%
Zongo	Zongo	162	4.14%
Total		3914	100.00%

3. Demographic, Socio-Economic Characteristics

3.1 Population Characteristics

The total population of Ngleshie Amanfro is estimated at 20,238[7], with about 50.1% being female and about a percentage lower than that of the national average of 51.2%[8]. However, based on the baseline survey, the total population is estimated at 25,873. Adult[9] population in the community is 55% (see Figure 3.1 below) which compared with that of the municipality is slightly (4%) higher.

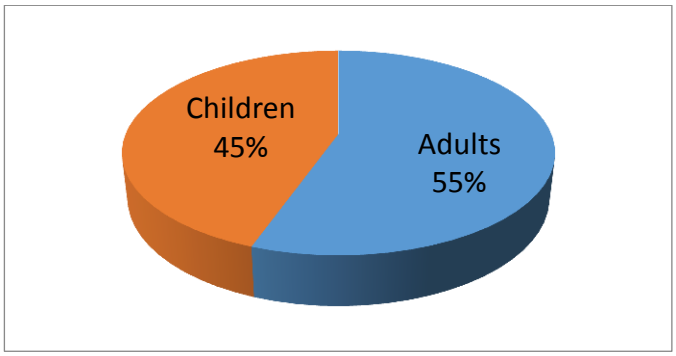

Figure 3.1: Adult, children ratio

Males below the age of eighteen (18) are 4% higher than their female counterparts as shown in Table 3.1 below.

Table 3.1: Sex distribution of children under 18 years

DESCRIPTION	NUMBER	PERCENTAGE
Boys under 18 years	4491	52%
Girls under 18 years	4149	48%
Total	8640	100%

3.2 Household Size and Number

Table 3.2 below shows the number of households enumerated (3,914) with an average household size of 4.96 which is higher than the Greater Accra regional average of 3.8.

Table 3.2: Household characteristics

INDICATOR	VALUE
Number of households enumerated	**3,914**
Total number of persons in households enumerated	**19,405**
Average household size	**4.9578**
Projected population	**25,873**
Projected total number of households	**5,291**

[7] GAMA SWP Monitoring & Evaluation Team
[8] Ghana Statistical Service (GSS); National Population and Housing Census (NPHC) 2010
[9] +18 according to the NPHC 2010

3.3 Household Headship

Household headship is dominated by males and is slightly lower than the national average of 65% as shown in Figure 3.2 below.

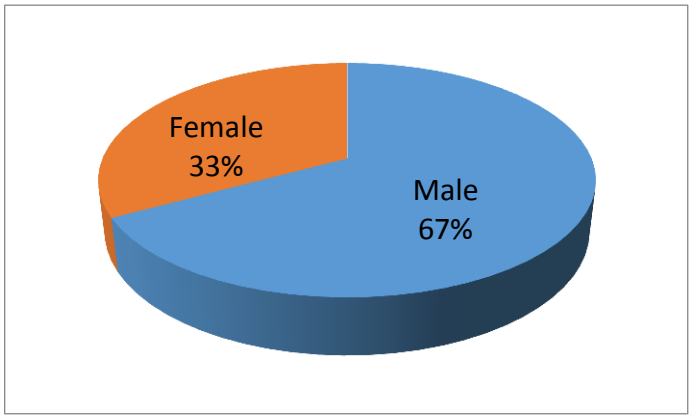

Figure 3.2: Household headship by gender

32% of the household heads (HHH) are aged between 31-40 years and a similar proportion (30%) within the age bracket of 41-50 years. A quarter of the household heads (24.9%) fall within the ages of 51-70+ (see Table 3.3 below).

Table 3.3: Household head age

HOUSEHOLD HEAD AGE	No. OF HHH	PERCENTAGE
Less than 21 years	23	0.6%
21 - 30 years	490	12.5%
31 - 40 years	1252	32.0%
41 - 50 years	1176	30.0%
51 - 60 years	622	15.9%
61 - 70 years	259	6.6%
Above 70 years	92	2.4%
	3914	100.0%

3.4 Nationality of Household Head

Close to the national average of 98%, 99% of household heads are Ghanaians. The remaining 1% is constituted by other nationalities such as Nigerians, Nigeriens, Togolese, Malians, Burkinabes and Ivorians (see Table 3.4 below).

Table 3.4: Nationality of household head

HHH NATIONALITY	No. OF HHH	PERCENTAGE
Beninoise	1	0.03%
Burkinabe	4	0.10%
Ghanaian	3859	98.59%
Ivorian	3	0.08%
Malian	5	0.13%
Nigerian	17	0.43%
Nigerien	13	0.33%
Other	4	0.10%
Togolese	8	0.20%
	3914	100.00%

3.5 Ethnicity of Household head

40.9% of the household heads are Akans. Ewes follow next at 28.2% and the Ga-Dangme 17.7%. Other ethnic groups include Grusi, Guan, Gurma, Mande-busanga and Mole-Dagbani. Table 3.5 below shows the percentages.

Table 3.5: Ethnicity of household head

HHH ETHNICITY	No. OF HHH	PERCENTAGE
Akan	1601	40.9%
Ewe	1103	28.2%
Ga-Dangme	691	17.7%
Grusi	33	0.8%
Guan	26	0.7%
Gurma	39	1.0%
Mande-Busanga	15	0.4%
Mole-Dagbani	186	4.8%
Other	220	5.6%
	3914	100.0%

3.6 Education

As shown in Table 3.6 below, 10.6% of the household heads have not had any form of education (formal or informal). A similar percentage had obtained tertiary education (e.g. Training/Nursing Colleges, Universities, Polytechnics, etc.).

45.4% of the household heads have however attained middle school level education with a another 19.7% achieving secondary education. The rest indicated attaining either primary or informal education.

Table 3.6: Household head education level

HHH EDUCATION LEVEL	No. OF HHH	PERCENTAGE
Middle school	1776	45.4%
Informal	191	4.9%
None	414	10.6%
Primary	355	9.1%
Secondary	770	19.7%
Tertiary	408	10.4%
	3914	100.0%

In terms of children attending school, 95% of girls are in school compared to 91% of boys who attend school (see Table 3.7 below).

Table 3.7: School attendance by boys and girls

DESCRIPTION	NUMBER	PERCENTAGE
Boys attending school	4108	91%
Boys not attending school	383	9%
	4491	100%
DESCRIPTION	**NUMBER**	**PERCENTAGE**
Girls attending school	3921	95%
Girls not attending school	228	5%
	4149	100%

3.7 Occupation and Economic Characteristics

As shown in Figure 3.3 below, 6.6% of household heads are employed in the formal sector (teaching, banking, and public service) as a sole occupation. 29.6% are into petty trading as a sole occupation. Household heads into farming only (both livestock and crop) constituted 2.2%. Heads with multiple occupations (two or more occupations) constituted 12% while those who plied other occupations (e.g. fishing, fish mongering, pastoring, driving, pensioner, etc.) constituted 24.4% of the responses. 12.2% of the household heads were artisans while labour workers accounted for 8.6%.

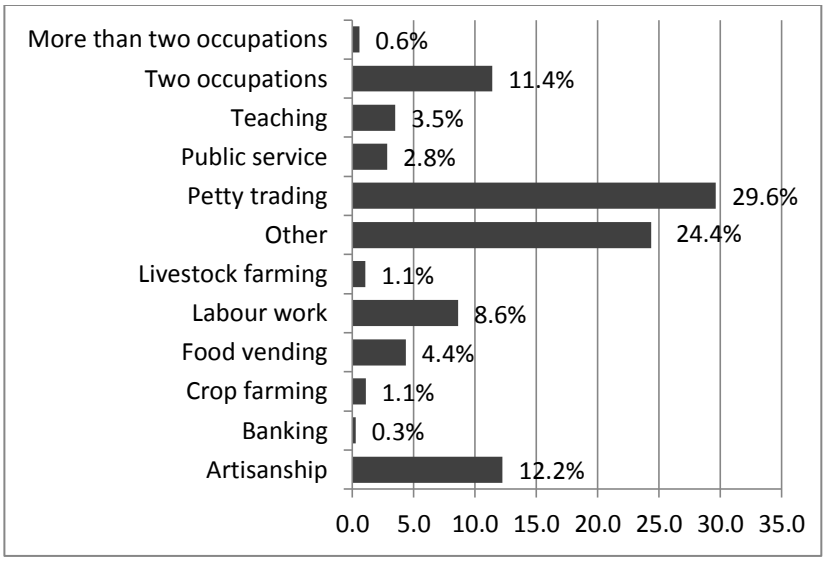

Figure 3.3: Occupation of household head

3.8 Household Incomes

Business and trading accounts for 56.1% of income sources of households (see Figure 3.4). This trend is reflected in Table 3.8 below as business and trading accounted for the largest average annual income amount for the past 12 months. Other significant sources include employment only (22.8%), other sources - including fishing (10.1%) and employment and business & trading (4%).

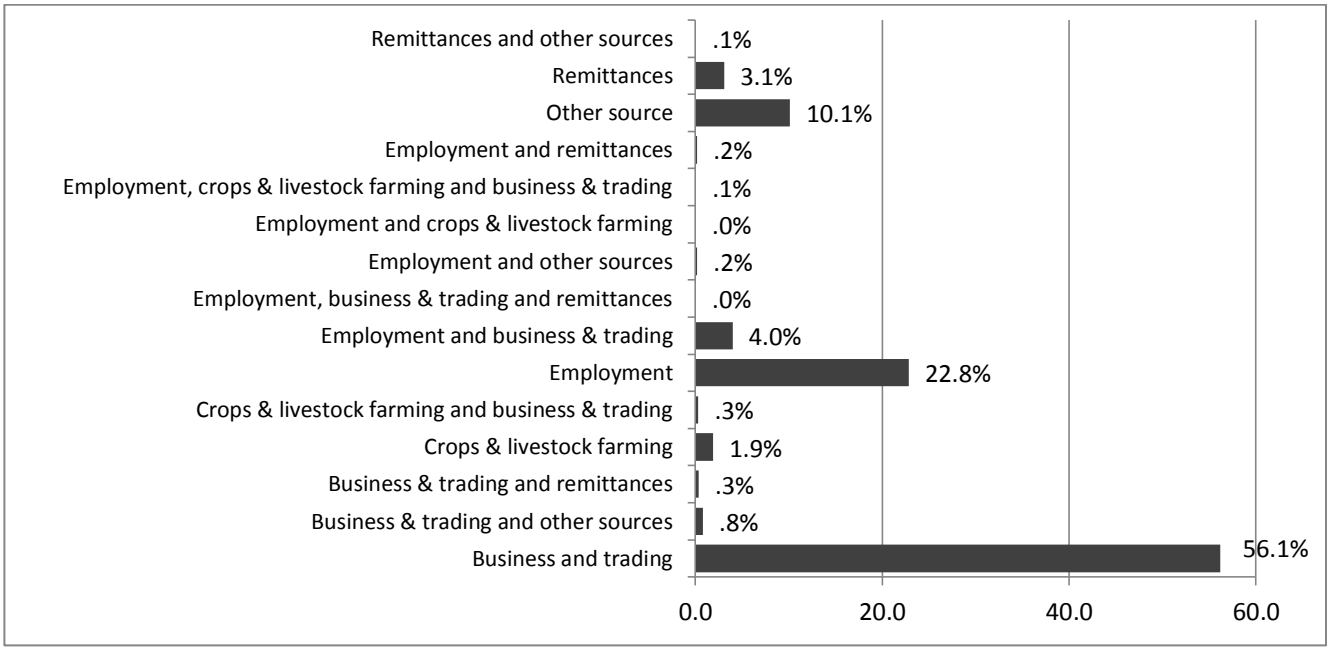

Figure 3.4: Sources of household income in the last 12 months

On the average, business and trading generated about GHC 6,620.00 as average annual income over the past year, with employment and labour generating GHC 4,186.00. Income from other sources generated GHC 4,164.00 over the same period (See Table below 3.8).

Table 3.8: Average amount of income

INCOME SOURCE	AVERAGE AMOUNT (GHC) IN 6 MONTH	AVERAGE AMOUNT (GHC) IN 12 MONTH
Employment & labour	2,831	4,186
Crops and livestock	1,333	2,195
Business and trading	1,770	6,620
Remittances	1,240	3,064
Other sources	1,698	4,164

3.9 Economic Activity

Table 3.9 indicates that of the total adult population of 10,767, 63% (representing 6,743 persons) are economically active (either self-employed or are employees).

Table 3.9: Employment activity status for adults

ECONOMICALLY ACTIVE PERSONS	NUMBER	PERCENTAGE
Persons above 18 who are employed	3211	48%
Persons above 18 who have their own business	3532	52%
	6743	100%
Total adult (18+) population	10767	
Economically active persons above 18 years	6743	63%

3.10 Financial Services

More than half (51%) of the respondents do not have personal accounts (see Table 3.10 below). Only one out of every ten respondents have business accounts (see Table 3.11 below) and less than a percentage (1 out of 20) having some kind of investment account (see Table 3.12).

Table 3.10: Persons with personal bank accounts

HAVE A PERSONAL ACCOUNT	No. OF RESPONDENTS	PERCENTAGE
Yes	1927	49%
No	1987	51%
	3914	100%

Table 3.11: Persons with business bank accounts

HAVE A BUSINESS ACCOUNT	No. OF RESPONDENTS	PERCENTAGE
Yes	385	10%
No	3529	90%
	3914	100%

Table 3.12: Percentage of persons with investment/mutual fund account

HAVE A PERSONAL ACCOUNT	No. OF RESPONDENTS	PERCENTAGE
Yes	199	5%
No	3715	95%
	3914	100%

3.11 Physically Challenged People

As shown in Table 3.13 below 83 of the respondents representing 2.1% are with some form of disability. This percentage is lower than the national average of 3%.

Table 3.13: Disability status of respondents

HANDICAPPED	No. OF RESPONDENTS	PERCENTAGE
No	3831	97.9%
Yes	83	2.1%
	3914	100%

4. Environmental Sanitation

4.1 Access to Sanitation Facilities

From the baseline survey, 23.5% indicated having their own (dedicated toilet). Households in compound houses who share toilet facilities with other households constituted 30% of the total households surveyed. Households that rely on public toilets exclusively, constituted 22.6%. 6.9% of the households representing 265 households, indicated practicing open defecation or defecate into water bodies. The practice was observed to be more prevalent in the Tormefa and Nurses Quarters suburbs which are remote and do not have any functional public toilet (see Figure 4.2 below). In the case of Tormefa, although about 80% of the residents had household VIP toilets, most of the toilets were full and have been shut due lack of desludging services in the remote suburb (see plate 4.1 below). Residents therefore resort to open defecation in nearby bushes and along the banks of the Densu River which is also a major source of water for the suburb.

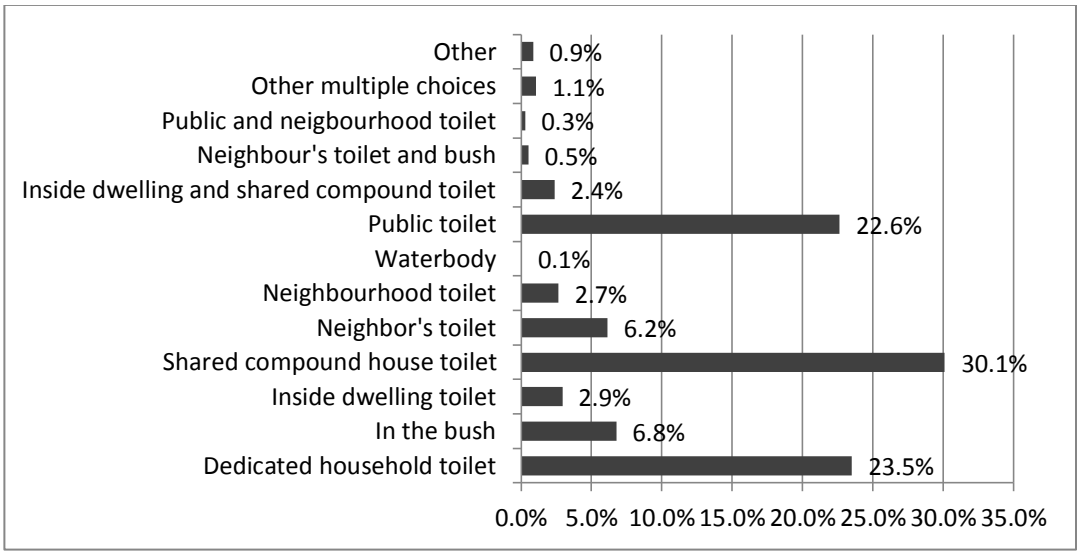

Figure 4.1: Access to sanitation facilities

Plate 4.1: Examples of household toilets that are full and have been abandoned due to lack of desludging services

4.2 Toilet Facilities in-house

Households without in-house toilets constituted 44.46% of the households. Households with at least five (5) toilets in-house constituted 1.53% while about 50% indicated having one (1) or two (2) toilets in-house. See Table 4.1 below.

Table 4.1: In-house toilet facilities

AVAILABLE TOILETS IN THE HOUSE	No. OF HH	PERCENTAGE	AVERAGE No. OF HH IN A HOUSE
0 (No toilet)	1740	44.46%	3.6
1	1316	33.62%	
2	626	15.99%	
3	106	2.71%	
4	66	1.69%	
5+	60	1.53%	
Total	3914	100.00%	

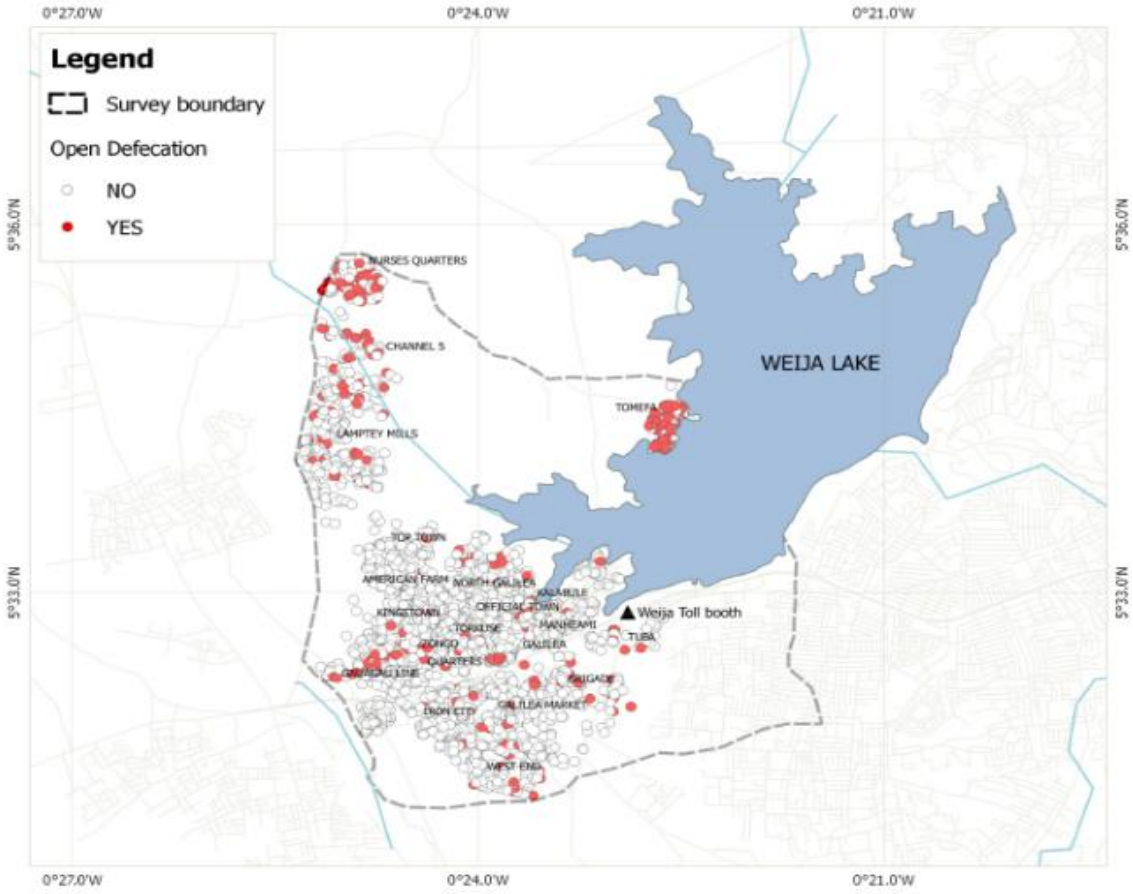

Figure 4.2: Open-defecation profile map of Ngleshie Amanfro

4.3 Household Toilet Types

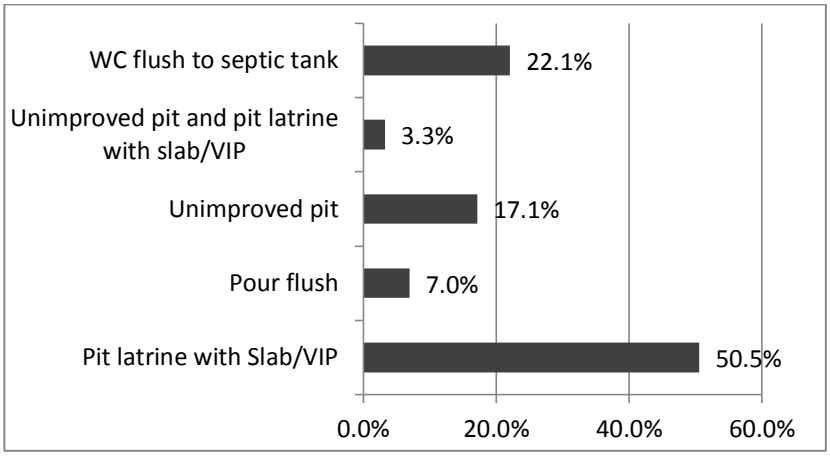

Figure 4.3: Household toilet facility types

Figure 4.3 above shows the types of household toilet facilities. Half (50.5%) of the households with toilet facilities in Ngleshie Amanfro use Pit latrine with slab/VIP. 22.1% of the households use WC toilet (connected to septic tanks) higher than the national average of 15.4%. Unimproved pit latrines use is still high at 17.1%.

4.4 Household Toilet Ownership

23.51% of the households have toilets exclusively used by their members-see Table 4.2 below. This percentage is significantly higher than the national average of 16.9%. Out of the 23.5% of households with dedicated household toilets; 18.52% are found within compound houses; 30.33% are in detached houses and 33.05% are in semi-detached structures. The rest (9.75%) of the household toilets are found in temporary structures such as kiosks, containers, etc. (see Table 4.3 below).

Table 4.2: Household toilet ownership

DOES THE HH HAVE ITS OWN DEDICATED TOILET	No. OF HH	PERCENTAGE
No	2994	76.49%
Yes	920	23.51%
Total	3914	100.00%

Table 4.3: Households having their own dedicated toilets by house type

	HOUSEHOLD HAVING THEIR OWN DEDICATED TOILET		
TYPE OF HOUSE	**NO**	**YES**	**TOTAL**
Compound house	81.48%	18.52%	100.00%
Detached	69.67%	30.33%	100.00%
Semi detached	66.95%	33.05%	100.00%
Temporary structure	90.27%	9.73%	100.00%

4.5 Public Toilet Usage

27% of the households (lower than the national average of 30%) use public toilets (either exclusively or in combination with other means of disposing of human faeces) as shown in Table 4.4 below. Public toilet usage is more prominent among occupants of temporary structures e.g. kiosks, containers etc. (i.e. at 38.94% of these use public toilets). See Table 4.5 below.

The community currently has four (4) functional public toilet facility owned by the MA. Two (2) of the facilities are however in deplorable states. Most of the over 20 toilets open to public-use in the community are privately owned. It was also observed in the community that, private household latrines are in some cases open to the general public at a fee. Images of some of the public toilets are shown in plates 4.2-4.5 below.

Table 4.4: Public toilet usage

PUBLIC TOILET	No. OF HH	PERCENTAGE
No	2861	73.10%
Yes	1053	26.90%
Total	3914	100.00%

Table 4.5: Public toilet usage by house type

	USE OF PUBLIC TOILET		
TYPE OF HOUSE	**NO**	**YES**	**TOTAL**
Compound house	70.81%	29.19%	100.00%
Detached	79.51%	20.49%	100.00%
Semi detached	74.48%	25.52%	100.00%
Temporary structure	61.06%	38.94%	100.00%

Plate 4.2:20-Seater WC/Pour flush public toilet at Amanfro (Commissioned in March 2015)

External view showing one (1000L) of the three water storage tanks available

Urinals and handwashing facilities available but not in use due to defective mechanized borehole water supply system

Water for flushing is provided in a drum from which facilities fetch water from using gallons in view

Plate 4.3: 26-seater WC/pour flush public toilet at Galilea Market

External and internal view of the toilet facility

Squat basin/pan with Terrazzo floor finishing

Septic tank with vent pipes

Plate 4.4: 20-seater WC/pour flush public toilet at Amanfro Zongo

External and internal view of the toilet facility

Soiled tiled floor around squat basin/pan with

Exposed septic tank—has only a roofing sheet cover

Plate 4.5: Dilapidated 8-seater VIP toilet at Manheami

External view of the toilet facility showing damaged external wall

Floor soiled with faeces

Damaged drops holes with reinforcement in concrete slab exposed

Vent pipes of the facility

4.6 Solid Waste Management

4.6.1 Household Solid Waste Storage Receptacles

Bins (32.8%), sacks (24.2%) and polythene bags (19%) are the predominantly used household waste storage receptacles. A significant percentage (15.2%) of the households also indicated use of other storage receptacles including boxes, buckets and basins. Households that use both sacks and polythene bags accounted for 6%. See Figure 4.4 below.

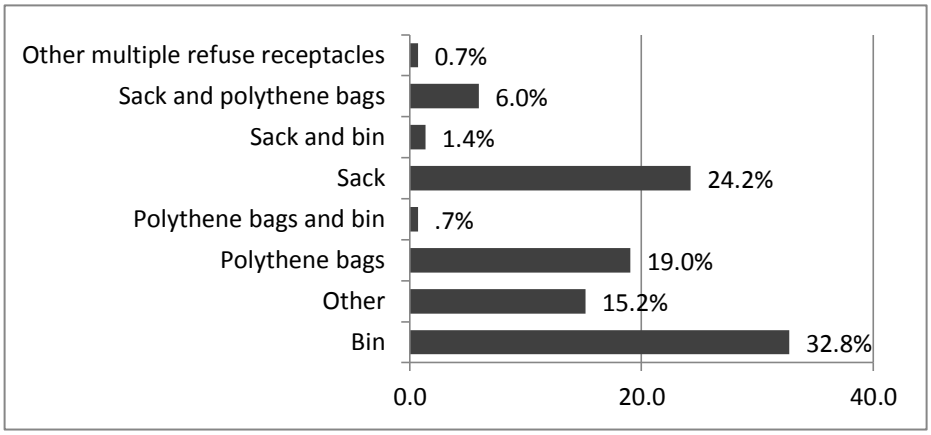

Figure 4.4: Waste storage containers

Further analysis (disaggregation) of household waste storage receptacles by type of house revealed similar trends as with the general community (refer to Figure 4.4 above) among compound, detached and semi-detached house types. However, in the case of temporary structures (e.g. kiosks, containers, etc.), there was a significant decrease in the use of bins compared with general community rate (i.e. from 32.8% to 14.2%-see Figures 4.5a-4.5d below). The decrease could be attributed to the fact most of these structures have been illegally sited and easily relocate. They are therefore unlikely to benefit from the MA's subsidized bin provision exercise. Furthermore occupants of such structures are unable to afford the refuse collection fees.

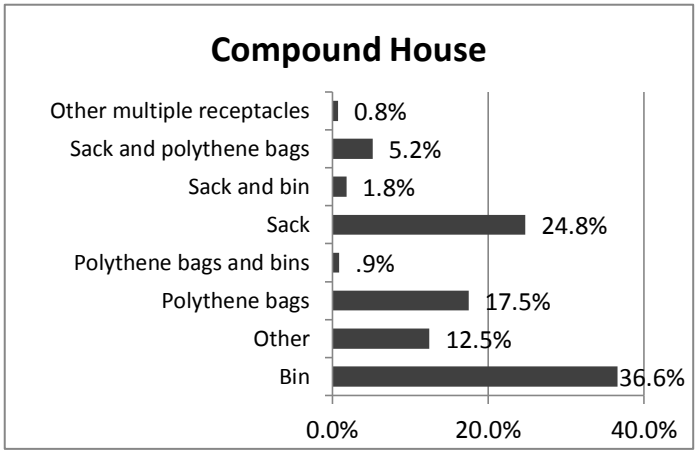

Figure 4.5a: Household solid waste storage receptacles in compound houses

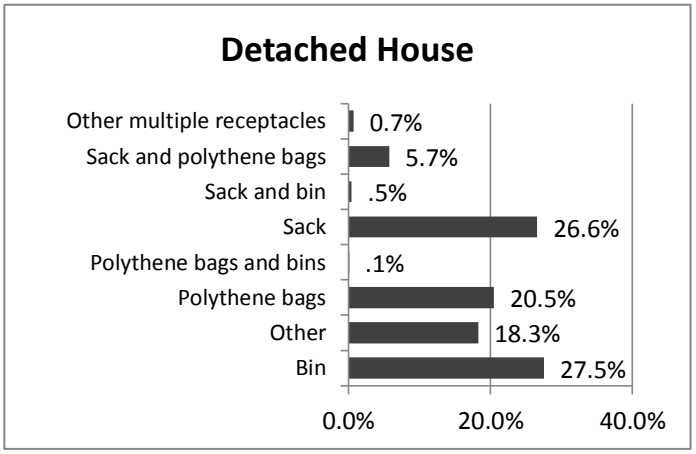

Figure 4.5b: Household solid waste storage receptacles in detached houses

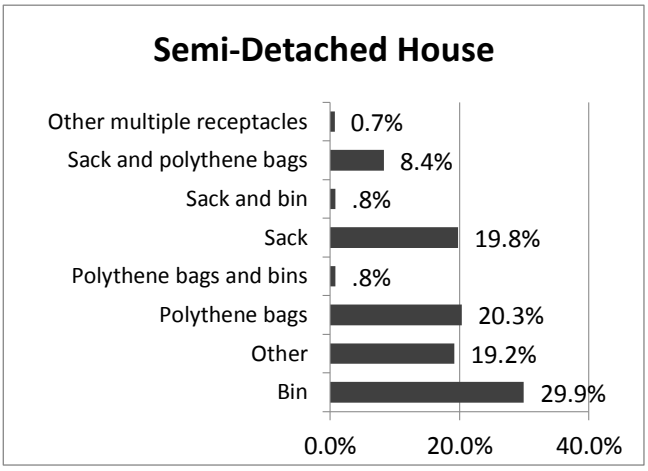

Figure 4.5c: Household solid waste storage receptacles in semi-detached houses

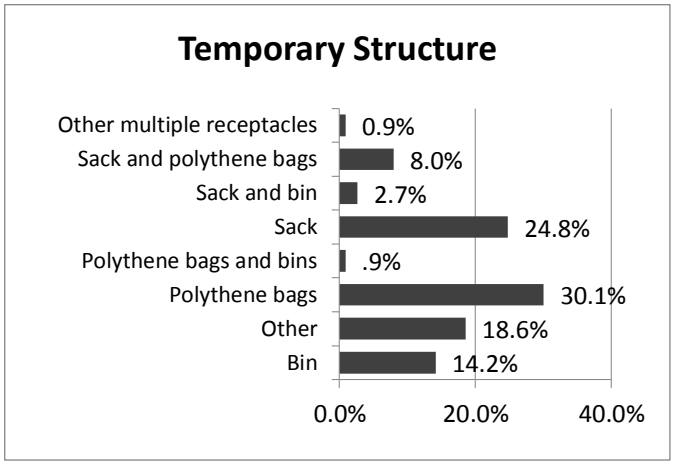

Figure 4.5d: Household solid waste storage receptacles in temporary structures

4.6.2 Method of Waste Disposal

As shown in Figure 4.6 below, door-to-door waste collection alone accounts for 43.6% of household waste disposal methods. The service is provided by private waste collection service providers under franchise license agreement with the Municipal Assembly (MA) and private individuals using tricycles ('Borla Taxis'). The 43.6% coverage is significantly lower than the regional average of 48.5%. 30% of the residents also indicated the use of domestic trenches while only 6.6% indicated the use of communal containers located at designated points by the MA (see plates 4.6 and 4.7 below). The refuse disposed in the domestic trenches are often burnt after some days of piling up. Disposal at open-dumps (often crude dumpsites within the community) accounted for 6.5% of the responses (see plates 4.8 and 4.9 below).

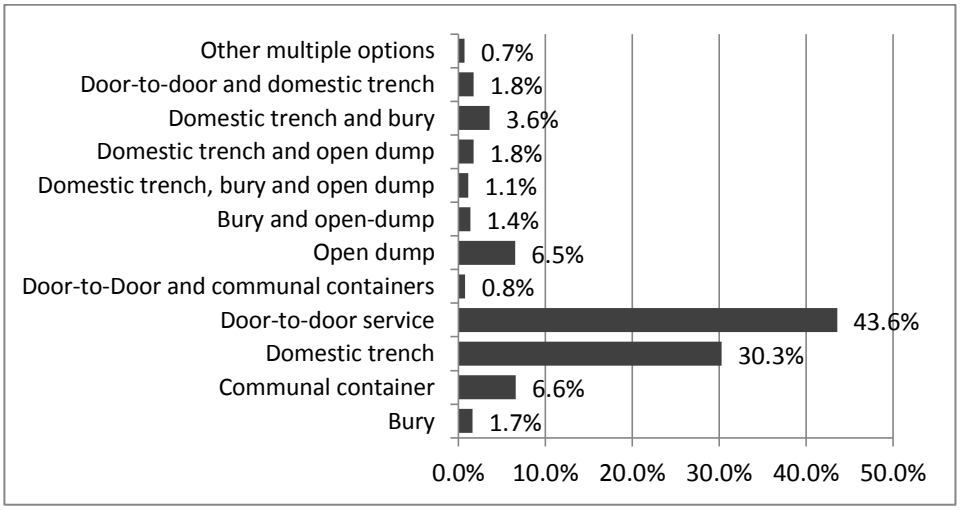

Figure 4.6: Waste disposal methods

Plate 4.6: Communal container at Manheami

Plate 4.7: Communal container at Amanfro sanitary site (close to taxi rank)

Plate 4.8: Crude dumping and burning of waste at Galilea Market area

Plate 4.9: Crude dumping and burning of waste at Amanfro Zongo area

As shown in Figures 4.7a and 4.7c below, door to door collection (by refuse collection trucks and tricycles) are the most prominent waste collection method for compound and semi-detached residences (i.e. 50.1% and 39.4% respectively). Significantly different from the overall community trend, disposal of refuse into domestic trenches is the most prominent in semi-detached and temporary (kiosks, containers, etc.) residences. As may be envisaged, about half (49.6%) of residents in temporary structures dispose of refuse into domestic trenches (see Figure 4.7d). Use of communal containers is less 10% in all cases whereas disposal of refuse at open dumps ranged from 5.6% (detached residents) to 10.1% (temporal residents).

The use of open-dumps is more prominent in temporary structures (10.1%), followed by compound houses (6.9%), semi-detached houses (5.8%) and detached houses (5.6%) (see Figures 4.7a-4.7d).

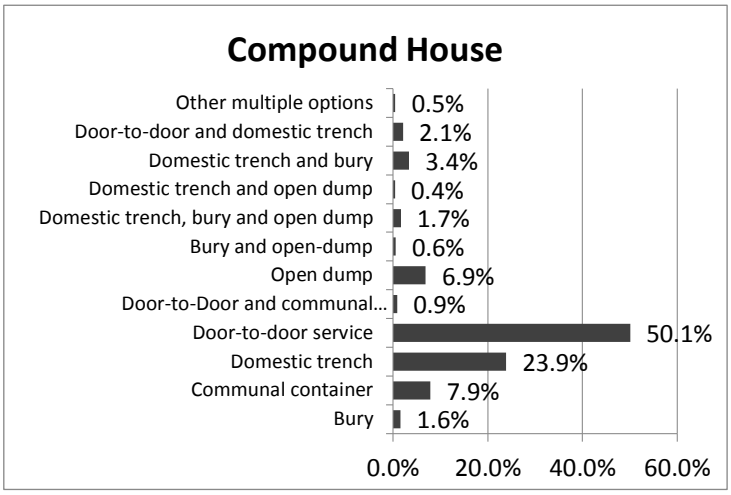

Figure 4.7a: Solid waste disposal methods in compound houses

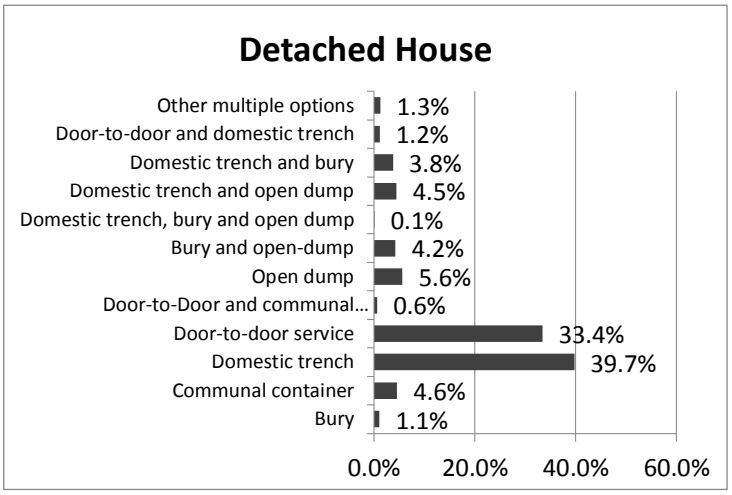

Figure 4.7b: Solid waste disposal methods in detached houses

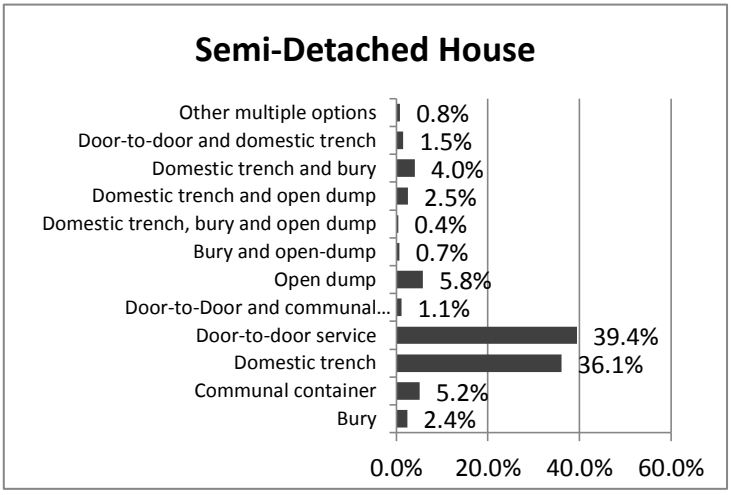

Figure 4.7c: Solid waste disposal methods in semi-detached houses

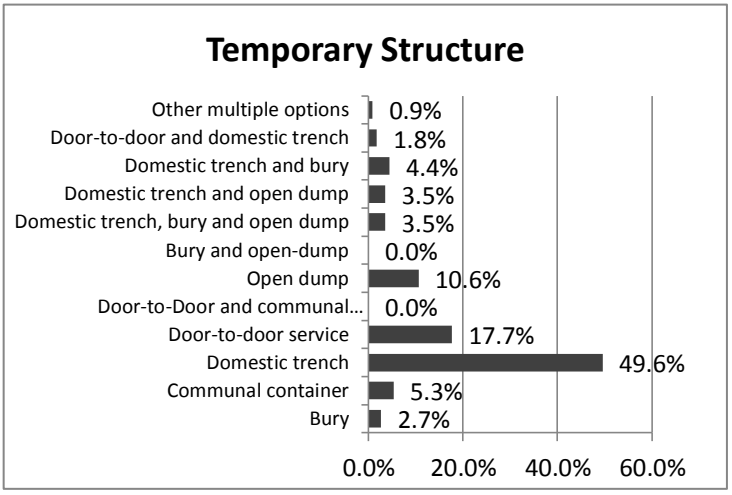

Figure 4.7d: Solid waste disposal methods in temporary structures

4.6.3 Frequency of Solid Waste Collection

Once a week collection by a Borla Taxi or licensed service provider is the highest (74.79%). The 14.25% who have twice a week collection is predominant with compound houses because of rate of solid waste generation. See Table 4.6 below.

Table 4.6: Service frequency

SERVICE FREQUENCY	No. OF HH	PERCENTAGE
Once a month	118	6.49%
Once a week	1359	74.79%
Once fortnightly	81	4.46%
Twice a week	259	14.25%
Total	1817	100.00%

4.6.4 Waste Collection Service Satisfaction

56.9% of the households engaged in door-to-door refuse collection indicated satisfaction with the services from the providers while 15.58% of households indicated not satisfied with the service. 22.67% remained neutral.

Table 4.7: Performance rating of service contractor

PERFORMANCE RATING OF SERVICE CONTRACTOR	No. OF HH	PERCENTAGE
Neutral	412	22.67%
Satisfactory	1034	56.91%
Unsatisfactory	283	15.58%
Very satisfactory	50	2.75%
Very unsatisfactory	38	2.09%
Total	1817	100.00%

4.6.5 Household Waste Separation

Only 8% of households practiced waste segregation (see Table 4.8 below). Of the 8% representing 314 households, 15.29% indicated selling the valued waste while the remaining 84.71% (see Table 4.9 below) segregate for purposes such as farming and composting for gardening.

Table 4.8: Waste Segregation

SOURCE SEPARATION OF WASTE	No. OF HH	PERCENTAGE
No	3600	91.98%
Yes	314	8.02%
Total	3914	100.00%

Table 4.9: Sale of recyclables and other use

SALE OF RECYCLABLES	No. OF HH	PERCENTAGE
No	266	84.71%
Yes	48	15.29%
Total	314	100.00%

4.7 Liquid Waste Management

4.7.1 Black water

With regard to disposal of faecal sludge, 47.17% of the respondents with dedicated household toilets indicated they rely of cesspool emptier services while 14.67% indicated use of manual desludging methods. The manual service providers often provide service to households that use dry on-site facilities such as KVIP, VIP or pit latrines. A third (316 households) of the respondents indicated they have never desludged their toilet before.

Table 4.10: Method of desludging

METHOD OF DESLUDGING OF HOUSEHOLD TOILET	No. OF HH	PERCENTAGE
Cesspool equipment	434	47.17%
Manual	135	14.67%
Never desludged	316	34.35%
No toilet	35	3.80%
Total	920	100.00%

44.13% of households who engage the services of cesspool emptiers rated their service as good. Half (50.22%) of the service beneficiaries however remained neutral. Only 6% rate their services as poor.

Table 4.11: Performance rating of cesspool emptier services

PERFORMANCE RATING OF CESSPOOL EMPTIER SERVICES	No. OF HH	PERCENTAGE
Good	374	40.65%
Neutral	462	50.22%
Poor	33	3.59%
Very good	32	3.48%
Very poor	19	2.07%
Total	920	100.00%

4.7.2 Grey water

Kitchen Wastewater Disposal Methods

As shown in Figure 4.8 below, 86.3% of the households dispose of the kitchen wastewater on the bare ground which is markedly higher than the national rate of 35.2%. The community does not have any effective drainage system and therefore encourages throwing kitchen wastewater in the open. Only 5.3% and 1.1% of households dispose of wastewater from kitchen into soak pits and trenches respectively. 5.3% also dispose of kitchen wastewater into nearby gutter or drain (mostly earth drains). Some of the few concrete drains were choked will solid waste (see plate 4.10 below). Households who indicate using multiple means of disposal (mainly both on bare ground and into open drains) constituted 2%.

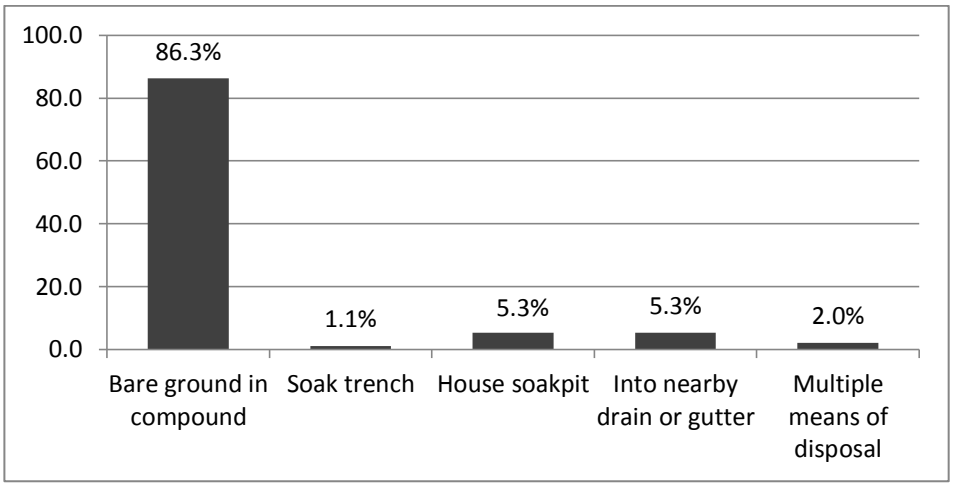

Figure 4.8: Kitchen wastewater disposal methods

Plate 4.10: Disposal of sullage into earth drains and existing concrete drains filled with solid waste

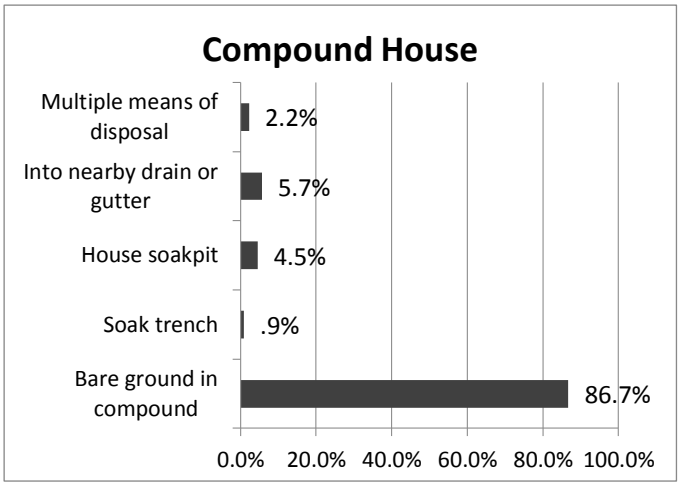

Figure 4.9a: Kitchen wastewater disposal methods in compound houses

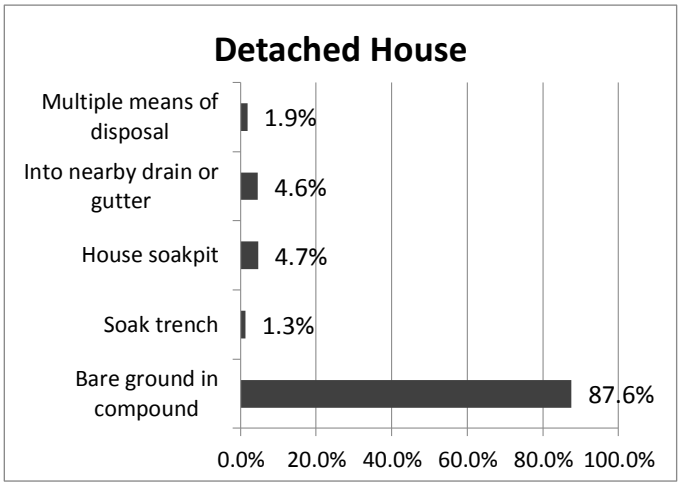

Figure 4.9b: Kitchen wastewater disposal methods in detached houses

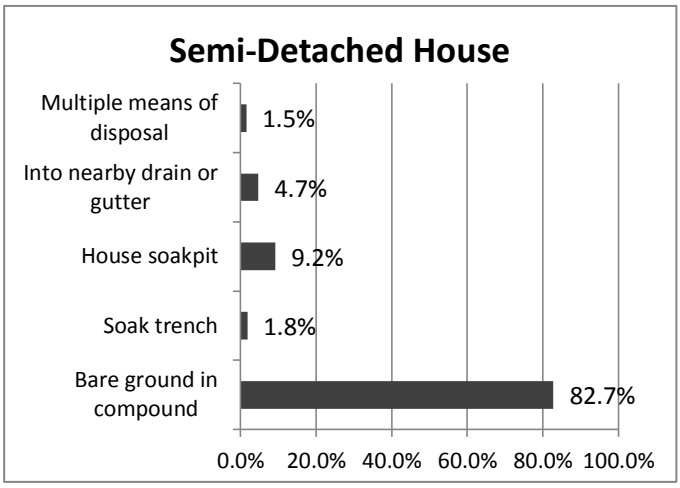

Figure 4.9c: Kitchen wastewater disposal methods in semi-detached houses

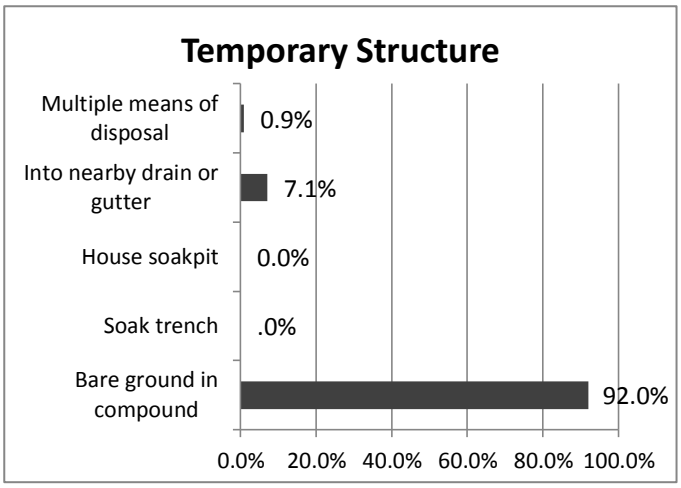

Figure 4.9d: Kitchen wastewater disposal methods in temporary structures

A further disaggregation of kitchen wastewater disposal methods by type of house did not show any significant difference. Over 80% of the households in all the house types being analysed indicated they dispose of the wastewater into bare ground. Residents in temporary structures recorded the highest rate of 92% (see Figures 4.9a-4.9d above)

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Bathroom Wastewater Disposal Methods

Direct disposal to floor (35.3%), gallon to floor (28.5%) and soakpit (14.8%) account for the top three methods for disposal of bathroom wastewater. The use of gallons and buckets as the primary receptacle for collection bathroom wastewater is quite prominent in the community (see plate 4.11 below). At least 33.1% indicate the use of gallon for collecting the bathroom wastewater prior to disposal in gutter or floor. Households who channeled bathroom water directly into gutter (mostly earth-drains) accounted for 5.7% of the respondents (see Figure 4.10 below).

Plate 4.11: Use of gallons and buckets as bathroom wastewater collection containers

The community is sparsely populated and hence the vast land space may be an incentive for disposing of bathroom wastewater to floor (about 75% of wastewater end up on the floor).

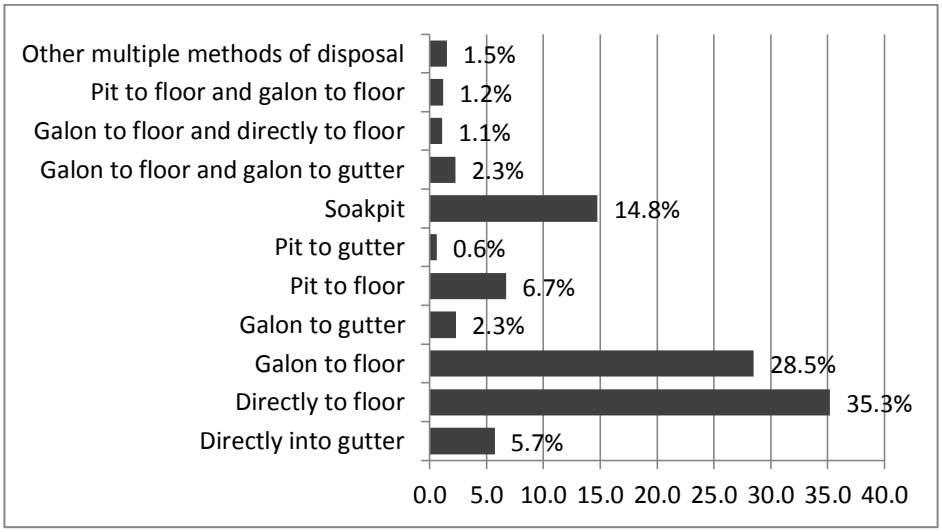

Figure 4.10: Bathroom wastewater disposal methods

As shown in Figures 4.11a-4.11d below, direct disposal to floor, gallon to floor and soak pit still remained the top three methods for disposal of bathroom wastewater for households in compound, detached and semi-detached houses.

A significant difference is observed in the case of temporary structures as about 61% of the occupants indicated directly disposing of the wastewater on to the floor as compared with the community's general rate of 35.3% (refer to Figure 4.10 above).

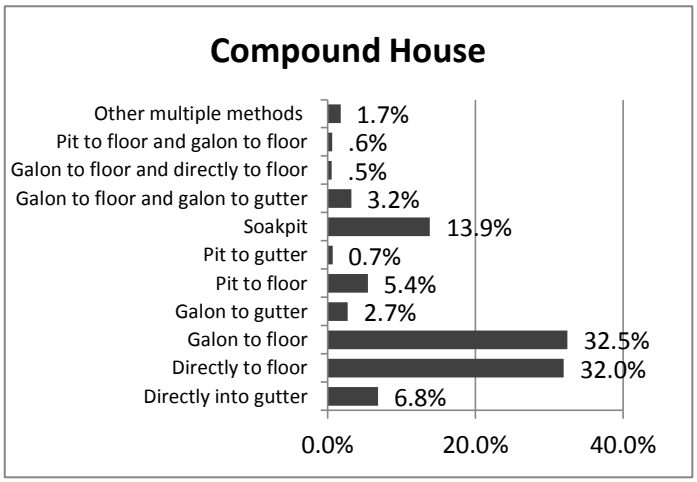

Figure 4.11a: Bathroom wastewater disposal methods in compound houses

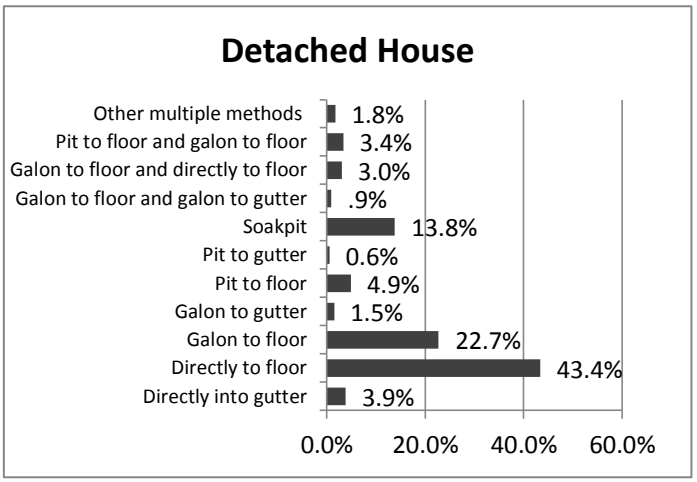

Figure 4.11b: Bathroom wastewater disposal methods in detached houses

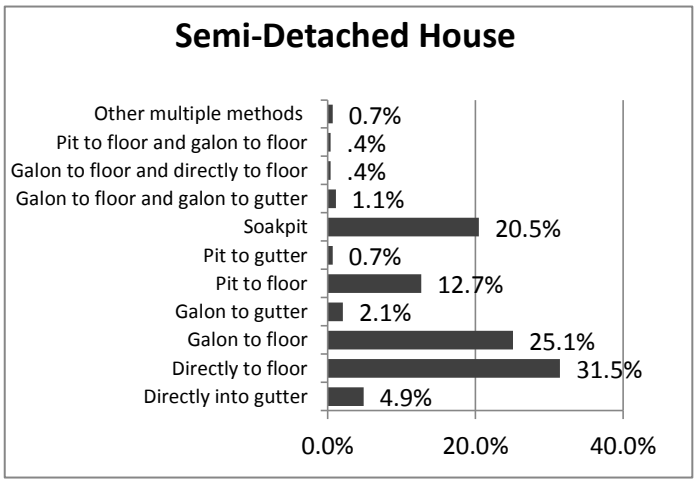

Figure 4.11c: Bathroom wastewater disposal methods in semi-detached houses

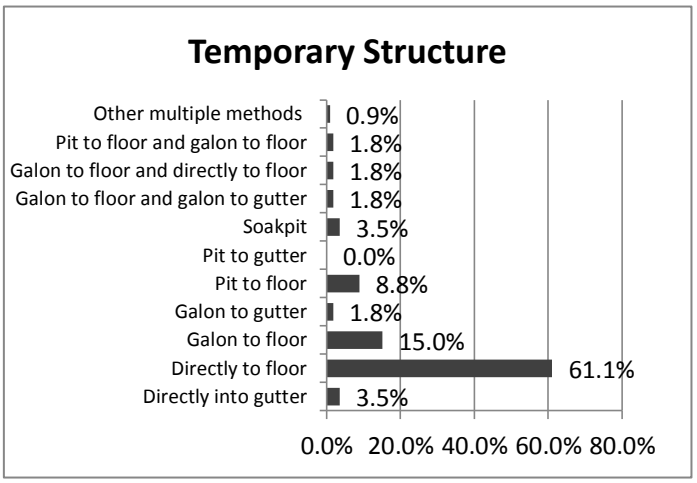

Figure 4.11d: Bathroom wastewater disposal methods in temporary structures

5. Water Supply and Use

Piped water from GWCL and Safe Water network (a Non-Governmental Organisation-see plate 5.1 below) are the major water supply service providers in the community. 50.8% of the households however indicated the use of water from GWCL. The NGO has about four (4) water vending/draw off points in the community. Raw water for the facility is abstracted from the Densu River.

Plate 5.1: Safe Water Network Treatment Plant in Ngleshie Amanfro

5.1 Source of Water

5.1.1 Drinking

Table 5.1 below shows that about half (46.4%) of households have exclusive source of water for drinking. 53.6% of the households use the same water source for drinking water and other domestic uses such as cooking, bathing, cleaning and personal hygiene.

Table 5.1: Source of water for drinking is also used for other purposes

WATER SOURCE FOR DRINKING IS DIFFERENT THAN THAT FOR OTHER USES	No. OF HH	PERCENTAGE
No	2098	53.60%
Yes	1816	46.40%
Total	3914	100.00

Among the drinking water sources, sachet water is the main source (80.89%). Some of the suburbs within the community are new developing areas and yet to be connected to GWCL pipe water network. 11.78% households rely on the GWCL supplied public stand pipe. Majority of the public water vending points are privately owned (see plate 5.2 below) 3% of the households source their drinking water from GWCL in-house connection significantly lower than that of the regional average of 64.4%. 12 households representing 0.66% depend on river/stream as source of drinking water (see Table 5.2 below).

Table 5.2: Main source of water for drinking

MAIN SOURCE OF WATER FOR DRINKING	No. OF HH	PERCENTAGE
Community tap	18	0.99%
Dugout/dam	1	0.06%
GWCL source in-house	53	2.92%
GWCL source public standpipe	214	11.78%
Other	11	0.61%
Rain harvested	8	0.44%
River/stream	12	0.66%
Sachet water	1469	80.89%
Tanker supply	9	0.50%
Well in house	5	0.28%
Well outside house	16	0.88%
Total	1816	100.00%

Plate 5.2: Privately owned water vending points at Chinese/New Mataheko and Amanfro Zongo respectively

5.1.2 Cooking

As shown in Table 5.3, more than half (53.3%) of households get their water for cooking from the GWCL-source public stand pipe. Sachet water use for cooking is 2.75% because it is very expensive (about 150 times more expensive than pipe-borne water). Few households (2.48%) use rain harvested water for cooking. More than 1 out of 20 households use water from rivers/streams for cooking.

Table 5.3: Main source of water for cooking

MAIN SOURCE OF WATER FOR COOKING	No. OF HH	PERCENTAGE
Community borehole	8	0.44%
Community tap	46	2.53%
Dugout/dam	10	0.55%
GWCL source in-house	209	11.51%
GWCL source public standpipe	968	53.30%
Other	64	3.52%
Rain harvested	45	2.48%
River/stream	121	6.66%
Sachet water	50	2.75%
Tanker supply	158	8.70%
Well in house	52	2.86%
Well outside house	85	4.68%
Total	1816	100.00%

5.1.3 General uses

Table 5.4 below shows that more than 50% (7.14% and 44.61%) of households (in-house and public stand pipe respectively) depend on GWCL pipe water supply for general uses such as cleaning and personal hygiene. 8.53% of the households rely on tanker services for water for use.

Table 5.4: Main source of water for general use

MAIN SOURCE OF WATER FOR GENERAL PURPOSES	No. OF HH	PERCENTAGE
Community borehole	3	0.60%
Community tap	15	2.98%
Dugout/dam	3	0.60%
GWCL source in-house	36	7.14%
GWCL source public standpipe	225	44.64%
Other	10	1.98%
Rain harvested	19	3.77%
River/stream	31	6.15%

MAIN SOURCE OF WATER FOR GENERAL PURPOSES	No. OF HH	PERCENTAGE
Sachet water	5	0.99%
Tanker supply	43	8.53%
Well in house	41	8.13%
Well outside house	73	14.48%
Total	504	100.00%

5.2 Water Storage

5.2.1 Drinking

Small containers/jerry cans and bucket/pans are the most common facilities water storage in the community. Together they account for 68.1% of the respondents. The stored water often lasts for week. 7% had water tanks in their houses while only 1% had roof tanks (see Figure 5.1 below). Households without any drinking water facility of whom majority rely on sachet water accounted for 16.2%.

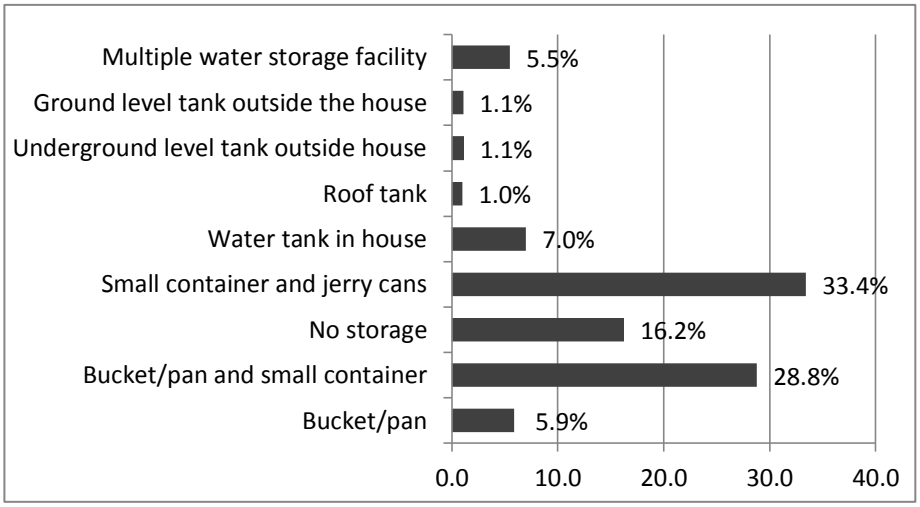

Figure 5.1: Methods of drinking water storage

5.2.2 Cooking

The cooking water storage trend is similar to that for bathing, 81.2% of the households use small container /jerry cans and buckets/pans for storage of cooking water (see Figure 5.2 below).
Some also indicated using multiple storage options and these accounted for 4.9% of the households. 9.2% have water tanks while 1.9% indicated not storing water cooking.

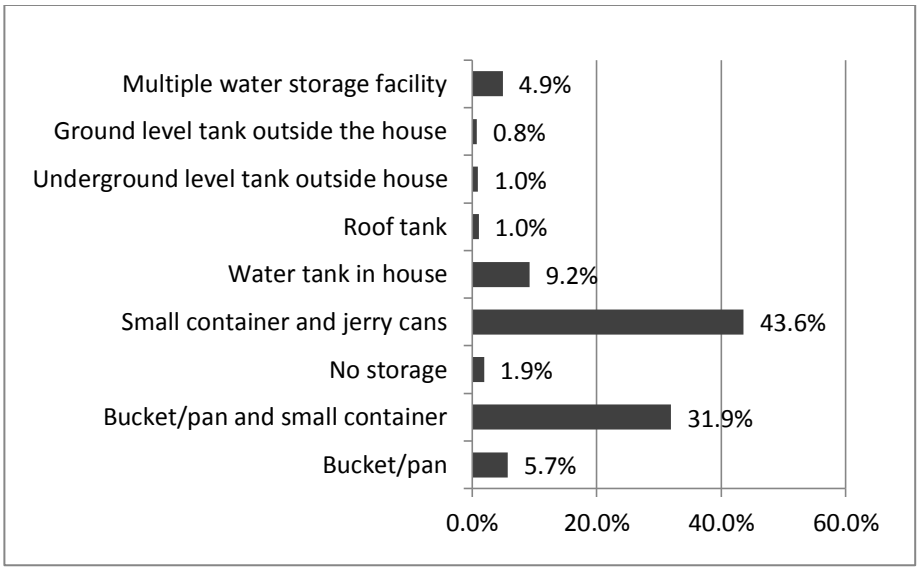

Figure 5.2: Methods of cooking water storage

5.2.3 General use

69.2% indicated storing water for general use in small containers/ jerry cans and buckets/pans following similar trends as for drinking water and water for cooking. 1.8 % use overhead storage (roof) tanks and 10.2% have water storage tanks. See Figure 5.3 below.

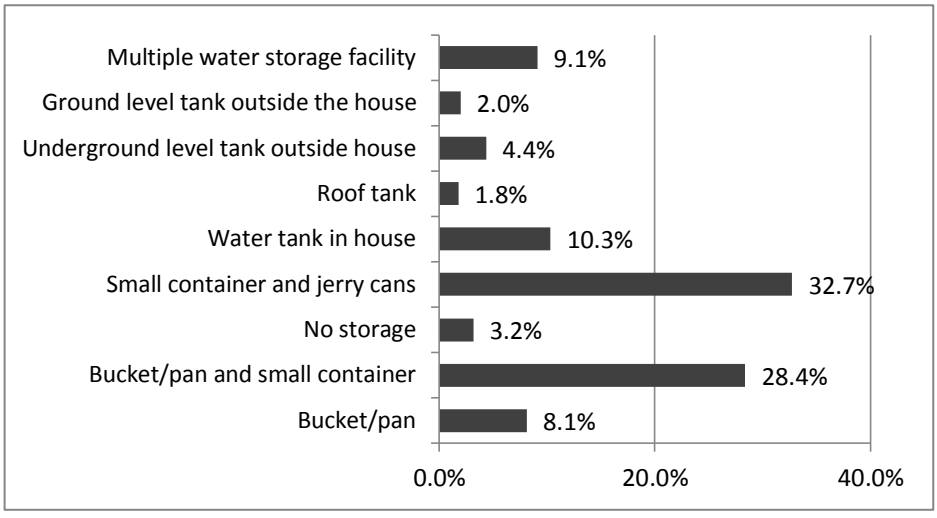

Figure 5.3: Method of water storage for general use

5.3 Regularity and Reliability of Water Supply

26.64% of the households who have access to the pipe borne water receive water once in a month. Only 9.01% of households have continuous supply of water. 2-4 times a week supply is the most predominant in the community as shown in Table 5.5 below.

Table 5.5: Frequency of water supply from GWCL

FREQUENCY OF GWCL SUPPLY	No. OF HH	PERCENTAGE
2 to 4 times a week	633	31.87%
Continuous (never ceases)	179	9.01%
Once a week	409	20.59%
Once in 2 weeks	236	11.88%
Once in a month	529	26.64%
Total	1986	100.00%

More than 5 hours in a day flow is reported by 57.5% of the households (see Table 5.6 below). 13.8% indicated continuous flow of water in the day. Supply within the day is usually in the mornings and evenings as indicated by 44% of the households that use GWCL water supply (see Table 5.7 below).

Table 5.6: Duration of supply from GWCL

DURATION OF CONTINOUS GWCL WATER SUPPLY	No. OF HH	PERCENTAGE
2 to 5 hours	481	24.22%
Continuous (never ceases)	274	13.80%
Less than 2 hours	89	4.48%
More than 5 hours	1142	57.50%
Total	1986	100.00%

Table 5.7: Duration of supply from GWCL

TIME OF DAY FOR GWCL WATER FLOW	No. OF HH	PERCENTAGE
All day	496	25.00%
All night	40	2.00%
Evenings only	318	16.00%
Morning and evening	874	44.00%
Mornings only	258	13.00%
Total	1986	100.00%

5.4 Cost of Water and Billing

A household spends on the average GHC 3.42 on pay-as-you-fetch basis. On a weekly basis, approximately GHC11.29 is spent on water by households. On a monthly basis, households within the community spend a little over GHC 51.55 on water as shown in the Table 5.8 below.

Table 5.8: Average household expenditure (GHC) on water

PAYMENT MODE	MEAN	STANDARD DEVIATION	RANGE
Monthly	51.55	60.22	0 - 150
Every 2 weeks	15.28	9.59	0 - 30
Every week	11.29	7.54	0 - 28
Pay as you fetch	3.42	4.09	0 - 12

5.5 Service Quality (reliability, water quality and customer service)

About half (50.7%) of the total households have access to GWCL water supply (see Table 5.9). The top two reasons indicated by households without access to GWCL water supply indicated in Table 5.10 below are high connection cost (46%) and unavailability of immediate pipelines from GWCL (30%).

Table 5.9: Use of GWCL water connection

USE OF GWCL WATER CONNECTION	No. OF HH	PERCENTAGE
No	1928	49.26%
Yes	1986	50.74%
Total	3914	100.00%

Table 5.10: Reasons for non-connection to GWCL water supply network

REASON FOR NOT USING GWCL WATER CONNECTION	No. OF HH	PERCENTAGE
High connection cost	887	46.01%
Irregular supply of water by GWCL	168	8.71%
Other	263	13.64%
Problems with sharing bills	26	1.35%
Unavailability of GWCL connections in community	584	30.29%
Total	1928	100.00%

With regard to convenience of time of GWCL water supply, almost two-thirds (62.84%) of the households are not satisfied with the supply time.

Table 5.11: Convenience of supply time from GWCL

CONVENIENCE OF GWCL SUPPLY TIME	FREQUENCY	PERCENT
No	1248	62.84%
Yes	738	37.16%
Total	1986	100.00%

6. Knowledge, Attitude and Practice

6.1 Handwashing

96.22% of the respond indicated handwashing as a practice. 75% of the respondents who have in-house toilets have handwashing facility provided. 60.67% of the respondents who use public toilets indicated the availability of hand washing facilities (see plate 6.1). See Tables 6.1-6.3 respectively.

Table 6.1: Practice of handwashing by respondents

PRACTICE OF HANDWASHING BY RESPONDENT	FREQUENCY	PERCENT
No	148	3.78%
Yes	3766	96.22%
Total	3914	100.00%

Table 6.2: Availability of handwashing facility at toilet used by household

AVAILABILITY OF HANDWASHING FACILITY AT TOILET USED BY HOUSEHOLD	FREQUENCY	PERCENT
No	2936	75.01%
Yes	978	24.99%
Total	3914	100.00%

Table 6.3: Provision of water for handwashing at public toilet – locality

WATER FOR WASHING HANDS IS PROVIDED AT PUBLIC TOILET	FREQUENCY	PERCENT
No	402	39.33%
Yes	620	60.67%
Total	1022	100.00%

Plate 6.1: Hand-washing facilities provided at some public toilets

In assessing the methods of handwashing, respondents were asked which the following methods are used:

- In bowl of water with soap
- In a bowl of water without soap
- Under running water with soap
- Under running water without soap

The results are presented in Table 6.4 below

Those who washed their hands under running water with soap always (i.e. the recommended way) constituted 9.3% of the respondents. The most prominent practice as presented in the table is washing of hands in a bowl of water with soap (54.7%). Those who indicated practicing all the methods presented accounted for 2.6% of the respondents.

Table 6.4: Method of handwashing

In bowl of water with soap	**In a bowl of water without soap**	**Under running water with soap**	**Under running water without soap**	**% of Households**
√				54.7%
	√			8.2%
√	√			9.0%
√		√		12.0%
√			√	1.3%
√	√	√		1.1%
√	√		√	0.0%
√	√	√	√	2.6%
√		√	√	0.2%
	√	√		0.3%
	√	√	√	0.1%
		√		**9.3%**
	√		√	0.2%
			√	0.8%
		√	√	0.3%

In investigating the frequency of handwashing or the occasions that respondents wash their hands, the following occasions for handwashing were presented respondents to choose from;

- Before eating
- After use of toilet
- After cleaning a child (anal cleansing)
- Before food preparation
- Before feeding a child
- After handling a sick person
- After return from a social gathering

Figure 6.1 below presents the main occasions for handwashing based on the analysis of responses obtained. Handwashing before eating and use of toilet was the most common (29.0%) followed by handwashing before eating, after use of toilet and before food preparation (16.9%). Only 8.3% indicated washing their hands at all the occasions presented.

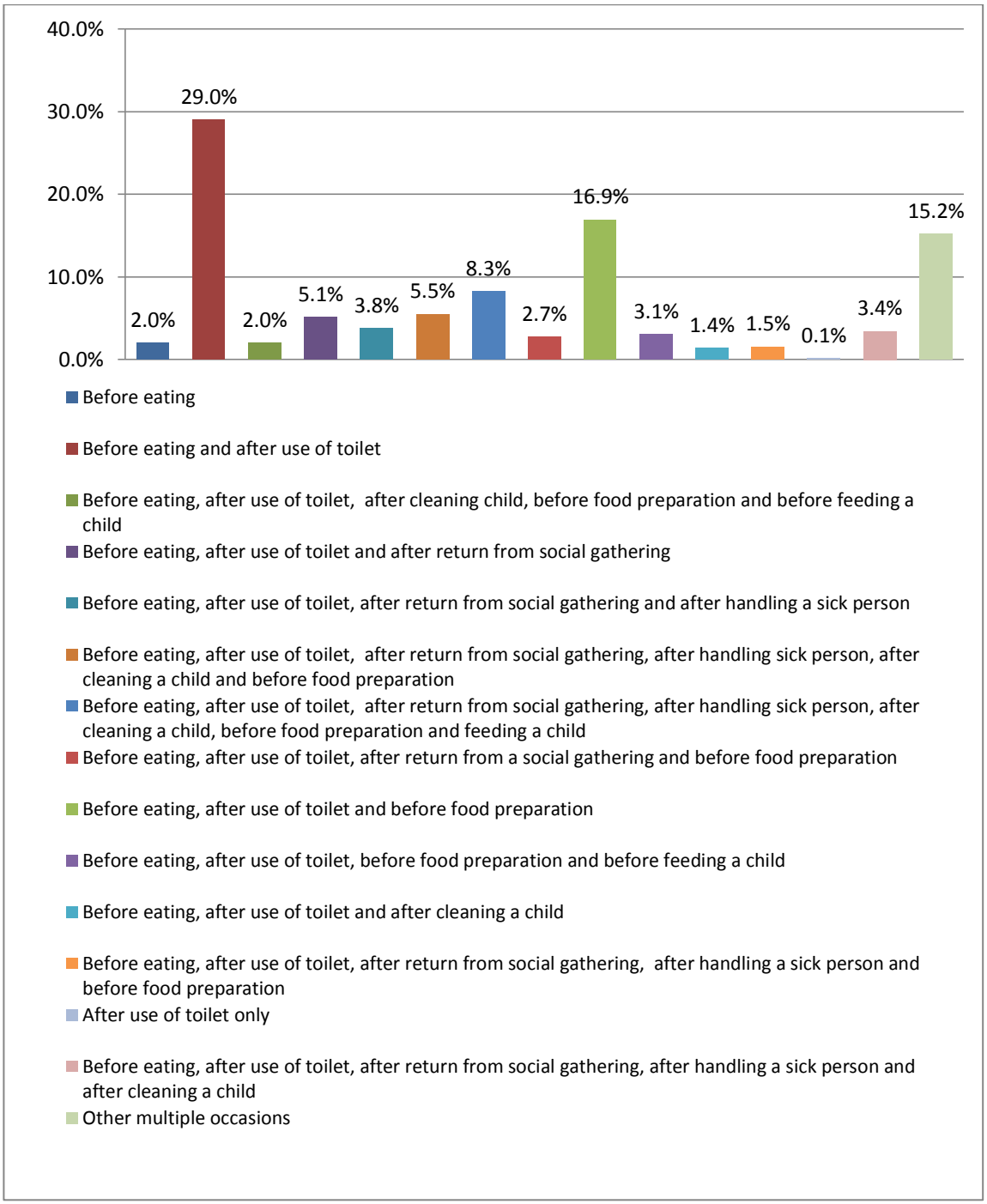

Figure 6.1: Frequency of handwashing

46.6% of the respondents indicated the main motivation for handwashing was to keep hands clean and prevent faeco-oral diseases. 21.4% indicated washing their hands to essentially keep them clean while 8.7% of the respondents washed their hands for the sole purpose of preventing faeco-oral diseases. Only 2.1% indicated handwashing as solely a norm. 3.3% also indicated they are motivated to wash their hands for the purposes of it being a norm, cultural value, to keep hands clean and prevent faeco-oral diseases. See Figure 6.2 below

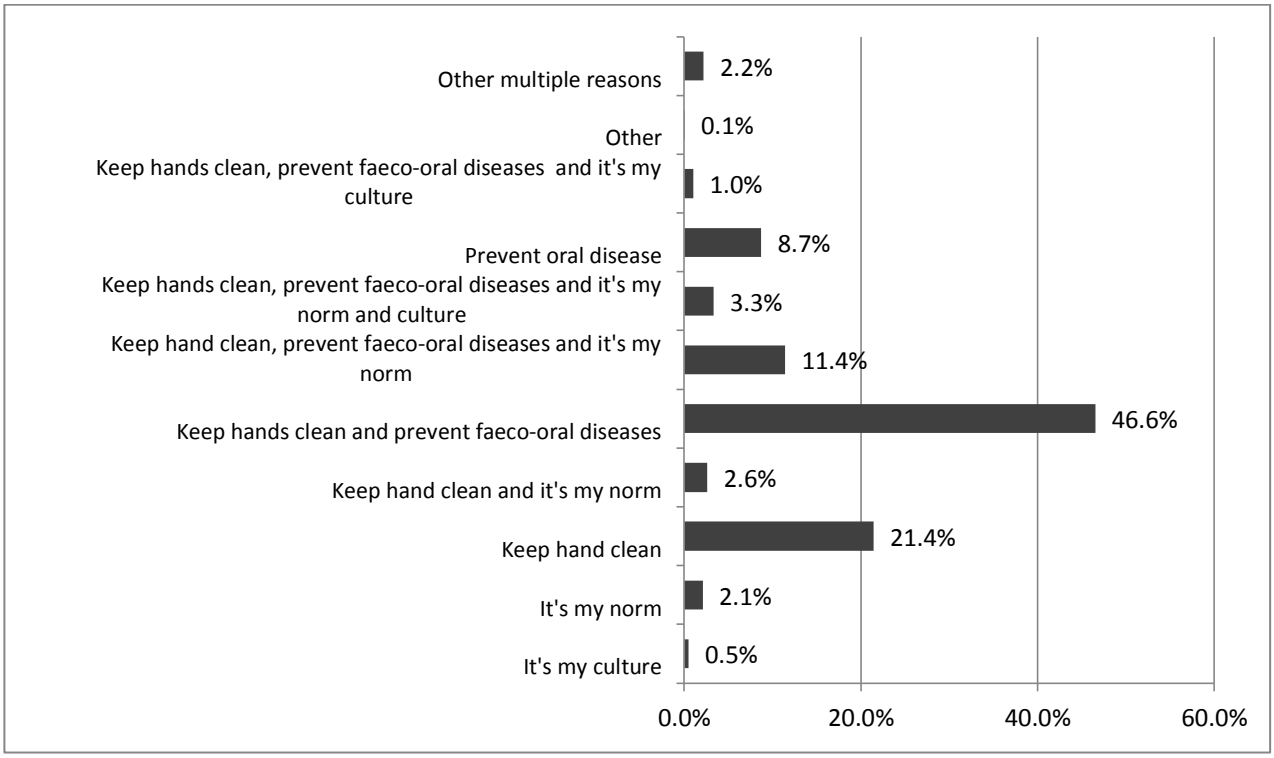

Figure 6.2: Motivation for handwashing

82.8% of the respondents indicate taking their bath both mornings and evenings (see Table 6.5 below). 51.35% of the respondents also indicated cleaning their teeth twice a day (morning and evening) whereas 33.3% clean their teeth only in the mornings (see Table 6.6 below). Brushing of teeth was the common method of cleaning teeth but some respondents (mostly elderly) indicated using chewing sticks or sponge as well.

Table 6.5: Frequency of bathing

HOW OFTEN DO TAKE YOUR BATH	No. OF HH	PERCENTAGE
Morning and evening	3240	82.8%
Once a day	300	7.7%
Once every evening	13	0.3%
Once every morning	361	9.2%
Total	3914	100.0%

Table 6.6: Frequency of cleaning teeth

FREQUENCY OF CLEANING TEETH	No. OF HH	PERCENTAGE
Morning and evening	2010	51.35%
No cleaning	1	0.03%
Once a day	594	15.17%
Once every evening	5	0.13%
Once every morning	1304	33.32%
Total	3914	100.00%

6.2 Willingness to Have Toilet

Interest in owning a household toilet is very high. 84.96% respondents are interested in owning toilets for their own use for reasons such as safety, convenience, social status (see Table 6.7 below). 45% of those who are not interested in owning a toilet attributed it to their tenancy status while 6.1% indicated no available space to site the facility. 3% attributed their lack of interest mainly to financial constraints (see Figure 6.3 below). Other reasons for lack of interest in ownership included mal-odour from some of the facilities, lack/unavailability of regular water supply and high maintenance cost. These reasons accounted for 10.5% of the respondents. From the responses, ability/willingness to pay does not signigicantly influence ownership of household toilet rather tenancy. A detailed household latrine affordability analysis based on household earnings on case by case basis will be required to translate the high willingness into actual demand for latrines during project implementation.

Table 6.7: Expression of interest in ownership of toilet

OWNERSHIP OF HOUSEHOLD TOILET	No. OF HH	PERCENTAGE
No	428	15.04%
Yes	2417	84.96%
Total	2845	100.00%

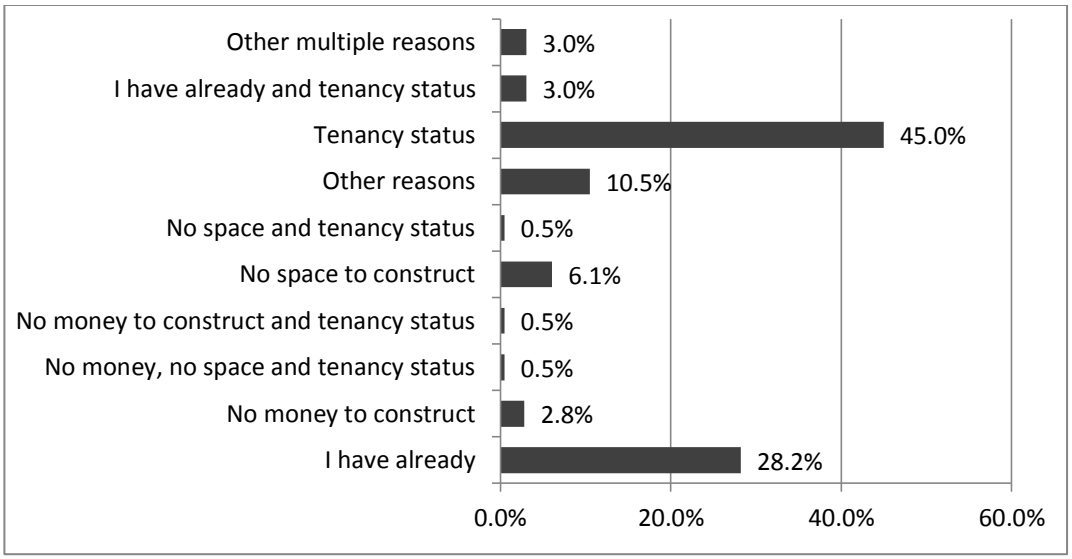

Figure 6.3: Reasons for lack of interest in ownership

6.3 Sanitation Related Diseases

86% of the respondents indicated Malaria as the predominant WASH related disease in community (See Figure 6.4 below). The particularly poor sullage and storm water drainage situation of Ngleshie Amanfro resulting in frequent ponding after rainfalls is likely contribute to high prevalence of Malaria as the stagnant water serve as breeding grounds for mosquitoes.

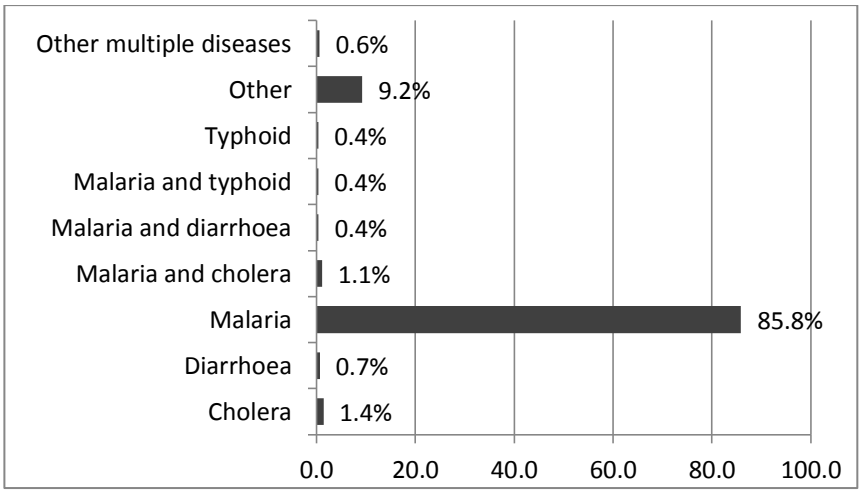

Figure 6.4: Incidence of WASH related diseases as perceived by respondents

Over 95% of the respondents who identified each of the diseases listed in Table 6.8 below as WASH related, had some knowledge on the symptoms. See Table 6.8 below. In the case of cholera and diarrhea all the respondents had some knowledge on the symptoms.

As shown in Table 6.9 below, there is a high level of awareness on the causes of the main WASH related diseases. 99.7%, 96.4% 92.6% and 70.6% of the respondents who identified each of the diseases listed (Malaria, Cholera, Diarrhoea and Typhoid) as WASH related, are aware of the causes.

Table 6.8: Knowledge about symptoms of WASH related diseases

DISEASE	NO. OF RESPONDENTS	HAVE AN IDEA ABOUT SYMPTOMS	NO IDEA ABOUT SYMPTOMS
Malaria	3455	98.2%	1.8%
Cholera	112	100%	0.0%
Diarrhoea	54	100%	0.0%
Typhoid	34	97.1%	2.9%

Table 6.9: Knowledge about causes of WASH related diseases

DISEASE	NO. OF RESPONDENTS	HAVE AN IDEA ABOUT CAUSES	NO IDEA ABOUT CAUSES
Malaria	3455	99.7%	0.3%
Cholera	112	96.4%	3.6%
Diarrhoea	54	92.6%	7.4%
Typhoid	34	70.6%	29.4%

7. General Comments

7.1 General Comments about the Community

Ngleshie Amanfro is the fifth largest community in terms of population in the Ga South Municipality with a population of over 20,000. The community hosts one of the five (5) major health facilities-Amanfro Community Clinic within the municipality. Ngleshie Amanfro does not have adequate drainage systems resulting in ponding and erosion of the roads and some parts of the community after heavy downpours. Major ailments reported at OPDs in the community are environmentally related; malaria, cholera and diarrhoea. The community experiences a bimodal rainfall pattern in the year averaging some 800mm of rain. The settlement lies about 76m above sea level. Although the Ngleshie Amanfro is a native Ga-speaking community, the dominant ethnic group within the community is the Akans. Ewe and the Ga - Dangme follow respectively. The Akans and Ewes are mostly settlers. Many households in the community are not connected to GWCL water supply due to reasons such as high connection cost, unavailability of GWCL supply lines in some specific areas e.g. Tormefa and inconsistent supply of water by GWCL. Predominant types of household toilet facility are KVIP/VIP, WC, and unimproved/traditional pit latrines. Most people who use public toilet facilities spend 5-20 minutes to access the facility. Majority of the public toilets and water vending points are privately owned.

7.2 Soil Types

The main type of soil in this area is the Coastal Savannah Ochrosols. The soil is mainly red and brown, moderately well-drained, medium to light textured. They are typically loamy in texture near the surface becoming more clay below. The soils are weathered and metamorphosed materials of Precambrian rock units. Precambrian rock units are made up of Cape Coast granite complex and the Togo series.

7.3 Incidence of Flooding

One out of every five respondents (20%) report of the incidence of flooding in the community. 78.88% of the respondents indicated the occurrence of floods in their area usually after a major/heavy rainfall whereas the remaining indicated flooding after every rainfall. See Tables 7.1 and 7.2 below.

As shown in Table 7.3 below, 76.46% of the respondents attributed occurrence of floods to the inadequate drainage system in most parts of the community. Other causes include waterlogged area (8.65%), topography of the land (5.85%) and unplanned development or close to waterways (5.22%). Choked drains as a result of indiscriminate waste disposal accounted for only 2.93% and correspond with the lack/absence of drains in most parts of the community.

Table 7.1: Incidence of flooding

INCIDENCE OF FLOODING	No. OF HH	PERCENTAGE
No	3128	79.92%
Yes	786	20.08%
Total	3914	100.00%

Table 7.2: Frequency of flooding

FREQUENCY OF FLOODING	No. OF HH	PERCENTAGE
Every rainfall	166	21.12%
Major rainfall	620	78.88%
Total	786	100.00%

Table 7.3: Causes of flooding as perceived by respondent

CAUSE OF FLOODING IN YOUR AREA	No. OF HH	PERCENTAGE
Choked drains from indiscriminate waste disposal	23	2.93%
Don't know	7	0.89%
Inadequate drainage systems	601	76.46%
Topography of the land	46	5.85%
Unplanned development on or close to waterways	41	5.22%
Waterlogged area	68	8.65%
Total	786	100.00%

8. Housing and Occupancy Characteristics

8.1 Type of House

Compound house (often with a central courtyard) is the most common housing type in the community. 56.97% of the households live in compound houses which is slightly higher than the national average of households residing in compound houses (i.e. 51.5%). Only about 3% of the households live in temporary structures such as tents, kiosks, containers and shop attachments. Households living in either detached or semi-detached houses accounted for a total of 40.14% representing 1,571 households.

Table 8.1: Type of houses

TYPE OF HOUSE	No. OF HH	PERCENTAGE
Compound house	2230	56.97%
Detached	854	21.82%
Semi detached	717	18.32%
Temporary structure	113	2.89%
Total	3914	100.00%

8.2 Type of Dwelling

As indicated in Table 8.2 below; 43.56% of the households dwell in single rooms while about a quarter dwell in a hall and chamber. The rest live in single room self-contained (6.03%), multiple rooms (18.60%) or hall and chamber self-contained rooms (6.69%).

Table 8.2: Type of dwelling

TYPE OF DWELLING	No. OF HH	PERCENTAGE
Hall and chamber	983	25.11%
Hall and chamber self-contained	262	6.69%
Multiple rooms	728	18.60%
Single room	1705	43.56%
Single room self-contained	236	6.03%
Total	3914	100.00%

8.3 Status of Occupancy/Occupancy by Landlord/Lady

43.54% of the respondents indicated they owned the residence while 37.05% were tenants. Respondents who live in family houses constituted 12.75% of the total respondents. Caretakers account for 6.34% of respondents. See Table 8.3 below.

Table 8.3: Status of occupancy

STATUS	NO. OF HH	PERCENTAGE
Caretaker	248	6.34%
Family house	499	12.75%
Other	13	0.33%
Own house	1704	43.54%
Rented house	1450	37.05%
Total	3914	100.00%

8.4 Average Number of Rooms Occupied by Household

As shown in Table 8.4 below; 55.9% of households occupy only one (1) room; 24.0% occupy two (2) rooms, 8.7% occupy three (3) rooms. Households that occupy at least four (4) rooms are about 11% close to the national average of 11.2%.

Table 8.4: Number of rooms occupied by households

NUMBER OF ROOMS	No. OF HH	PERCENTAGE
1	2186	55.9%
2	939	24.3%
3	339	8.7%
4	209	5.3%
5+	228	5.8%
Total	3914	100.0%

Results from the survey indicate that household size is closely proportional to the number of rooms. For example, for households living in only one (1) room, about 87% have household sizes of 1 or 2. For those in living in two (2) rooms 86.9% have household size of one (1) or two (2) whereas for households living in five (5) or more rooms, 59.1% have household size of at least five (5) people. See Table 8.5 below.

Table 8.5: Household sizes by number of rooms occupied (percentage)

HOUSEHOLD SIZE	NUMBER OF ROOMS				
	1	**2**	**3**	**4**	**5+**
1	80.30%	55.10%	40.90%	32.20%	12.60%
2	6.60%	31.80%	16.30%	14.50%	4.80%
3	3.30%	4.30%	33.00%	12.60%	10.60%
4	1.40%	2.30%	3.20%	33.70%	12.90%
5+	8.40%	6.50%	6.60%	7.00%	59.10%
Total	100%	100%	100%	100%	100%

8.5 Materials for Construction

8.5.1 Floors

As shown in Figure 8.1 below, 92% of the residences visited had their room floors cemented. Residences with tiled/terrazzo room floors constituted 2.4% whereas those with earth/laterite floors accounted for 3%. Residences with some room floors cemented and others tiled accounted for 2.3% of the total residences visited.

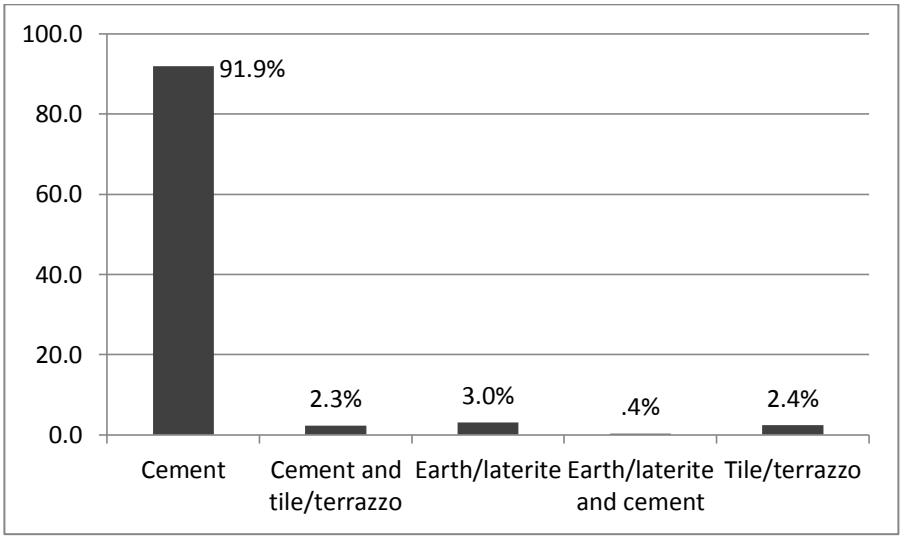

Figure 8.1: Construction material for room floor

8.5.2 Walls

85% of the households have their residence constructed with cement block/bricks. About 7% of the households also had had landcrete block walls while about 4% had mud walls. The mud buildings are mainly the remains of the early indigenes/settlers. Wooden/iron sheet constructed residences accounted for only 1.2% and were mostly temporary structures.

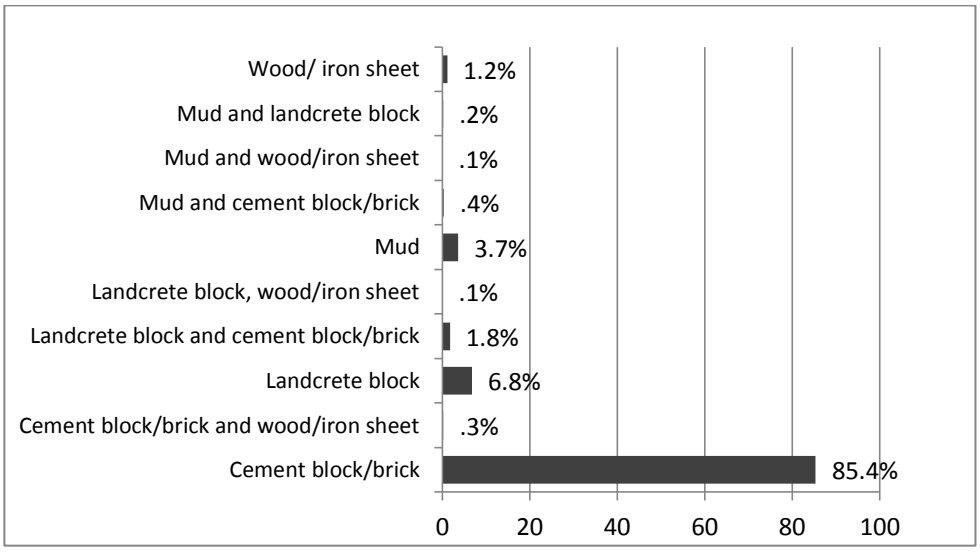

Figure 8.2: Construction material for Walls

8.5.3 Roofs

85.6% of the households visited had iron sheet/slate roofs. Households with asbestos roofing and tile/brick roofing constituted 5.5% and 4.2% respectively. None of the residences visited had thatched roof. See Fig 8.3 below.

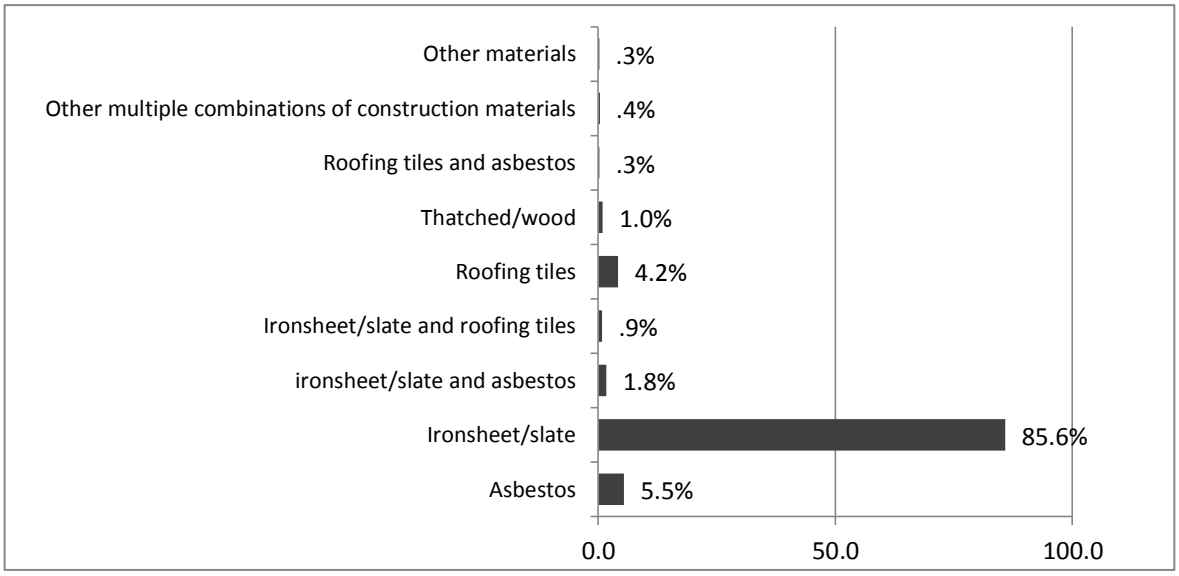

Figure 8.3: Construction material for roofs

8.5.4 Window

Louvre blade windows are the commonest window type in the community. 54% of the households had louvre blade windows while 25.9% had wooden windows. Households with both wooden and louvre blade windows constituted 11% of the respondents. Slide-glass windows are not common in the community- only three (3) out of hundred (100) households have slide-glass windows.

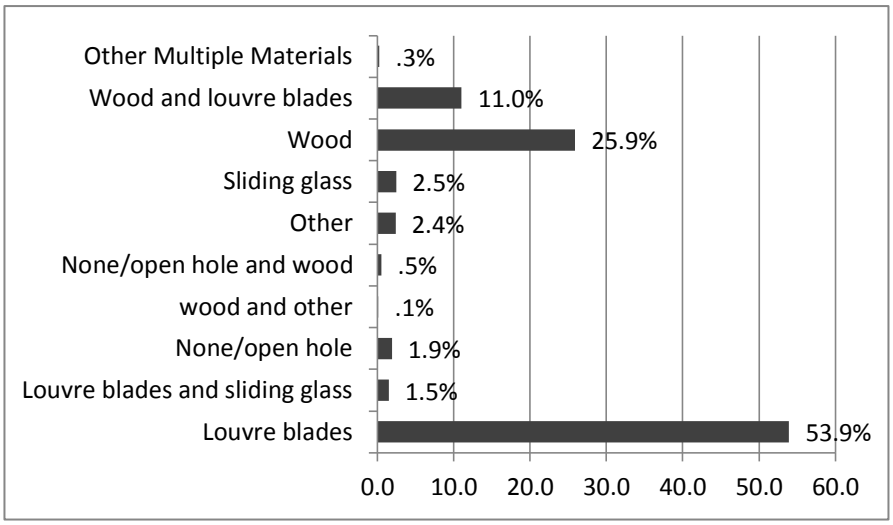

Figure 8.4: Construction material for windows

8.6 Access to Kitchen/Location

About 50% of households living in compound, semi-detached and temporary houses have their kitchens located inside their dwelling. However, about 40% also indicated having their kitchen outside their dwelling. At least seven out of every ten households living in a temporary structure had their kitchen located outside their dwelling.

Table 8.6: Location of kitchen by house type

	LOCATION OF KITCHEN			
TYPE OF HOUSE	**INSIDE/CLOSED**	**INSIDE/FITTING**	**OUTSIDE/OPEN**	**TOTAL**
Compound house	49.28%	7.53%	43.18%	100.00%
Detached	49.65%	7.03%	43.33%	100.00%
Semi detached	51.46%	7.53%	41.00%	100.00%
Temporary structure	16.81%	7.08%	76.11%	100.00%

9. Conclusion

Based on the findings of the household survey and other physical observations within the community, Ngleshie Amanfro like many other urban poor settlement in the Greater Accra Region is beset with challenges such as poor access to household sanitation, inadequate drainage, poor solid waste management and irregular water supply. Due the vast land space of the community, the remote areas of the community lack basic WASH facilities and services. For e.g. suburbs like Tormefa lack access to desludging and GWCL water supply and therefore rely on the Densu River access water. Nurses' Quarters, Lamptey Mills and America Farm suburbs also do not have GWCL lines.

Due to the nature of the WASH related problems in the community and the interconnectedness of WASH services, a holistic but strategic approach to improving WASH services in the community is crucial to improve access to WASH services.

The interventions to improve access to WASH facilities and services in Ngleshie Amanfro should include:

- Improvement in drainage scheme
- On-site sanitation improvement programme- *home latrine promotion, school sanitation and hygiene education (SSHE) and public and neighbourhood facilities improvement*
- Solid waste management improvement programme
- Improvement of wetland management
- Hygiene promotion and behavioural change campaign
- Financing arrangement
- Management support

Key to the successful delivery of any community upgrade/improvement programme is stakeholder participation. Effectively addressing the challenges will require the coordination of all stakeholders at all stages of planning and implementation. The stakeholders should include: the traditional authorities/representatives of the community, Ga South Municipal Assembly (GSMA) and its local representatives, Ghana Water Company Limited (GWCL), Ghana Health Service (GHS), Ghana Education Service (GES), Non-governmental Organisations-e.g. Safe Water Network, Civil Society Organisations (CSOs), Micro-finance Institutions and Religious groups.

Involving the community in all aspects of project planning and implementation creates a sense of ownership/responsibility among the local residents which is critical for the sustainability of WASH interventions.

References

Ghana Statistical Service (2011); 2010 Population and Housing Census Provisional Results (Summary of Findings)

Ghana Statistical Service: Ghana Demographic and Health Survey (2008)

Ga South Municipal Environmental and Sanitation Strategy and Action Plan (2011)

GAMA SWP Monitoring and Evaluation Team

National Development Planning Commission (2010); Ghana Shared Growth and Development Agenda (GSGDA)

MLGRD (2010): Environmental Sanitation Policy

Annex 1: Ministry of Local Government and Rural Development Ghana Metropolican Area Water and Sanitation Project 2015

HOUSEHOLD BASELINE SURVEY

QUESTIONNAIRE #

1. GENERAL INFORMATION

1.1	REGION	DATE	ENUMERATOR NAME	CHECKED

Cell-phone

LOCATION OF HOUSEHOLD

1.2	House #	1.3	District	1.4	Town	1.5	Area.

1.6	GPS reading (Decimal Degrees)	LATITUDE:
		LONGITUDE:

		Compound	Semi Detached	Detached House
1.7	Type of House			

1.8	Is the respondent the same person as HHH	No		Yes	

If Yes to 1.7, SKIP (Ques 1.8 to 1.10) to 1.11

If 'No' then what is the name of respondent?	1.9	Surname	1.10	Other names

The respondent is the?	1.11	Wife	Son	Daughter	Husband	Other (specify)

Of the HH

1.12	Household head name	Telephone

1.13	Age	20-30	31-40	41-50	51-60	61-70	70+	1.14	Gender	
		1	2	3	4	5	6		Male	Female

1.15	Household head education level					
No schooling	Non-formal only	Primary	Middle	Secondary	Tertiary
1	2	3	4	5	6

1.16	Household head religion?		
Christianity	Islam	Traditional	Other
1	2	3	4

	HHH		1.23	HHH		1.21	Handicapped	Yes		No	

1.17	Nationality			Ethnicity							

1.18	What does this household do for a living?								
Crop Farming	Livestock Farming	Petty Trader	Food Vendor	Labour worker	Artisan	Teacher	Public Servant	Banker	Other (Specify)
1	2	4	8	16	32	64	128	256	512
Score entry									

1.19	Is the head of this household?	A man?	Or a woman?

What is name of the major income earner in this household?	1.20	Surname	1.21	Other names

1.22	Gender	Male	Female	1.23	Age	Under 21	21 to 31	31 to 41	41 to 51	51 to 60	Above 60

1.24	GHANA ID #		1.25	Cell-phone	

1.26	Type of ID			
	Voter ID	National ID	NHIS ID	Passport
	1	2	4	8

1.27	Nationality		1.23	Ethnicity		1.28	Handicapped	Yes		No	

1.29	Education level:	Graduate	Diploma	Secondary	Primary	Islamic	Informal	None

What are the main business occupations of this Household Head?		
1.30	Major business/occupation	
1.31	Secondary business/occupation	
1.32	Other business/occupation	

2. HOUSEHOLD STATISTICS.

		House is					
2.1	Is the house where you live, your own, is it rented or is it a family house?	Family house		Owned		Rented	
2.2	For how many years has your family occupied this house?						

2.3	How many Rooms does the Household occupy

ROOMS	1	2	3-5	6-8
SCORE	1	2	4	8

	2.4 Adults 18 yrs +	2.5 Children <18yrs	2.6 Total persons
How many persons are there in your household?			

	2.7 Are Employed	2.8 Has own Business	2.9 Total persons
How many of these persons 18yrs+ are employed or are in business?			

	2.10 Girls attend school	2.11 Boys attend school	2.12 Total attend school
Of the Children <18yrs, How many children in your household attend school?			

3.0 HOUSEHOLD SANITATION

3.1	No. of HH in the house	
3.2	No of Toilets in House	
3.3	No of Bathrooms in the House	

	3.4 Toilet		3.5 Bathroom	
Does the household have its own dedicated Toilet/Bathrooms	Yes	No	Yes	No
	3.6		3.7	
No of Toilets/Bathrooms available to Household				

IF YES TO 3.4 SKIP 3.8; IF NO SKIP TO 3.13

		KVIP	WC	Pit latrine	Other		
3.8	What type of toilet?						
	When did you build it?	A month ago	2-3 months ago	4-5 months ago	6-12 months	More than a year ago	Latrine already in the house before rented
3.9	Do you share your latrine with your neighbour or other families?	Yes	No				
3.10	If yes, how many families do you share with?						

3.11	How much did it cost to construct the facility?						
		Privacy	Avoid sharing with others	Avoid disturbing others	Avoid embarrassment	Convenience	Can become a good host when guests visit
3.12	What was the main reason for building the latrine? (tick as many as apply)						
		Public toilet	Neighbour's toilet	Open defecation			
3.13	Where do you ease yourself?						
		They are dirty	They are poor	Lower status	Uneducated	Nothing wrong	
3.14	What is your opinion on people who use the public toilet/OD/Share?						
3.15	Do you want to own a place to defecate for your household?	Yes	No				
3.16	Do you have adequate land size to build a latrine?	Yes	No				
3.17	How much will you be willing to spare to construct a latrine?						
3.18	Will you borrow money to build the latrine?	Yes	No				
		Relative	Bank	Micro credit	Neighbour	Cooperative	Other (state)
3.19	Where/who will you borrow the money from?						

IF YES TO 3.5 SKIP 3.20

		Shared Compound Bathhouse	Neighbour	Waterbody	In the Bush
3.20	Where do the Household members take their bath				

		In Compound	Into a Nearby Drain	House Soakaway
3.21	How does the Household dispose Off its waste water			

		Less than 1 year	1 to3 yrs	4 to 6yrs	More than 7 yrs
3.22	When was the last time your septic				

	latrine got emptied?				

4. HOUSEHOLD INCOMES

	Amounts of incomes from (in Gh. CEDIS)			
What are the sources and amount of income for your household?	Employment & labour	Crops & livestock	Business & trading	Others (state)
During the past month (June) for example?	4.1	4.2	4.3	4.4
Estimated total for the past year (twelve months)?	4.5	4.6	4.7	4.8

	Has a bank account					
	4.9		4.10		4.11	
Do any persons in your household have a bank account or interest earning savings account?	Business bank account		Personal bank account		Interest earning savings	
	Yes		Yes		Yes	

Household Expenditure

	Expenditure (Gh. CEDIS)					
What are the expenditure pattern and amount for your household?	Food	Tuition/schooling	Rent	Utility (electricity, water, energy)	Health	Others
During the past month (June) for example?	4.12	4.13	4.14	4.15	4.16	4.17
Estimated total for the past year (twelve months)?	4.18	4.19	4.20	4.21	4.22	4.23

5. HOUSEHOLD STRUCTURE AND FACILITIES:

(Office)

Room Floor	Earth/Laterite		Cement		Tile/terrazzo		SEEN	SCORE
Walls	Mud	Landcrete Blocks		Cement block/brick plastered				
Roof	Thatched/wood		Ironsheet/slate		Roofing tiles			
Windows	None/open-hole		Glass/fixed		Glass/screen/open			
Rooms #	One		Two/three		Four or more			
Kitchen	Outside/open		Inside/closed		Inside/fittings			
Bathing	Outside/open		Inside/manual		Inside/drained			
Toilet	Public		Common inside		Water-closet/KVIP			

6. QUESTIONS ON HOUSEHOLD WATER SUPPLY AND CONSUMPTION:

A. Water for Drinking:

		Yes	No
1.1	Does your water source for DRINKING differ from water for other uses?		

If Yes, then indicate your DRINKING WATER sources in the table below: If No then move straight to Section B. (MULTIPLE ANSWERS POSSIBLE)

A. Drinking water Sourced from	In wet season	Score for entry	In dry season	Distance to fetch (Kilometres)	Time required (Minutes)	Consumption and Storage
GWCL Tap		1				Amount consumed per day
Community Networked tap in house		2				Number of containers
Well in house		4				
Rain harvested		8				Type of container:*
Community tap		16				
Borehole		32				Total Litres
Community Well		64				Data entry score 1.6
River/stream		128				Amount stored at house
Dug-out/dam		256				Number of containers
Tanker supply		512				Type of container:*
Other (specify)		1024				
						Total litres
` Data entry scores	Wet score		Dry score	Average	Average	Data entry score 1.7
	1.2		1.3	1.4	1.5	*e.g: Bottles, Gallons, Coolers, Earthenware pots.

1.8	What Methods Of Drinking Water Storage Do Your Household Use ?		
		SCORE	Estimated Storage Capacity (In Gallons)
	Roof Tank	1	
	Underground Level Tank Outside The House	2	
	Ground Level Tank Outside The House		
	Water Tank In House	4	
	Small Containers And Jerry Cans	8	

Data Entry Score	**1.9**	**1.10**

If there is a borehole in Community or House, why does the household not use the borehole?

Broken down		1
Badly maintained		2
Distance very far		4
Bad location		8
Overcrowded		16
Taste not good		32
Other:		64
1.10 Data entry score		

B. Water for Cooking:

		Yes	No
2.1	Does your water source for COOKING differ from water for other uses?		

If Yes, then indicate your COOKING WATER sources in the table below: If No then move straight to Section C.

(MULTIPLE ANSWERS POSSIBLE)

A. Drinking water Sourced from	In wet season	Score for entry	In dry season	Distance to fetch (Kilometres)	Time required (Minutes)	Consumption and Storage
GWCL Tap		1				Amount consumed per day
Community Networked tap in house		2				Number of containers
Well in house		4				
Rain harvested		8				Type of container:*
Community tap		16				
Borehole		32				Total Litres
Community Well		64				Data entry score 2.6
River/stream		128				Amount stored at house
Dug-out/dam		256				Number of containers
Tanker supply		512				Type of container:*
Other (specify)		1024				
						Total litres
` Data entry scores	Wet score		Dry score	Average	Average	Data entry score 2.7
	2.2		2.3	2.4	2.5	*e.g: Bottles, Gallons, Coolers, Earthenware pots.

2.8	What Methods Of Cooking Water Storage Do Your Household Use?		
		SCORE	Estimated Storage Capacity (In Gallons)
	Roof Tank	1	
	Underground Level Tank Outside The House	2	

Ground Level Tank Outside The House		
Water Tank In House	4	
Small Containers And Jerry Cans	8	

Data Entry Score	**2.9**	**2.10**

C. Water for General use in the household: (e.g. bathing, washing, and cleaning).

Complete this section C for ALL households sampled.

(MULTIPLE ANSWERS POSSIBLE)

C. Drinking water Sourced from	In wet season	Score for entry	In dry season	Distance to fetch	Time required
				Kilometres	Minutes
GWCL Tap		1			
Community Networked tap in house		2			
Well in house		4			
Rain harvested		8			
Community tap		16			
Borehole		32			
Community Well		64			
River/stream		128			
Dug-out/dam		256			
Tanker supply		512			
Other (specify)		1024			
` Data entry scores	Wet score		Dry score	Average	Average
	3.1		3.2	3.3	3.4

3.5	What Methods Of General Water Storage Do Your Household Use?	
	SCORE	Estimated Storage Capacity (In Gallons)
Roof Tank	1	
Underground Level Tank Outside The House	2	
Ground Level Tank Outside The House		
Water Tank In House	4	
Small Containers And Jerry Cans	8	

Data Entry Score	**3.6**	**3.7**

3.8	How many days can your stored water last when there is no water?		
	Water for Drinking	Water for Cooking	Water for General Use
Less than 3 days			
3 days to 7 days			
Two Weeks			
One month			
3 Months			

PIPED WATER FROM GWCL (IF the Household Receives GWCL in mains)

3.9	GWCL Supply Frequency
	Frequency
Once a Week	
Once in Two Week	
Once a month	
Continuous (Never Ceases)	

3.10	GWCL Supply Duration
	Duration
Less than 2 hrs	
2 to 5 hrs	
More than 5 hrs	
Continuous (Never Ceases)	

3.7	GWCL Supply Times
	Time (Tick)
Mornings Only	
Evenings only	
Morning and Evening	
All day	
All Night	

	Is the Supply Time Convenient	Yes	NO

3.8	Has there been any sickness in the household caused by water in the past twelve months?	Yes	No
If yes, then name or describe the sickness:			

7. LATRINE/TOILET OPTIONS

8 AWARENESS OF GAMA SANITATION AND WATER PROJECT ACTIVITIES:

Has the respondent heard about GAMA Sanitation and Water projects or activities funded by GAMA Sanitation and Water Project?	Yes	No

Additional notes- (qualitative observation of the WASH facilities audit by the enumerators where enumerators are to observe the hygienic nature of the facility, hand wash, general scene around the facility, etc):

_____

_____

_____

THANK YOU.