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GHANA 2021 POPULATION AND HOUSING CENSUS

GENERAL REPORT
VOLUME 3M

WATER AND SANITATION

The AFRICA We Want

THE COORDINATED PROGRAMME OF ECONOMIC AND SOCIAL DEVELOPMENT POLICIES 2017-2024
AN AGENDA FOR JOBS: CREATING PROSPERITY AND EQUAL OPPORTUNITY FOR ALL

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THE 2030 AGENDA FOR SUSTAINABLE DEVELOPMENT

GHANA STATISTICAL SERVICE
FEBRUARY 2022

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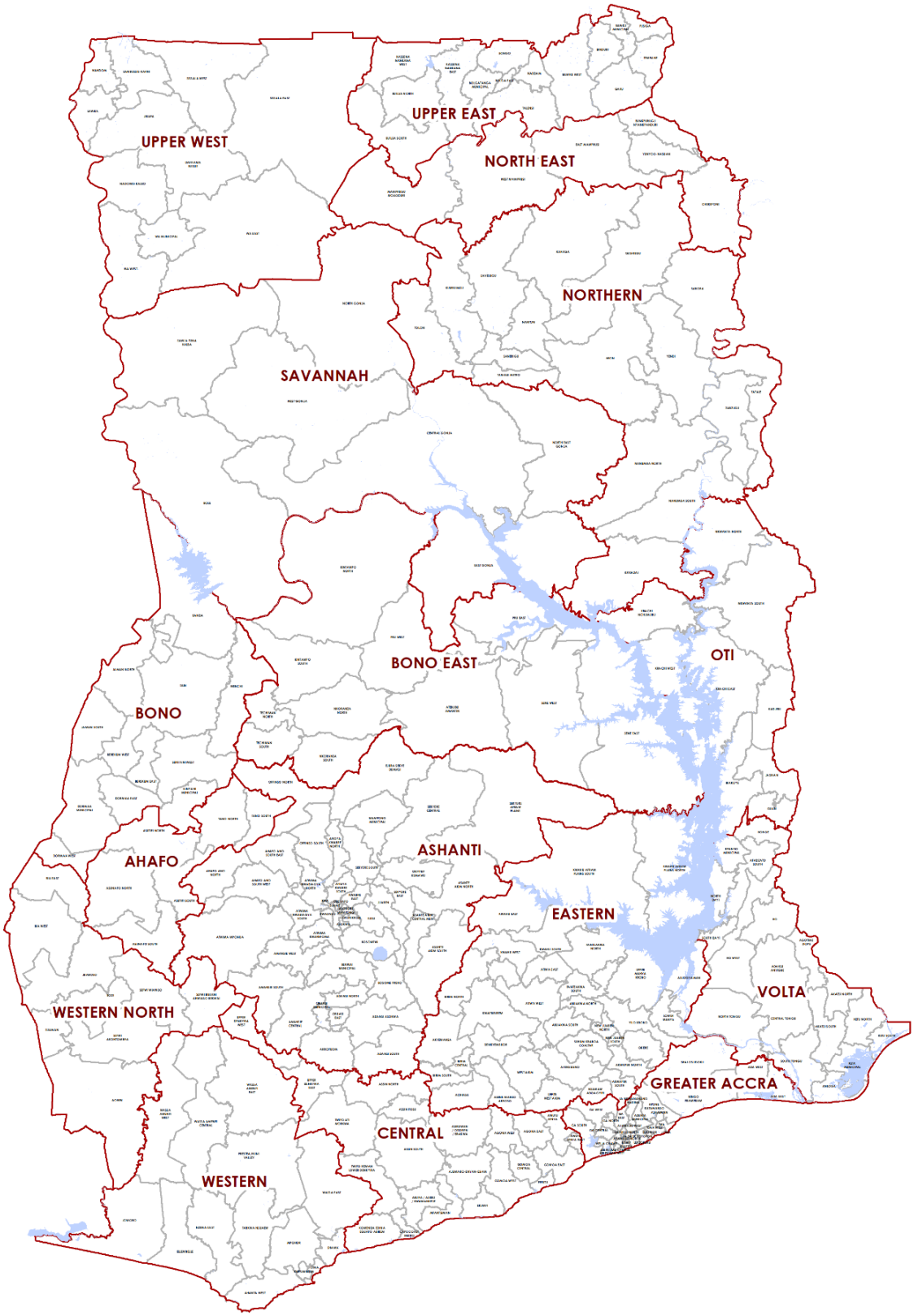
ADMINISTRATIVE MAP OF GHANA



GHANA 2021 POPULATION AND HOUSING CENSUS PUBLICATIONS

Volume 1	Preliminary Report
Volume 2	Residential Proximity to Essential Service Facilities Report
Volume 3A	Population of Regions and Districts
Volume 3B	Age and Sex Profile
Volume 3C	Background Characteristics
Volume 3D	Literacy and Education
Volume 3E	Economic Activity
Volume 3F	Difficulty in Performing Activities
Volume 3G	Information and Communication Technology
Volume 3H	Fertility and Mortality
Volume 3K	Housing Characteristics
Volume 3M	**Water and Sanitation**
Volume 3N	Structures
Volume 4	Thematic Reports
Volume 5	Analytical Reports
Volume 6	Census Atlas

FOREWORD

The Ghana 2021 Population and Housing Census (PHC) was conducted to provide updated demographic, social and economic data for research, policy and planning to support national development activities and track the implementation of national, continental, and global development goals, such as the Coordinated Programme of Economic and Social Development Policies, 2017-2024: An Agenda for Jobs: Creating Prosperity and Equal Opportunity for All; Agenda 2063, The Africa We Want; and Transforming Our World: the 2030 Agenda for Sustainable Development.

Unlike the previous censuses, the sanitation module in the 2021 PHC was separated from the housing module, which made it possible to expand various sections and to collect more detailed information on both sanitation and water such as the type of main refuse receptacle used; the defaecation point for households without toilet facilities; and disposal of wastewater. For the first time, the census also asked separate questions on toilet containment (e.g., septic tank or pit latrine)and user interface (e.g., water closet seat or concrete slab) to allow for further categorisation of these facilities.

Volume 3M: Water and Sanitation presents statistics on the main sources of water for drinking and other domestic uses by households. It includes collection time to and from the main source of drinking water, information on wastewater disposal at the household level, solid waste management and toilet facilities. The statistics are disaggregated by region and type of locality (urban/rural).

This publication targets Government Ministries, Departments, and Agencies (MDAs), Metropolitan, Municipal and District Assemblies (MMDAs), Development Partners, Civil Society Organisations (CSOs), the Private Sector, Research Organisations and Academia, and the public. Specifically, the report provides data that will aid the Ministry of Sanitation and Water Resources in the implementation and monitoring of the Water Sector Strategic Development Plan (2012-2025) which seeks to ensure quality and sustainable water as well as basic sanitation for all by 2025. The district-level statistics will also support the Ministry of Local Government, Decentralisation and Rural Development to monitor the implementation of the Environmental Sanitation Policy (2009) and provide data for the MMDAs to utilise in the enforcing of the various sanitation by-laws.

The United Nations recognises access to water and sanitation as human rights and further as rights that are interlinked with the realisation of human dignity. As such, this report provides invaluable information to support the implementation of policies to ensure that all persons in Ghana have access to safe, sufficient, and affordable water and sanitation services.

PROFESSOR SAMUEL KOBINA ANNIM
CHIEF CENSUS OFFICER AND GOVERNMENT STATISTICIAN

ACKNOWLEDGEMENTS

Ghana Statistical Service (GSS) takes this opportunity to thank the Government of Ghana, former Presidents, members of the National Census Steering Committee, National Census Technical Advisory Committee, the National Census Publicity, Education and Advocacy Committee and the Regional and District Census Implementation Committees for their commitment and dedication to ensuring a well-coordinated census operation.

We are indeed grateful to the Ministry of Finance, Ministry of Education, Ghana Education Service (GES), Ministry of Information, Information Services Department, Ministry of Local Government, Decentralisation and Rural Development, Local Government Service, and the various District Assemblies, National Identification Authority, Ministry of Defence, Ghana Armed Forces, Ministry of Interior, Ghana Police Service, Ghana Immigration Service, Ghana Civil Aviation Authority, Ghana Airports Company Limited, Ghana Fire Service, Ghana Prisons Service, Ministry of Health, Ghana Health Service, Ministry of Foreign Affairs and Regional Integration, National Commission for Civic Education (NCCE), Electoral Commission (EC), Office of Government Machinery, Ministry of Parliamentary Affairs, Parliament, Ministry of National Security, National Sports Authority, National Communication Authority, Ghana Highways Authority, Survey Department, Ministry of Sanitation and Water Resources, Ministry of Food and Agriculture, Births and Deaths Registry, Religious and Traditional Leaders, individuals and all other organisations that provided the needed support to enable GSS execute this essential national exercise.

We are also indebted to our partners and collaborators, notably, the United Nations Population Fund (UNFPA), World Bank, European Union (EU), International Organisation for Migration (IOM), United Nations Development Programme (UNDP), United Nations Economic Commission for Africa (UNECA), United Kingdom Office for National Statistics (ONS), Statistics Denmark, Geo-Referenced Infrastructure and Demographic Data for Development (GRID^3), Jospong Group of Companies, IPMC Ghana, telecommunication companies, CalBank, Windy Lodge Beach Resort, and tertiary institutions for their technical, logistic and financial support, and publicity, education and advocacy campaigns that led to the effective and efficient management of the census processes.

The Statistical Service also appreciates the contributions of the general public, the media, all Census officials and field officers for ensuring a successful enumeration.

Table of Contents

LIST OF FIGURES

LIST OF TABLES

ABBREVIATIONS AND ACRONYMS

CAPI	Computer-Assisted Personal Interview
CCT	Census Coordinating Team
CSOs	Civil Society Organisations
CSPro	Census and Survey Processing System
CTA	Chief Technical Advisor
DCICs	District Census Implementation Committees
DCOs	District Census Officers
DDQM	District Data Quality Monitor
DFSs	District Field Supervisors
DPs	Development Partners
DQMTs	Data Quality Management Teams
EAs	Enumeration Areas
EBRP	Enumerator Bureau Recruitment Portal
EC	Electoral Commission
EU	European Union
GCA	Ghana Census of Agriculture
GES	Ghana Education Service
GHS	Ghana Health Service
GoG	Government of Ghana
GRID^3	Geo-Referenced Infrastructure and Demographic Data for Development
GSS	Ghana Statistical Service
HQ	Headquarters
IOM	International Organisation for Migration
IT	Information Technology
MDAs	Ministries, Departments, and Agencies
MMDAs	Metropolitan, Municipal and District Assemblies
NCCE	National Commission for Civic Education
NDQMT	National Data Quality Management Team
NGOs	Non-Governmental Organisations
NIA	National Identification Authority
NPEAC	National Publicity, Education and Advocacy Committee
NTAC	National Technical Advisory Committee
ONS	United Kingdom Office for National Statistics
PEA	Publicity, Education and Advocacy
PES	Post-Enumeration Survey
PHC	Population and Housing Census
PPEs	Personal Protective Equipment
RCICs	Regional Census Implementation Committees
RDQMT	Regional Data Quality Management Team
RFSs	Regional Field Supervisors
SA	Supervisory Area
SDGs	Sustainable Development Goals
UNDP	United Nations Development Programme

UNECA	United Nations Economic Commission for Africa
UNFPA	United Nations Population Fund
WAEC	West African Examinations Council
ZFCs	Zonal Field Coordinators

1. OVERVIEW OF 2021 POPULATION AND HOUSING CENSUS

1.1. Introduction

Population census is the complete enumeration of all persons in a country at a specified time. It involves the collection, compilation and dissemination of demographic, social and economic statistics relating to the population. The complementary housing census is the complete enumeration of all living quarters (both occupied and vacant) in a country at a specified time. It also involves collection, compilation, and dissemination of statistical data on living quarters and occupants. Ghana has been conducting censuses since 1891 but Population and Housing censuses since 2000. In total, twelve population censuses have been conducted in the country — six during the pre-independence era and the other six in the post-independence era. The 2021 PHC is the 12th census and the first fully digital census (E-Census) conducted in the country.

The 2021 PHC was a count of all persons present in Ghana on the Census Night (27th June, 2021), irrespective of their nationality. It also involved counting all living quarters in the country. The Census operations focused on strategic areas to ensure that everyone is counted, enumerated once, and at the right place. These were anchored on five main strategic pillars: deployment of ICT solutions to drive the entire census process; use of geo-spatial data; decentralised data flow, management and analysis; integrated and enhanced field operations; and enhanced use of census processes and outcomes, notably census data.

The Census was designed and implemented to provide reliable and accurate data for evidence-based decision making, to support the implementation and tracking of progress and achievement of national agenda (e.g., The Coordinated Programme of Economic and Social Development Policies (2017-2024), Ghana Centennial Development Plan, NDPC Agenda 2057); continental (e.g., Agenda 2063) and global development agenda (e.g., the Sustainable Development Goals [SDGs]).

As a country, the Population and Housing Census provides information on who we are, how many we are, and where and how we are living. This information is essential for national development as the size, composition and characteristics of the population are useful for planning by all Ministries, Departments and Agencies (MDAs) and the private sector. The results will form the basis for the estimation and projection of needs in all sectors of the economy.

This report focuses on the regions and districts, which constitute the units of administration and planning in the country. It presents data on the population of administrative units, age and sex structure and the background characteristics of the population.

1.2. History of Census Taking in Ghana

The history of official census taking in Ghana dates back to 1891 when the first census was conducted by the colonial administration. The census recorded a total population

of 764,613. Since then, censuses have been held every 10 years in accordance with the United Nations recommendations. The expectation is that the decennial interval is an appropriate period to determine a change in a country's population structure, composition and socio-economic arrangements. However, the decennial interval was distorted in 1941, 1980, 1990 and 2020. The Second World War which occurred between 1939 and 1945 was the reason the census was not conducted in 1941. After the war, the census was conducted in 1948. In the late 1970s and early 1980s the country was hit with economic challenges and political instability that did not make it possible for a census to be conducted in 1980 but instead in 1984. Having taken a census in 1984, the next census could not have been held in 1990, as the time was too short to plan the Census, nor could the ten-year interval be maintained in 1994. More recently, due to the emergence of COVID-19, the Census that had been planned for 2020 had to be conducted in 2021 and a total population of 30,832,019 was recorded (Table 1.1).

TABLE 1.1: GHANA'S POPULATION IN CENSUS YEARS

Pre-independence		Post-independence	
Year	Count	Year	Count
1891	764,613	1960	6,726,815
1901	1,549,661	1970	8,559,313
1911	1,503,911	1984	12,296,081
1921	2,296,400	2000	18,912,079
1931	3,160,386	2010	24,658,823
1948	4,118,459	2021	30,832,019

1.3. Objectives of 2021 PHC

Generally, censuses provide data for comparing and projecting demographic, social and economic characteristics, as well as household and housing conditions at all levels of the country's administrative units and dimensions: national, regional, districts and localities.

The Ghana 2021 PHC had an overarching goal of generating updated demographic, social and economic data, housing characteristics and dwelling conditions to support national development planning activities. This was reinforced by eight specific objectives, which are to:

a) Generate data on population and housing to determine, analyse and assess the population structure and the demographic, social, economic and housing characteristics of the population;
b) Identify and analyse the availability, ownership and accessibility to ICT and ICT devices by the population, and how ICT is used by the different cohorts within the population;
c) Collect and analyse the sanitation characteristics and conditions in households, localities, districts and regions in the country;
d) Generate data on economic activities to determine the population in employment and multidimensional poverty;

e) Identify the population that have difficulties in performing activities due to disability;
f) Develop sampling frame on population and housing to serve as a basis for intercensal and other surveys;
g) Track the implementation of national, continental and global goals including the Coordinated Programme of Economic and Social Development Policies, 2017-2024; An Agenda for Jobs: Creating Prosperity and Equal Opportunity for All; Agenda 2063: The Africa We Want; and Transforming Our World: The 2030 Agenda for Sustainable Development; and
h) Generate and develop datasets as bases for detailed and specific researches that contribute to context-specific planning and decision making.

The intended outcomes of the 2021 PHC were to make available these datasets and information for four broad categories of users: the government, global development partners, private sector, and academics/analysts. The government is the primary and utmost user of the 2021 PHC data. The central government, policy-makers and local governments need the data to plan for the socio-economic development of the country in diverse areas including education, health, housing, and other social services for different groups of persons such as children, aged, young people, the vulnerable, marginalised as well as those with special needs. Beyond the government, results from the PHC will provide corporate Ghana, development partners and the private sector with the required data and information to facilitate innovative interventions, programmes and activities to contribute to the infrastructural and socio-economic development of the country. Furthermore, the data would serve as the base for present and future modelling of the country's development framework.

1.4. Legal Framework

The 2021 PHC, derived its legal authority from the Statistical Service Act, 2019 (Act 1003), which stipulates inter alia, that the Service shall conduct a census of population every ten years in the month of March[1]. The Act, therefore, empowered the Government Statistician to conduct the 2021 PHC. All the census activities, namely collection, compilation and dissemination of demographic, social and economic statistics relating to the population derived their legal basis from Act 1003.

In pursuance of the dictates of the Statistical Service Act, 2019, all the field officers were educated about the responsibility of the public to provide information, and they in turn, to collect the information accordingly; as well as the relevance of adhering to the principles and dictates of the Statistical Service Act. The field officers were trained about how to execute their mandate before, during and after the 2021 PHC within the legal framework. One of the fundamental principles which informed the 2021 PHC operations and activities is the ethic of confidentiality. The knowledge that the disclosure without lawful authorisation of information obtained in the 2021 PHC is an offence liable for a fine

[1] The Census could not be organised in March 2020 because of the COVID-19 situation in the country.

or a term of imprisonment or both, as stipulated in the Statistical Service Act, ensured confidentiality at all levels. In keeping with the ethical principle, enumerators verbally informed all respondents prior to the data collection that the data being collected would only be used by the Ghana Statistical Service for statistical purposes as stipulated in Act 1003.

In addition, the field officers complied with the section of the Act that compelled them to handle 2021 PHC documents and logistics with utmost care. Largely, the intent was achieved through two processes. The first was that all field officers were educated during the training on all matters relating to confidentiality, and attention was drawn to Clause 55 of the Act, which stipulates that:

"*Any person, who, without lawful authority, destroys, defaces or mutilates any schedule, form or other document containing particulars obtained in pursuance of the provisions of this Act shall be guilty of an offence and liable on summary conviction to a fine or to imprisonment for a term not exceeding twelve months or to both fine and imprisonment*".

The second was that all the field officers swore the Oath of Secrecy in accordance with the Statistical Service Act, 2019. They swore to uphold secrecy in the fulfilment of their assigned duties and tasks according to law in the discharge of their duties in all matters relating to the Census.

The public was also educated via the various media outlets about their responsibility to provide accurate responses during the 2021 PHC in accordance with the Act. This notwithstanding, there were few instances where, as a last resort, GSS activated the District Census Implementation Committee (DCIC) and the Ghana Police Service to persuade some persons and households to comply with the law.

1.5. E-Census

The 2021 PHC was fully digital (E-Census) with all the processes based on IT solutions. The IT platforms that were adopted are: Computer Assisted Personal Interview (CAPI) and Batch Program for Data Entry and Cleaning; Census Management Systems to integrate the activities of all the Census implementation teams on a common platform; Census Coverage System which harnessed all the Geo-Data from Demarcation and the Census Listing Data to determine physical coverage of the Census; Census Dynamic Dashboard for monitoring of fieldwork; and Census Citizens Platform for citizen engagement. These are based on three-pronged objectives: to receive data in near real-time; to correct inconsistencies associated with the data; and to release census data on time. The E-Census is consistent with the recommendations from the United Nations which stipulate that all the 2020 round of population censuses should be digitalised. The approach also addressed some of the challenges that were posed by the COVID-19 pandemic.

The IT platform was also used for recruitment of officers, instrumentation, training, mapping, logistic management, enumeration in the census, transmission and management of data, analysis, post enumeration survey and payment of funds.

1.6. Census in COVID-19 Era

The outbreak of COVID-19 impacted the Census in diverse ways. It disrupted staff work schedules, finances, timing of recruitment, training and all related activities. This led to its postponement from March 2020 to June 2021. In response to the pandemic in general and the restrictions and associated disruption, GSS developed a Business Continuity Plan (BCP) to serve as the framework to guide the implementation of the Census. Key strategies that were put in place were with respect to staff management, resource re-mobilisation, transfer of funds, hybrid training models, adherence to COVID-19 protocols and vaccination. The BCP underscored and facilitated the implementation of the E-Census.

Staff work schedules were restructured to accommodate virtual interactions and work-from-home plans while maintaining a section to keep the offices running. Official vehicles were used to pick up some of the staff from home to work due to the partial lockdown that was imposed by the government. Moreover, activities such as meetings and consultations were done in virtual spaces.

Based on the BCP, revised financial, logistics and procurement strategies were presented to and approved by the National Census Steering Committee. Local and international partners and collaborators were further engaged to support in various ways including financial and logistic commitments. In addition, payments to suppliers and personnel contracted were done electronically.

Hybrid training models, comprising self-learning, virtual and face-to-face interactions were developed and employed at different phases of the training programme. These were adopted to train the national and regional trainers as well as field officers to ensure adherence to the social distancing protocol, and to limit travel. During the face-to-face interaction, the maximum number of participants was pegged at 40 to achieve social distancing in training rooms.

A COVID-19 prevention team was constituted to ensure that all the COVID-19 protocols were adhered to during training, meetings and the fieldwork. Running water, soap, tissue paper, hand sanitisers and face masks were provided and social distancing was observed. In addition, the Ghana Health Service was engaged to vaccinate all staff of the GSS and field officers.

1.7. Census Organisational Structure

The Chief Census Officer who is also the Government Statistician had the overall responsibility for coordinating all the Census activities. Strategic implementation structures were set up at the national, regional and district levels. At the apex of the census organisation structure was the National Steering Committee, chaired by the Minister of Finance, and was supported by the National Publicity, Education and Advocacy Committee (NPEAC), chaired by the Minister of Information; and the National Technical Advisory Committee (NTAC) with the Governing Board of GSS providing oversight for the entire census.

The Census operation was managed by the Census Coordinating Team (CCT) comprising the Deputy Government Statisticians, UNFPA Chief Technical Advisor (CTA) and three other Technical Advisors. The implementation was organised under seven workstreams, with the National Census Secretariat performing the administrative functions. The workstreams were Census Methodology; Logistics and Finance; IT and Data Processing; Publicity, Education and Advocacy; Monitoring and Evaluation; Census Mapping and Post-Enumeration Survey.

At the regional level, 16 Regional Census Implementation Committees (RCICs) and at the district level, 272[2] District Census Implementation Committees (DCICs), chaired by the Regional and District Coordinating Directors, respectively, coordinated the exercise. For effective coordination between the national and sub-national levels, the regions were zoned into six areas and coordinated by Zonal Field Coordinators (ZFCs).

1.8. Finance and Logistics

The main funding and logistics for the Census were provided by the Government of Ghana, and partly by the World Bank, development partners and the private sector. Funding and support came in various forms — cash, technical assistance, provision of logistics and infrastructure (offices, storage and training), and financial administration. These were mainly coordinated at the GSS Headquarters (HQ). However, the regional and district offices processed and validated payments at their respective levels. With respect to fund transfer and payment of enumerators, the Electronic Payment System (G-Money) was used. This facilitated the timely transfer of money to recipients (persons or accounts) with less costs (financial and time).

The logistics and finance workstream was constituted to ensure that the right products, and the needed quantities reached the right location safely and timely to facilitate effective and efficient training of census personnel, conduct of fieldwork, write reports and disseminate them. The workstream coordinated the distribution of census materials from GSS HQ to the regions and districts and also ensured that damaged materials were replaced expeditiously for seamless implementation of the Census.

1.9. Publicity, Education and Advocacy

The Publicity, Education and Advocacy (PEA) workstream engaged various stakeholders; primarily, ministries, departments and agencies (GES, NCCE, GHS, Information Service Department) at the various levels of administration and governance (i.e., including MMDAs) and the private sectors for public education on the 2021 PHC. Also, religious groups and traditional authorities at the community level were contacted and they played specific roles to enhance the publicity of the 2021 PHC. The media

[2] The Metropolitan areas were represented at the sub-metro level and this brought the total number of statistical districts to 272, as opposed to the 261 District Assemblies in the country.

(print, electronic and social media), on their part, played an important role in the publicity.

The 2021 PHC was publicised through diverse and myriad outlets to inform the public about the exercise, and their civic responsibility of allowing field officers to enter their communities and houses, and to provide the required information. The PEA workstream with its institutional partners and the media rolled out strategic programmes to enhance the communication messaging to the public regarding the 2021 PHC. Notable was the television programme that was developed to educate children about the 2021 PHC, with the expectation that they would share information with their parents and guardians; and discussions on local and international platforms to inform the local and global communities about the exercise.

PEA activities were conducted at all three phases of the exercise: during pre-enumeration, main enumeration and post-enumeration.

1.9.1. Pre-Enumeration

Two main PEA activities were conducted during the pre-enumeration stage. First, the PEA workstream led the development of key communication messages and instructional materials for information, education and communication. For instance, GSS developed a document on 100 uses of census data; a quarterly newsletter; information sheets for targeted groups; posters and flyers; census drama and advocacy videos. Secondly, public education through media outlets (print, electronic and social) were provided to create awareness, as well as to sensitise and educate the public about the importance of the 2021 PHC, and to encourage them to participate in the exercise.

1.9.2. Main Enumeration

The public education during the main enumeration covered three essential issues. First, it touched on how to identify an enumerator, and by extension, a census officer. Second, the education related to how to receive the field officer, and what households were expected to do whenever a census officer entered their premises. Third, the education and sensitisation programmes presented the general categories of questions that would be asked, and who could respond to these questions.

1.9.3. Post-Enumeration

The public education undertaken during the post-enumeration phase expressed commendations to the various segments of the public for contributing to the success of the 2021 PHC. In addition, the public was sensitised about the schedule for the release of the results, the impending Post-Enumeration Survey (PES), and the rationale for the exercise. The post- enumeration publicity on the PES appealed to the public to provide similar reception to the enumerators as they did during the main enumeration.

1.9.4. Special Events

GSS put up a series of special events to sensitise, educate and create awareness about the PHC. These included a 100-Day Countdown to the Census Night which was launched by Alhaji Dr. Mahamudu Bawumia, Vice President of Ghana; and the 30-Day Countdown to the Census Night launched by Nana Addo Dankwa Akufo-Addo, President of Ghana, and subsequently launched concurrently in all the districts by District Chief Executives. Census Night was set for mid-night of 27th June 2021 as a statistical reference point for the Census. The night signified an imaginary snapshot of the status of the population in the country at that point in time. To ensure that people remembered the night, activities were organised and celebrated concurrently at the national, regional, and all the 272 Statistical Districts in the country.

1.10. Instruments and Procedures

GSS developed two categories of instruments for the 2021 PHC: the listing form and the enumeration instruments. The listing form was only one, while the enumeration instruments comprised six questionnaires, designated as PHC 1A, PHC 1B, PHC 1C, PHC 1D, PHC 1E and PHC 1F. The PHC 1A was the most comprehensive with the others being its subsets.

1.10.1. Listing Form

The listing form was developed to collect data on type of structures, level of completion, whether occupied or vacant and use(s) of the structures. There were also modules used to collect information about the availability, number and types of toilet facilities in the structures. It was also used to capture the number of households in a structure, number of persons in households and the sex of the persons residing in the households if occupied. Finally, the listing form was used to capture data on non-household populations such as the population in institutions, floating population and sex of the non-household populations. The form was administered two weeks prior to Census Night.

1.10.2. PHC 1A

The PHC 1A questionnaire was used to collect data from all households in the country. Primarily, it was used to capture household members and visitors who spent the Census Night in the dwelling of the household, and their relationship with the head of the household. It was also used to collect data on homeless households. Members of the households who were absent were enumerated at the place where they had spent the Census Night. The questionnaire was also used to collect the following household information: emigration; socio-demographic characteristics (sex, age, place of birth and enumeration, survival status of parents, literacy and education; economic activities; difficulty in performing activities; ownership and usage of information, technology and communication facilities; fertility; mortality; housing characteristics and conditions and sanitation.

1.10.3. PHC 1B

The PHC 1B questionnaire was used to collect data from persons in stable institutions comprising boarding houses, hostels and prisons who were present on Census Night. Other information that was captured with this instrument are socio-demographic characteristics, literacy and education, economic activities, difficulty in performing activities; ownership and usage of information, technology and communication facilities; fertility; mortality; housing characteristics and conditions and sanitation.

1.10.4. PHC 1C

The PHC 1C questionnaire was used to collect data from persons in "unstable" institutions such as hospitals and prayer camps who were present at these places on Census Night. The instrument was used to capture only the socio-demographic characteristics of individuals.

1.10.5. PHC 1D

The PHC 1D questionnaire was used to collect data from the floating population. This constitutes persons who were found at airports, seaports, lorry stations and similar locations waiting for or embarking on long-distance travel, as well as outdoor sleepers on Census Night. The instrument captured the socio-demographic information of individuals.

1.10.6. PHC 1E

All persons who spent the Census Night at hotels, motels and guest houses were enumerated using the PHC 1E. The content of the questionnaire was similar to that of the PHC 1D.

1.10.7. PHC 1F

The PHC 1F questionnaire was administered to diplomats in the country.

1.11. IT Operations

The 2021 PHC, being an E-Census, its execution demanded the full deployment of IT software, devices and accessories at all stages of the process among which were: census mapping, development of instruments, recruitment and training, asset management, data transmission and storage, data quality management, data processing and release, and monitoring. Tablets were procured and the Computer Assisted Personal Interview (CAPI) application was developed. Basic IT activities such as testing of the tablets and all the corresponding accessories were performed to ensure that the specifications conformed to the expected standards. In addition, three other tasks were conducted. These were tablet provisioning, asset retrieval and inventory.

1.11.1. Tablets Provisioning

The provisioning of all the tablets for the 2021 PHC involved the uploading of all required content materials for the Census onto the tablets. The contents were the instruments and other related documents such as the Field Officer's Manual, Supervisory Area (SA) and Enumeration Area (EA) maps, reference materials, etc. The team adopted four steps to provision the tablets. The first step was to prepare the tablets. This involved the acquisition of tablets and taking inventory of all tablets acquired. The second step was to pre-provision the tablets. This involved the basic configuration (e.g., resetting of dates, time, etc.) of the tablets, matching each tablet with the specification required and validating their functionality. The third step was the provisioning of the tablets. The final step was the post-provisioning. This involved labelling, preparing and distributing the tablets to specific regions and districts.

1.11.2. Assets Retrieval

After enumeration was completed, all the assets, particularly, the tablets and accessories were retrieved from the field officers at the district and regional levels. Checks were conducted to ensure that all the tablets, with the specific labels that were distributed are retrieved.

1.11.3. Stock-taking and Reconciliation

The inventory of the assets that were retrieved was conducted at the Secretariat of GSS. A series of activities were conducted: the team checked the functionality of each of the tablets; backed up all data to secure the data on an external storage device and local server; stored the tablets according to the regions and districts based on the distribution plan; reset the tablets to original status; and developed an inventory report.

1.12. Census Mapping

The 2021 PHC utilised both analogue and interactive maps to determine, identify, locate and relate with supervisory area (SA) and enumeration area (EA) localities, geographical boundaries and other notable landmarks. The production of the various maps entailed the following: preparation; recruitment and training; deployment of teams; development of maps; monitoring; re-demarcation; and administrative activities and finalisation.

1.12.1. Preparation

The GIS workstream in charge of mapping assembled all the materials including digital datasets, GPS devices and other logistics that were needed for the exercise. Based on the outcome, the schedule and the personnel to be recruited were also developed and determined accordingly.

1.12.2. Recruitment and Training

About 130 personnel were recruited and trained to conduct the mapping exercise in the country for the 2021 PHC. The personnel were trained purposely to collect data that were used as the basis for the SA and EA mapping.

1.12.3. Deployment of Teams

After the training, the personnel were deployed to the field in teams to collect the data on coordinates and visible features. In all, 50 teams were deployed with each team comprising two or three field officers. A team was assigned to one district at a time. Two main objectives were achieved. Firstly, the existing maps that were used in the 2010 PHC were updated to reflect the changes that had occurred between then and at the time of the exercise. For instance, in the 2010 PHC, there were 120 districts as opposed to 261 districts during the 2021 PHC. Secondly, further segmentations were done in order to arrive at desired EAs for the development of appropriate maps for the 2021 PHC.

1.12.4. Production of Maps

Based on the data collected from the fieldwork, analogue and interactive maps were developed. While the analogue maps provided all the details such as geographical features and landmarks in each district, the interactive maps enabled the field officers to navigate through the boundaries in their assigned EAs, SAs and districts.

1.12.5. Monitoring

A monitoring team was constituted to visit all the districts where GPS coordinate data, other features and landmarks were taken by the field officers. This was done for the purpose of quality assurance. The monitoring team therefore took and downloaded all the GPS coordinates to the GSS Secretariat, and the data were used to validate the ones collected earlier.

1.12.6. Re-Demarcation

During the mapping fieldwork, it was observed that there had been changes in the districts due to rapid structural development, population density, etc., since the 2010 PHC. As such, some of the EAs and SAs within districts were re-demarcated to make the 2021 PHC exercise manageable. In total, 51,913 EAs and 11,199 SAs were identified. The EAs formed the basis for determining the number of field officers required, their deployment as well as the procurement and distribution of logistics.

1.12.7. Administrative Activities

A series of interrelated administrative activities were conducted after the re-demarcation of areas and generation of maps. The first activity was editing. All the EAs that were demarcated in the 2010 PHC were accounted for in the 2021 PHC, and the re-demarcated EAs reviewed to obtain the current total number of EAs. The second activity was coding. Every EA was assigned its unique 10-digit code. The third activity was

the production of the digitised prototype maps. These maps were proofread at the fourth stage. Lastly, the maps were finalised for use by the field officers.

The interactive maps were based on Google features. The 2021 PHC also made use of existing satellite images that showed features and objects on the ground –Building Footprint. The images were captured about two years before the 2021 PHC and were used as a basis for identifying features and objects on the ground.

1.13. Recruitment and Training

Recruitment and training were core to the 2021 PHC. To ensure that the right calibre of field officers were recruited and trained for this important exercise, different approaches were adopted.

1.13.1. Approach to Recruitment

GSS engaged two main categories of officers to implement the 2021 PHC. The first comprised Curriculum Reviewers, National Monitors, Chief Trainers, Deputy Chief Trainers, Master Trainers, National Trainers and Regional Trainers. The second was the engagement of field officers, made up of Supervisors and Enumerators. The approaches employed to select the officers ranged from institutional selection, recommendations and online application processes.

1.13.2. Curriculum Reviewers

The curriculum reviewers, 12 in number, were staff in the various universities across the country, and some selected staff of GSS with expertise in instructional material development, training and assessment. They were purposively selected based on their expertise. They developed and revised all the training documents, including the Field Officer's Manual and the Trainer's Guide; complemented the training of all the field officers by assisting with sessions on presentation skills of the trainees, assessing and selecting them for the 2021 PHC.

1.13.3. Chief Trainers and Deputy Chief Trainers

The Chief Trainers and Deputy Chief Trainers were staff of GSS and MDAs with rich experience in censuses, surveys, and fieldwork. They were purposively selected and trained to train the master trainers. The Chief Trainers and deputies were responsible for the development of the Census instruments and the training of all groups of personnel. Four Chief Trainers and eight Deputy Chief Trainers were engaged for the exercise.

1.13.4. Master Trainers

The Master Trainers comprised persons with postgraduate degrees and considerable experience in teaching and research. To assemble such persons, GSS wrote letters to the various universities to nominate persons to be considered for recruitment and training. A total of 108 Master Trainers were recruited and trained. They were subsequently engaged to train the national trainers.

1.13.5. National Trainers

National trainers were also selected through recommendations from the universities in the country. A request was made by GSS to the universities, particularly, departments with social sciences orientation, to nominate officers to be recruited and trained. In all, 1,896 were recruited and trained and 915 were engaged to train the regional trainers.

1.13.6. Regional Trainers

The regional trainers were made up of persons who had obtained Masters or Bachelor's degrees and had experience in teaching or training. The regional trainers applied through the Enumerator Bureau Recruitment Portal (EBRP), an online portal that was developed by GSS. In all, 8,777 persons were recruited and trained and 5,688 were engaged to train the enumerators at the district level.

1.13.7. Enumerators and Supervisors

The enumerators constituted the last line of the mainstream field officers. Their selection was online-based through the EBRP. However, in areas where the lack of internet connectivity precluded prospective applicants from applying through the Bureau, District Census Officers (DCOs) with the DCICs provided an offline platform which was later input into the EBRP. A total of 206,358 applications were submitted via the EBRP out of which 75,050 were recruited and trained. After the training, 70,352 (59,152 enumerators and 11,200 supervisors) were selected and engaged.

1.13.8. Other Recruitments

GSS also recruited, trained and appointed additional personnel who played supervisory and administrative roles in the statistical districts. They comprised six zonal field coordinators (ZFCs), 32 regional field supervisors (RFS), 499 district field supervisors (DFS) and 272 district census officers (DCOs). Some of the ZFCs and RFS were staff at GSS HQ and regional statisticians. The rest comprised staff and non-staff who applied through EBRP, were screened, selected and appointed.

Other streams of officers were recruited, based on their expertise, to support the 2021 PHC. These were data quality monitors, IT officers, field technical officers and the census administrative officers who constituted the data quality management teams (DQMTs) at the district, regional and national (HQ). Generally, these teams provided data management support to the supervisors and enumerators on the field.

1.13.9. National Data Quality Management Team

At HQ, a national data quality management team (NDQMT) comprising two top-level staff were charged with the responsibility of recruiting, training and liaising with the regional data quality management teams (RDQMTs) and district data quality management teams (DDQMTs).

1.13.10. RDQM and DDQM

The regional data quality monitors (RDQMs) and the district data quality monitors (DDQMs) were recruited through a two-staged online assessment. Potential monitors were expected to possess expertise in computer-based applications including Excel, STATA and CS PRO. In all, 37 RDQMs and 272 DDQMs were employed. Their task was to cross-check for inconsistencies with the aim of ensuring that data collected by the enumerators were of the desired quality. One data monitor was assigned to each statistical district office while at the regional level, five each were assigned to Ashanti, Eastern and Greater Accra regions; three to Central region; two each to Bono, Bono East, Northern, Upper East, Upper West, Volta and Western regions; and one each to Ahafo, North East, Oti, Savannah and Western North.

1.13.11. NIT, RIT and DIT

Other support streams were the information technology (IT) officers at the national (NIT), regional (RIT) and district (DIT) levels. The NIT officers developed the CAPI and resolved any errors which were observed in the application. A total of 34 RIT and 449 DIT officers were recruited and trained. These included one RIT officer assigned to each region and two DIT officers assigned to each district. The DIT officers addressed CAPI and tablet-related challenges at the district level. They referred unresolved challenges to the RIT. There were two DIT officers assigned to each district and one RIT officer assigned to each region.

1.14. Approach to Training

Three main modes of training were adopted at four levels. These were self-learning, virtual and face-to-face training modes. The first two modes were instituted in response to the restrictions that were introduced due to the emergence of the COVID-19 pandemic. The four levels were the training of master, national and regional trainers and finally supervisors and enumerators,

1.14.1. Self-learning

All the training materials such as the Field Officer's Manual, Trainer's Guide, presentation slides and other materials needed to train the applicants were uploaded onto the GSS website. As part of the training processes, applicants downloaded these materials and studied on their own. This was the first level of training that was used to train all the field officers. The chief trainers, master trainers, NDQM and NIT officers were only trained by the 'face-to-face' mode. Three weeks was used for the self-learning mode of training.

1.14.2. Virtual Training

The second stage after the self-learning was virtual training. GSS procured the Google Classroom and Zoom virtual platforms to train the applicants after the self-learning as the second level of training, and used it as the first level of selection of the national and regional trainers. A period of between nine and 15 days was used for this mode of training

and selection. Assessments were conducted at the end of the training and trainees whose results were satisfactory were selected to participate in face-to-face training.

1.14.3. Face-to-Face Training

There were two slots of the face-to-face training. The first was the training of chief trainers, master trainers, NDQM and NIT which took place before the emergence of COVID-19. The second was the final level of training and selection of all other officers, and this was done after the COVID had reduced in intensity. This stage lasted for 10 days and included assessment and final selection. Qualified persons were selected for the specific positions for which they applied.

1.15. Listing of Structures

The structure listing entailed the counting of all structures in the country whether occupied or vacant, and this was conducted within two weeks prior to the Census Night. The first week was used for listing of the structures while the second week was used for mop-up. The structure listing involved three main steps. These were canvassing, assigning serial numbers to structures (chalking) and collecting information on the structure and households (listing).

1.15.1. Canvassing

Canvassing involved both enumerators and supervisors walking through their respective EAs and SAs to familiarise themselves with the areas they were assigned to work in. The exercise had two objectives. The first was to identify and interact with significant persons in the area. The second was for them to move within and around the EAs and communities and identify their boundaries, landmarks indicated on their maps, and the location of structures. During the canvassing, enumerators also planned how to use the serpentine approach for the listing of structures.

1.15.2. Structure Numbering (Chalking)

In this second stage, unique numbers composed of two parts were assigned to every structure in an EA. The first part, the 'stem' — 2021PHC/xxx/ — identified the Census and the EA where the structure is located, and the second, a four-digit serial number assigned consecutively within the EA. This was done to identify every structure for listing and enumeration so as to ensure complete coverage of all structures as well as the persons who dwell in the occupied ones. The numbering, also known as chalking, was done in the serpentine order, and arrows used to indicate the direction to the next numbered structure. Enumerators wrote the serial numbers in conspicuous places which would be visible to other officers and household members, but would not be easily erased.

1.15.3. Listing

Listing of persons in occupied structures followed after the chalking. The exercise entailed the collection of basic information about a structure, its use and the occupants, based on the listing form.

1.16. Enumeration of Persons

The 2021 PHC collected data from different categories of groups of population in the country. All persons irrespective of their nationality were enumerated at the place where they spent the Census Night in the country. They were categorised into two: household and non-household/institutional populations. The household population comprised the persons in 'conventional' households as well as homeless households, and non-household population were categorised as stable and unstable institutional population (group quarters), floating population, persons who spent Census Night at hotels and guesthouses, and diplomats.

1.16.1. Enumeration of Persons in Households

The household population consisted of persons in conventional households and homeless persons. The categories of persons enumerated were usually members of and visitors to the household who spent the Census Night in the household, and workers who, by virtue of their work, were on duty on Census Night, such as security guards/watchmen, medical staff. The homeless population were those who slept on pavements and in make-shift structures. Due to the transient nature of their lives, those who were enumerated were given Certificate of Enumeration in order to avoid omissions and multiple counting.

1.16.2. Enumeration of Persons in Institutions

The institutional population [non-household], also known as group quarters, consisted of two broad categories: stable and unstable populations. The stable population included those in boarding schools and halls/hostels of residence at secondary and tertiary institutions, barracks, and religious communities, while the unstable population comprised persons who boarded at places such as prisons, correctional centres and health facilities. However, staff and their household members who resided in these institutions were enumerated as conventional household members.

Prior to the Census Night, field officers listed all locations of these categories of households and estimated their populations. The purpose was to plan for their enumeration to ensure that they were not omitted. The PHC 1B questionnaire and PHC 1C questionnaire were used to enumerate the stable and unstable populations, respectively. In order to avoid omission or multiple counting, persons who were enumerated were given a Certificate of Enumeration.

1.16.3. Enumeration of Floating Population

Persons identified as "floating" were enumerated using the PHC 1D, on Census Night. Prior to the Census Night, field officers engaged with organisations, institutions, offices and communities that regulate these spaces and planned the enumeration processes. To avoid omissions and multiple counting, all the floating population enumerated were issued with a Certificate of Enumeration. The floating population include those who on Census Night, slept at lorry parks, markets, filling stations, railway stations, in front of stores

and offices, on verandas, pavements, as well as those at seaports, airports, oil rigs, border posts and those who engaged in fishing and hunting and, therefore, could not spend the Census Night in their respective homes.

1.16.4. Enumeration of Persons in Hotels and Guest Houses

Persons who spent the Census Night in hotels and guest houses were enumerated with PHC 1E. Copies of the instrument were printed and deposited with the managers or receptionists of the hotels and guest houses to be filled by these occupants.

1.16.5. Enumeration of Diplomats

Diplomats (officials who represent their respective countries abroad or representatives of international organisations designated as such) were enumerated with PHC 1F. The instrument was printed and submitted to their offices through the Ministry of Foreign Affairs and Regional Integration.

1.17. Data Transmission and Storage

The transmission and storage of data was as important as their production. Dual approaches — horizontal and vertical — were developed for transmission and storage. During the fieldwork, every enumerator transmitted the data collected to their respective supervisors via Bluetooth daily (horizontal approach).

The vertical approach involved the transmission of data onto a GSS central server at the Secretariat. Enumerators, after transmitting the data to the supervisors via Bluetooth, also transmitted the data via the internet to the central server at the GSS Headquarters daily. Supervisors then in turn transmitted the data received from their enumerators via the internet to the central server at GSS Secretariat also on a daily basis. These approaches provided back-up data.

1.18. Data Quality Management

The use of CAPI and tablets was the first data quality control mechanism which allowed for data monitoring during the data collection exercise. To enhance the quality of data from the field, GSS instituted data quality management teams (DQMTs) at the national, regional and district levels to assess the quality of data in near real time.

The DDQMT monitored all the data errors, inconsistencies, missing data and duplicates, and drew the attention of the supervisors to any anomalies found, for further investigation and correction. The DDQMT also undertook spot checks and validation exercises to assure complete and quality data. In addition, there was always one DIT on the field to address IT concerns. The rover system was developed and utilised whereby a DIT met enumerators daily to address their concerns.

At the regional level, the RDQMT resolved all the data-related issues referred to it by the DDQMT. Similarly, at the national level, data-related issues that were escalated by the RDQMT were addressed by the NDQMT.

1.19. Quality Assurance, Monitoring and Evaluation

Quality assurance, monitoring and evaluation were integrated into every aspect of the 2021 PHC. The team for this workstream ensured that all the plans relating to the 2021 PHC were implemented, monitored and evaluated in order to achieve complete coverage and generate quality data. To ensure effective monitoring and evaluation each member of the team was assigned to two work streams as a substantive officer and a support officer to facilitate experience sharing and effective coordination. The team was guided by best practices from the previous PHCs, Ghana Census of Agriculture (GCA), Household-Based Sample Surveys and the Building Footprints from satellite imagery.

Throughout the census processes, all the work plans of the various work streams were reviewed to ensure that they also conform to the schedule. To facilitate information flow during the Census quality assurance and monitoring and valuation, a reporting system was instituted. Firstly, a weekly report was sent to the Census Coordinating Team (CCT) which was part of the weekly meetings of the Monitoring and Evaluation Team. Secondly, a monthly report was also submitted to the CCT. Lastly, quarterly assessment report was also developed and shared with the CCT.

During the preparatory stage, the quality assurance and monitoring and evaluating team sampled all the logistics and materials that were procured to assess the validity and their conformity to specifications. During field data collection, a Call Centre served to daily address concerns from the public to ensure complete coverage. In addition, a profiling framework was developed and used regularly to assess the risk levels of districts, SAs, EAs and localities. This also ensured that both the field officers and the logistics were safe and secured. It also facilitated logistical and security needs and helped in addressing them.

Furthermore, 112 monitors, comprising 95 national monitors and 17 international monitors were deployed to monitor and evaluate the activities of the field officers during the Census. A situation room was set up where data were collated and posted onto a dashboard, and constantly monitored and verified. When necessary, queries were generated and sent to the field for validation and correction.

Following the main enumeration, a Post Enumeration Survey (PES) was conducted to further evaluate the validity and reliability of the data collected during the Census. Similar to the Census, all aspects of the PES were monitored and evaluated for quality assurance purposes. National monitors were also deployed to the field for on-site monitoring.

1.20. Partnership and Collaboration

Census implementation requires partnerships. Therefore, the activities of the 2021 PHC were implemented in collaboration with both local and international partners and stakeholders. The partners and stakeholders supported in diverse ways. Notably, the local partners and stakeholders included the tertiary institutions across the country,

telecommunication companies (Telcos), Jospong Group of companies, Metropolitan/Municipal/District Assemblies (MMDAs), Ministries, Departments and Agencies (MDAs), Ghana Education Service (GES)/Ministry of Education, Ghana Health Service/Ministry of Health, Electoral Commission, religious bodies, schools and communities, security agencies and the media.

1.20.1. Local Partners and Collaborators

1.20.1.1. Tertiary institutions

The public universities across the country supported various stages of the implementation of 2021 PHC by permitting some of their academic staff to be engaged in the Census operations. The institutions also provided lecture rooms and accommodation spaces at subsidised rates for the training of census personnel.

1.20.1.2. Telecommunication companies

Three telecommunication companies (Telcos) – MTN, Vodafone and AirtelTigo – collaborated with GSS and provided an Access Point Name (APN) to enable access to internet services. They also supplied SIM cards and data to GSS at discounted cost. In addition, the three Telcos offered free SMS blasts to aid the publicity activities and MTN offered free call back ring tones

1.20.1.3. Jospong Group of Companies

The Jospong Group of Companies provided vehicles that transported logistics from the Headquarters of GSS to the statistical districts across the country. The Group, through Zoomlion, its waste management consortium, also fumigated all the training centres periodically and provided cleaning services at these centres. In addition, Zoomlion supplied personal protective equipment (PPEs) such as face masks and alcohol-based hand sanitizers to support the Census. The Group also assisted with printing of some of the training materials. These services and supplies were provided at no cost to GSS.

1.20.1.4. IPMC Ghana

IPMC Ghana supported the uploading of all the Census content materials to the 75,000 tablets. The support covered sharing of technical knowledge on how to upload the Census materials with minimal human involvement and the provision of servers with the aim of shortening the duration for the exercise without compromising accuracy.

1.20.1.5. Metropolitan/Municipal/District Assemblies

The MMDAs were key partners to the 2021 PHC. They constituted the District Census Implementation Committee which oversaw the recruitment of field officers and the implementation of the 2021 PHC. The MMDAs also created awareness, sensitised and educated the population in the various localities about the 2021 PHC with the use of mobile education vans and through the assembly members; and provided vehicles, and office and storage spaces for use in the regions and districts during the Census.

1.20.1.6. Ministries, Departments and Agencies

The MDAs played diverse collaborative roles to support the implementation of the 2021 PHC. Specifically, the Ministry of Information through the Information Service Departments at the various districts, the National Commission for Civic Education (NCCE) and other related ministries and departments partnered with GSS to provide publicity, education and advocacy for the Census.

1.20.1.7. Ghana Education Service

The Ghana Education Service (GES) supported the Census at two levels. Firstly, the GES revised the school calendar to accommodate the 2021 PHC training calendar. This was to allow for the training of Census personnel at the premises of selected basic and senior high schools across the country. Secondly, the GES through the schools provided the needed spaces, water, electricity and other logistics such as projectors and furniture for the training of the field officers at no cost to GSS.

1.20.1.8. Ghana Health Service

Through its Metropolitan/Municipal/District Directorates, the Ghana Health Service vaccinated the field officers against COVID-19 prior to the fieldwork.

1.20.1.9. Electoral Commission and West African Examination Council

As partners, the Electoral Commission (EC) and the West African Examination Council (WAEC) supported the Census with vehicles for transportation of materials, logistics and personnel. The EC also made available a number of office spaces at the district level for the 2021 PHC administrative work.

1.20.1.10. Religious bodies and traditional leaders

The churches and mosques in the country collaborated by using the pulpit and minbar respectively, for publicity, education and advocacy before and during the Census. The traditional leaders in all the communities also provided support by using existing local platforms and communication channels for the same purpose. In addition, they assisted the field officers to determine locality boundaries and to canvas difficult to reach communities.

1.20.1.11. Security agencies

The Police, Military and the Fire Service played various roles before, during and after the Census. The Police provided the needed security for the personnel, logistics and materials especially at difficult to reach communities. The Military supported with publicity and advocacy particularly within the security restricted zones, and also provided access to field officers to educate and enumerate persons in such communities. The Fire Service provided the use of the fire tenders for Census Night activities.

1.20.1.12. GCB Bank and Cal Bank

GCB Bank provided an electronic platform that was used for the payment of funds while Cal Bank provided financial assistance to support the printing of some of the training materials.

1.20.1.13. Windy Lodge Hotel

The Windy Lodge Hotel offered financial assistance for the printing of some of the training materials, particularly the Field Officer's Manual and the questionnaires.

1.20.1.14. The media

Every aspect of the 2021 PHC was made known to the general public via the print and electronic media (including social media). Several media channels partnered and collaborated with GSS to create awareness, inform and educate the public widely about the 2021 PHC activities before, during and after the field exercises. They also supported the dissemination of the reports.

1.20.2. International Partners and Collaborators

The Development Partners touted the formulation of a Census Donor's Forum. However, the COVID-19 protocols and restrictions militated against its implementation. Consequently, the following partners bilaterally supported the Census process in various ways:

1.20.2.1. UNFPA

UNFPA is the leading partner in the implementation of PHCs globally and has continued to play a key role in the conduct of Ghana 2021 PHC. Principally, UNFPA deployed a Chief Technical Advisor (CTA) to provide responsive technical assistance and oversight and ensure that every phase of the process is implemented in accordance with the United Nations Principles and Recommendations for the 2020 Round of the World PHCs programme as well as international best practices. UNFPA also provided additional support related to logistics for procurement of some of the tablets, staff capacity building, provision of GIS software and implementation of independent monitoring of the Census.

1.20.2.2. UNECA

UNECA provided technical assistance and staff capacity building in GIS applications, provisioning of the tablets and development and deployment of the enumeration tracking dashboard and Census Activity Tracker.

1.20.2.3. World Bank

The World Bank provided technical assistance and staff training on GIS applications and access to geospatial resources including satellite imagery partially used for the production of EA maps.

1.20.2.4. US Census Bureau

The US Census Bureau supported by providing the needed technical assistance and training on the CAPI development and deployment.

1.20.2.5. ONS-UK/UKAID

UKAID, through ONS, provided strategic support, including the formulation of the Census Business Continuity Plan (BCP) in response to the COVID-19 pandemic and review of various strategic documents. They also supported staff capacity building and compilation of the Preliminary and General Census reports.

1.20.2.6. IOM

IOM supported the production of thematic reports.

1.20.2.7. Statistics Denmark

Statistics Denmark trained staff to develop a statistical data bank where customised data could be generated and analysed.

1.20.2.8. Geo-referenced Infrastructure and Demographic Data for Development (GRID^3)

GRID^3 supported capacity development in GIS applications and provided technical assistance in the development of various tools for processing geospatial data and creation of hard-to-count (HTC) indices.

2. VOLUME 3M: BACKGROUND INFORMATION

The main thrust of Sustainable Development Goal 6 (SDG 6) is access to clean water and sanitation for all by 2030 through their availability and sustainable management. While substantial progress has been made in increasing access to clean drinking water and sanitation, billions of people worldwide, mostly in rural areas, still lack these basic services: one in three people do not have access to safe drinking water, and more than 673 million people still practise open defaecation according to the United Nations (UN).

In Africa's bid to achieve the global goal on water and sanitation (SDG 6), the Secretariat of the African Ministers' Council on Water (AMCOW) has developed The African Sanitation Policy Guidelines (ASPG) to guide African governments on the review, revision, and development of sanitation policies and associated implementation strategies. AMCOW has called for the advancement of the African water and sanitation agenda within the framework of the Sharm El-Sheikh Commitments on Water and Sanitation implementation and proposed a Pan-African mechanism for the monitoring and evaluation of progress in the water and sanitation sector at the country, sub-regional and regional levels.

In Ghana, the Government's vision for the Water and Sanitation sector is for all persons in the country to have access to sustainable water and environmental sanitation as outlined in the national Water, Sanitation and Hygiene (WASH) programme. This is in line with Sustainable Development Goal 6, which is to ensure the availability of safe, adequate and affordable water and environmental sanitation in a sustainable manner for the wellbeing of all people in the country. The strategy is to provide universal access to clean water and sanitation through sustainable management.

Ghana's SDG report indicates that while considerable strides have been made towards achieving the SDG target on water, the same cannot be said of sanitation. Ghana faces serious constraints to meeting the challenge of providing adequate and improved sanitation for its urban and rural inhabitants. Economic growth has been accompanied by rapid urbanisation, thereby putting a strain on infrastructure and the provision of sanitation facilities, particularly in urban areas.

The 2021 Population and Housing Census provides data on solid and liquid waste management, toilet facility and source of water for drinking and domestic use. The data collected also provide up-to-date indicators for monitoring the sector's policies and programmes. Further analysis of the data will enhance targeting and priority setting in the collective efforts to attain adequate, clean and reliable water supply as well as a decent environment for all.

The 2021 PHC introduced an approach to collecting data on toilet facilities which is a departure from that of the 2010 PHC especially with respect to types, and additional information collected separately on containment and user interface.

This report presents information on water and sanitation and covers the main sources water for drinking and other domestic uses by households. It includes collection time to and from the main source of drinking water, information on wastewater disposal at the household level, solid waste management and toilet facilities. These are disaggregated by type of locality and region of residence. It is based on responses obtained from households as defined under Section 1.10.2, and excludes homeless households.

The next sections deal with the definition of concepts, highlights of findings with charts and detailed results presented in tables.

3. DEFINITION OF CONCEPTS

3.1. Improved Water

This refers to water source that is likely to be protected from outside contamination such as pipe borne water, borehole, tube well, protected well, rain water, protected spring, bottled water and sachet water.

3.2. Basic Services - Drinking Water

This refers to the provision of improved sources of drinking water either in the dwelling/yard/plot or within 30 minutes round trip collection time.

3.3. Limited Services - Drinking Water

This refers to the provision of improved sources of drinking water available beyond 30 minutes round trip collection time.

3.4. Unimproved Water

This refers to water, the source of which is not adequately protected from outside contamination, such as unprotected well, unprotected spring, tanker supply, vendor-provided, dugout, pond, lake, dam, canal and river/stream.

3.5. Sanitation

This refers to having access to facilities for the safe disposal of human waste (faeces and urine) as well as having the ability to maintain hygienic conditions through services such as garbage collection, industrial/hazardous waste management and wastewater treatment and disposal.

3.6. Wastewater

It refers to any water that has been contaminated by human use and discarded as unwanted and useless, such as from bathroom, kitchen, laundry and others.

3.7. Solid Waste

It refers to the range of garbage materials arising from animal and human activities that are discarded as unwanted and useless. Solid waste includes food waste, garden waste, plastic waste, scraps, and others.

3.8. Receptacle

It refers to the container (waste bin) or any item that temporarily stores waste generated.

3.9. Type of Toilet Facility

It refers to the type of containment where the faeces is stored.

3.10. User Interface (drop hole/seats)

This refers to the component of the toilet where the user sits or squats to defaecate.

3.11. Improved Toilet

It refers to toilet that hygienically separates human excreta from human contact. It is a facility either with connection to a public sewer or a septic system, a pour-flush latrine, a simple pit latrine with slab or a ventilated improved pit latrine with slab.

3.12. Basic Services – Toilet

This refers to improved toilet facility that is for the exclusive use of the household.

3.13. Limited Services – Toilet

This refers to improved toilet facility that is shared with other households.

3.14. Unimproved Toilet

This refers to a toilet facility that does not safely and hygienically separate excreta from human contact. It is a facility without a flush/pour flush (to piped sewer system, septic tank, pit latrine), a ventilated improved pit (VIP) latrine without slab, a pit latrine without slab, a composting toilet without slab or a bucket/pan latrine.

3.15. Household Toilet Facility

This refers to a toilet facility that is either exclusively accessible to a household or shared with other household(s). The facility could be improved (basic and limited) or unimproved.

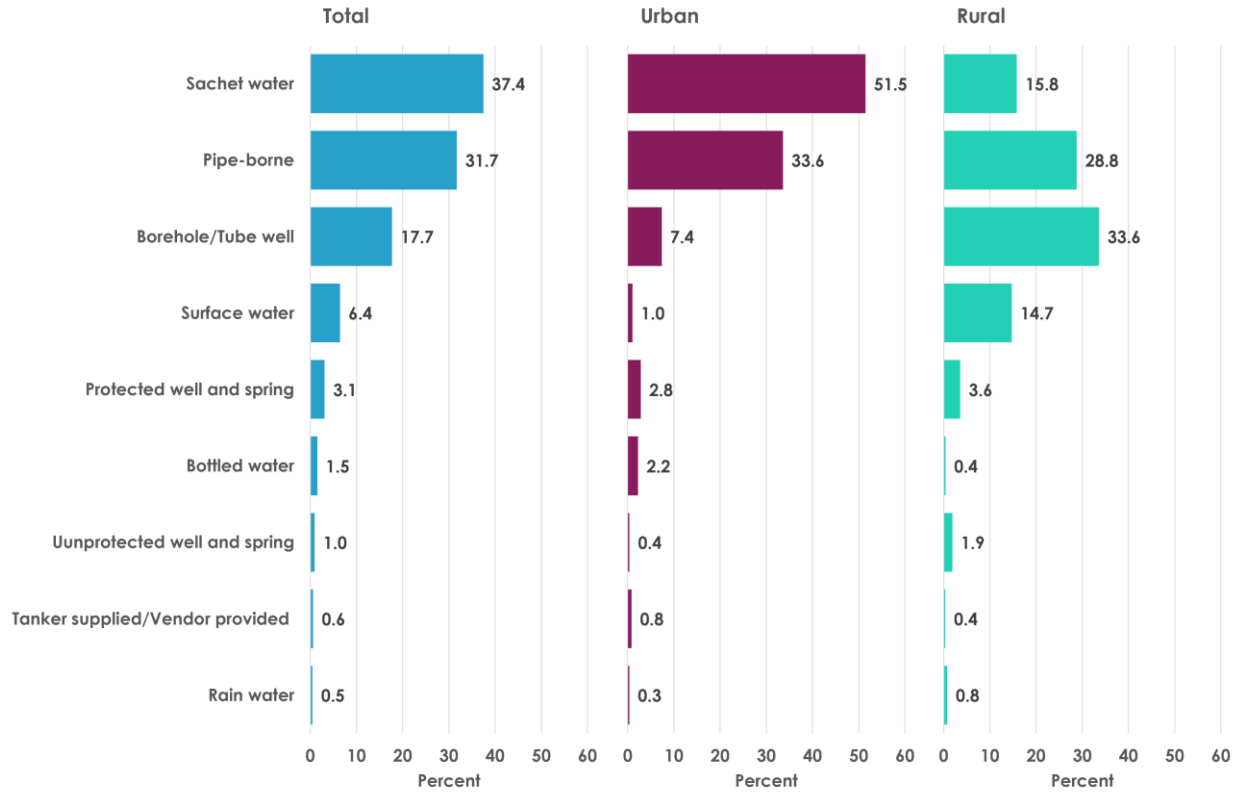
3.16. Open Defaecation

It is synonymous with having no toilet facility and having to defaecate in the open rather than into a toilet. The defaecation points being the bush, at the beach/water bodies, polythene bags, open field, or gutter.

4. HIGHLIGHTS OF RESULTS

The three main sources of drinking water for households are sachet water (37.4%), pipe-borne water (31.7%) and borehole/tube well (17.7%). In urban areas the two main sources are sachet water (51.5%) and pipe-borne water (33.6%) while in rural areas they are borehole/tube well (33.6%) and pipe-borne water (28.8%).

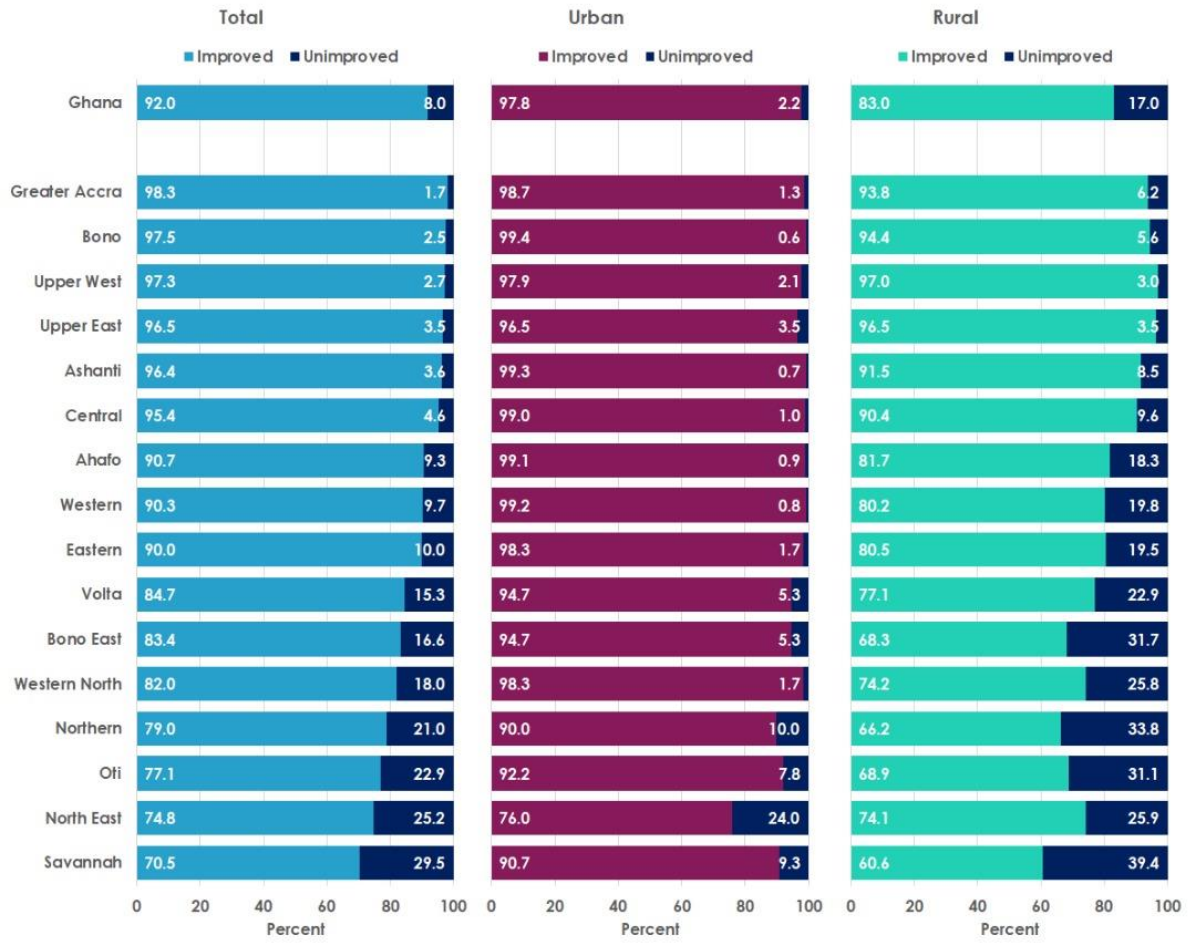
FIGURE 4.1: MAIN SOURCES OF DRINKING WATER BY TYPE OF LOCALITY



Nine in 10 households (92.0%) have access to improved sources of drinking water and the proportion is higher for urban (97.8%) than rural (83.0%) households.

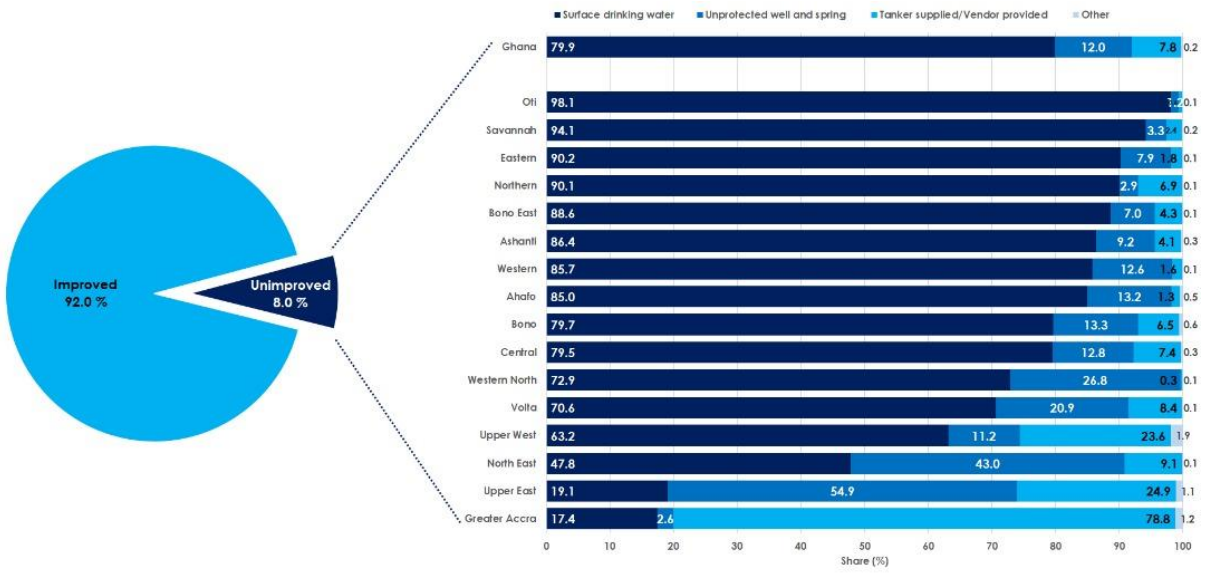
At least 90 percent of households in nine regions have access to improved sources of drinking water, of which Greater Accra (98.3%), Bono (97.5%) and Upper West (97.3%) have the highest, and Oti (77.1%), North East (74.8%) and Savannah (70.5%) regions, the lowest.

FIGURE 4.2: PROPORTION OF HOUSEHOLDS USING IMPROVED AND UNIMPROVED SOURCES OF DRINKING WATER BY TYPE OF LOCALITY AND REGION



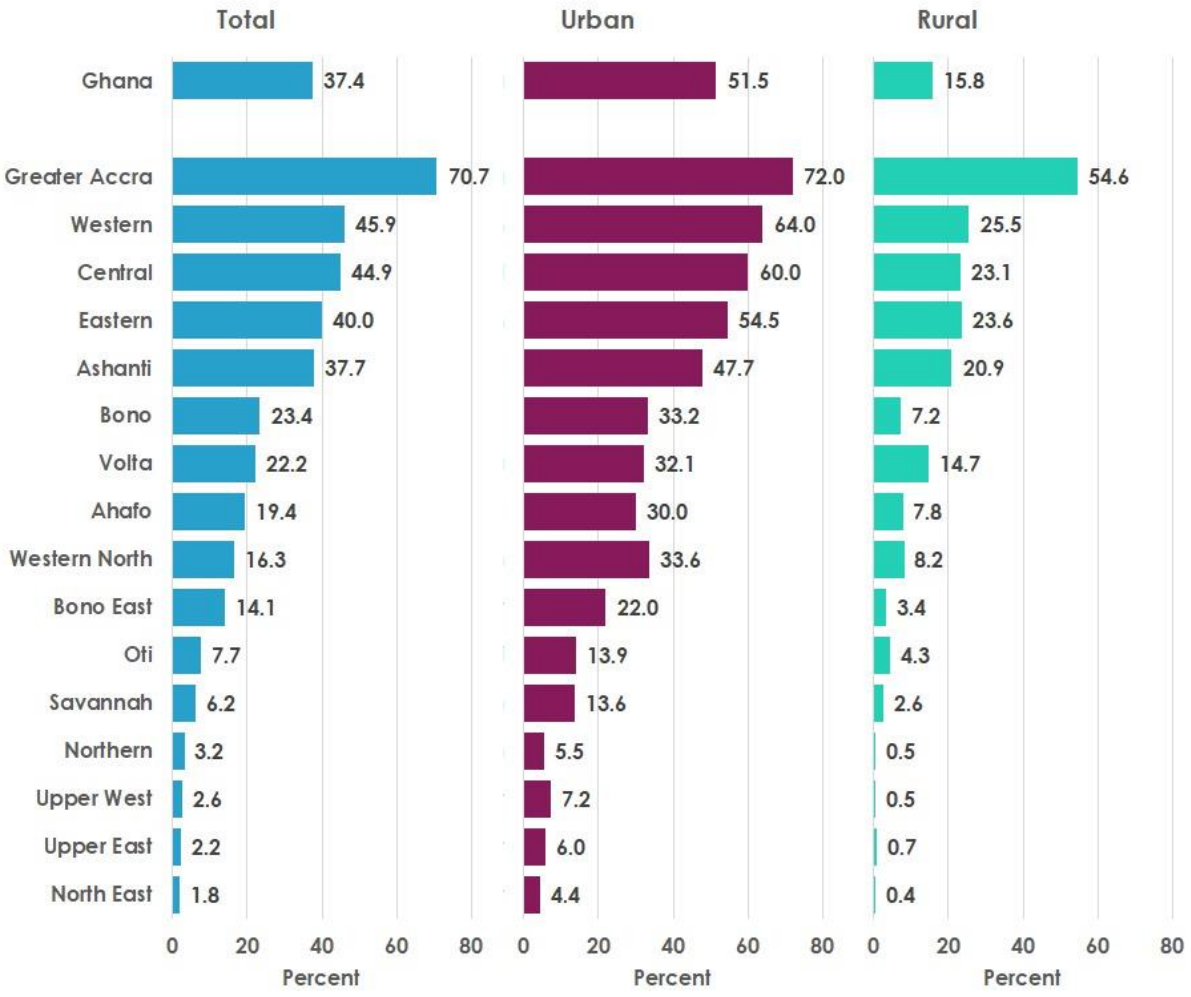
Four in five households (79.9%) using unimproved sources of drinking water rely on surface water (river/stream/dugout/pond/dam/canal), and this is the case for 10 regions, with the highest in the Oti Region (98.1%). In Greater Accra Region, the dominant source is tanker service (78.8%) while unprotected well and spring dominate in Upper East Region (54.9%).

FIGURE 4.3: PROPORTION OF HOUSEHOLDS USING UNIMPROVED SOURCES OF DRINKING WATER BY TYPE AND REGION



Use of sachet water as the main source of drinking water is largely an urban phenomenon (51.5%). It is the most used source of drinking water in Greater Accra (70.7%) and the least in North East (1.8%), Upper East (2.2%) and Upper West (2.6%) regions.

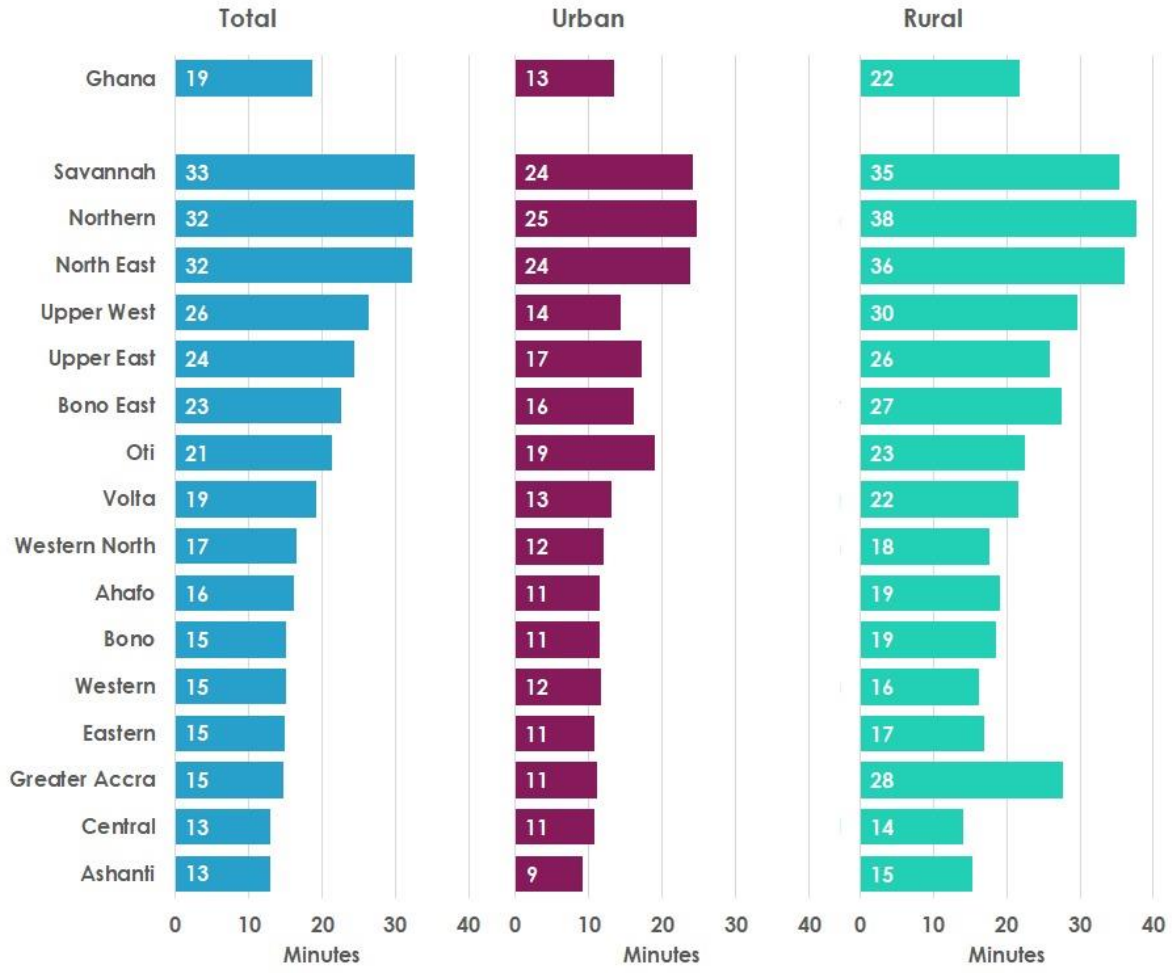
FIGURE 4.4: PROPORTION OF HOUSEHOLDS USING SACHET WATER AS MAIN SOURCE OF DRINKING WATER BY TYPE OF LOCALITY AND REGION



The average time households without water on their premises spend to access any source of drinking water is 19 minutes, and is generally longer in rural (22 minutes) than in urban (13 minutes) areas.

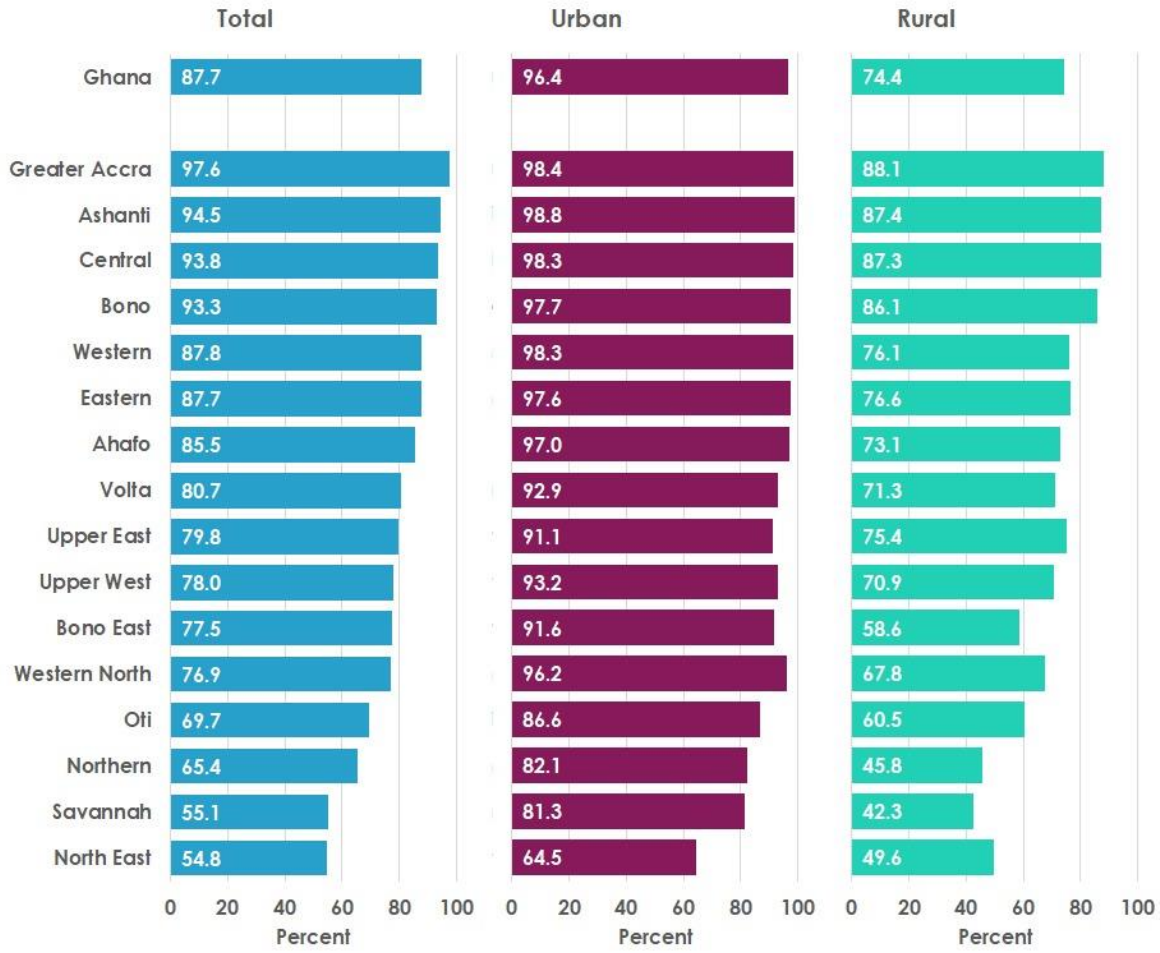
In the regions, the time spent is longest in the Savannah (33 minutes), Northern and North East (32 minutes), and shortest in Central and Ashanti (13 minutes) regions.

FIGURE 4.5: AVERAGE TIME SPENT (MINUTES) BY HOUSEHOLDS WITHOUT WATER ON THEIR PREMISES TO ACCESS DRINKING WATER BY TYPE OF LOCALITY AND REGION



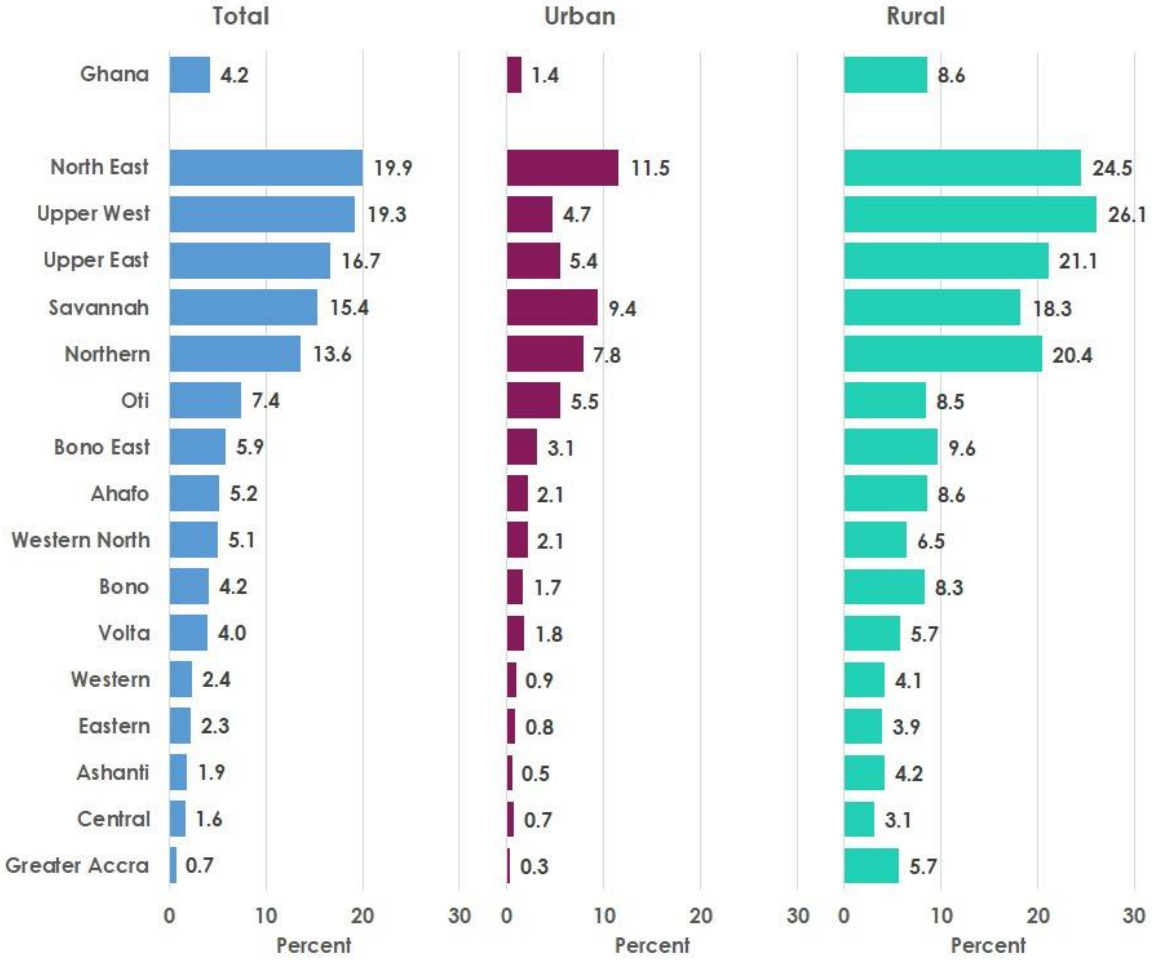
Households with basic drinking water services constitute 87.7 percent, and this varies between urban (96.4%) and rural (74.4%) areas. Savannah (55.1%) and North East (54.8%) regions have the lowest with Greater Accra (97.6%) and Ashanti (94.5%) regions having the highest proportions.

FIGURE 4.6: PROPORTION OF HOUSEHOLDS WITH ACCESS TO BASIC DRINKING WATER SERVICES BY TYPE OF LOCALITY AND REGION



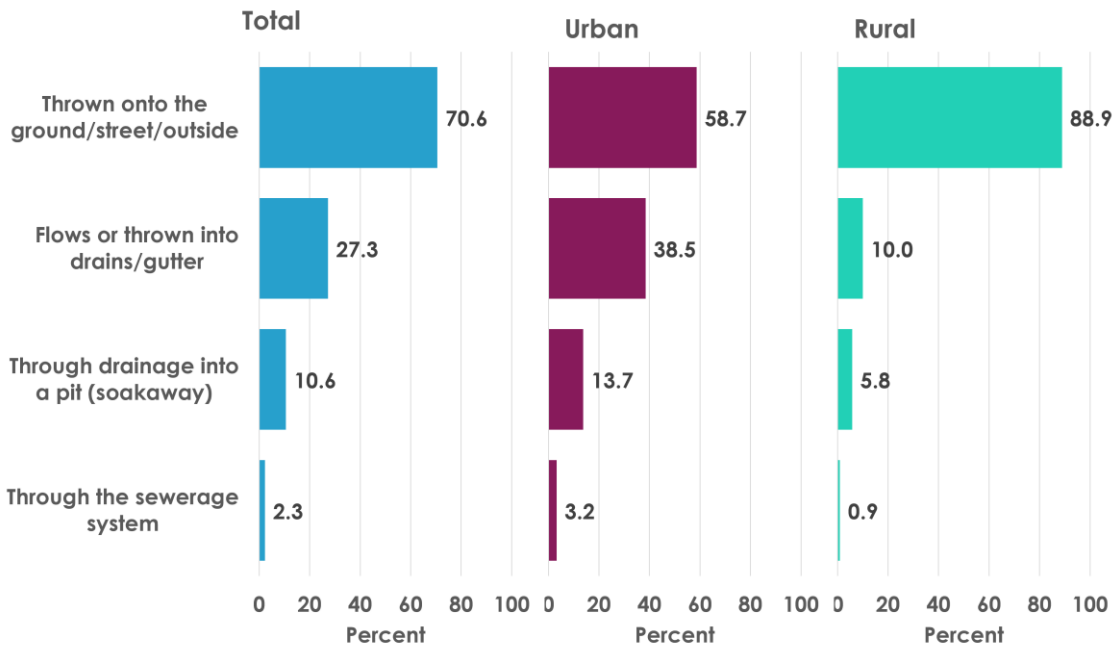
Less than five percent (4.2%) of households have access to improved source of drinking water beyond 30 minutes (limited service), and the proportion is higher in rural (8.6%) than in urban (1.4%) areas. Five regions are worse off, having proportions higher than 10 percent: North East (19.9%), Upper West (19.3%), Upper East (16.7%), Savannah (15.4%) and Northern (13.6%) regions.

FIGURE 4.7: PROPORTION OF HOUSEHOLDS WITH LIMITED SERVICE TO IMPROVED SOURCE OF DRINKING WATER BY TYPE OF LOCALITY AND REGION



The most prevalent method of disposing wastewater is throwing onto the ground/street/outside (70.6%), and this occurs in rural (88.9%) as well as urban (58.7%) areas. The least is through sewerage system (2.3%) with 3.2 percent in urban and 0.9 percent in rural areas.

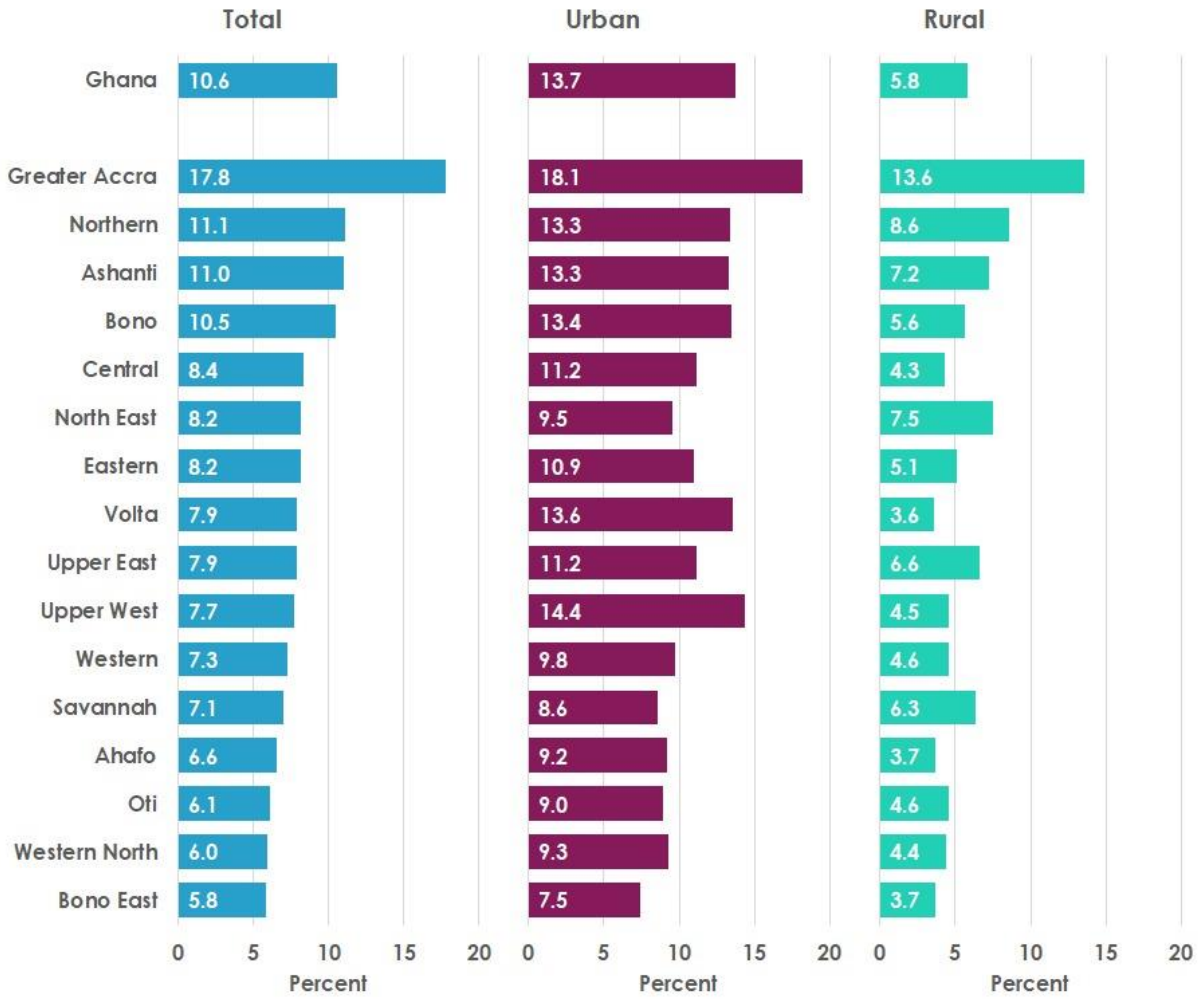
FIGURE 4.8: HOUSEHOLD WASTEWATER DISPOSAL BY METHOD AND TYPE OF LOCALITY



NOTE: The figures are from multiple responses and therefore the sum exceeds 100 percent.

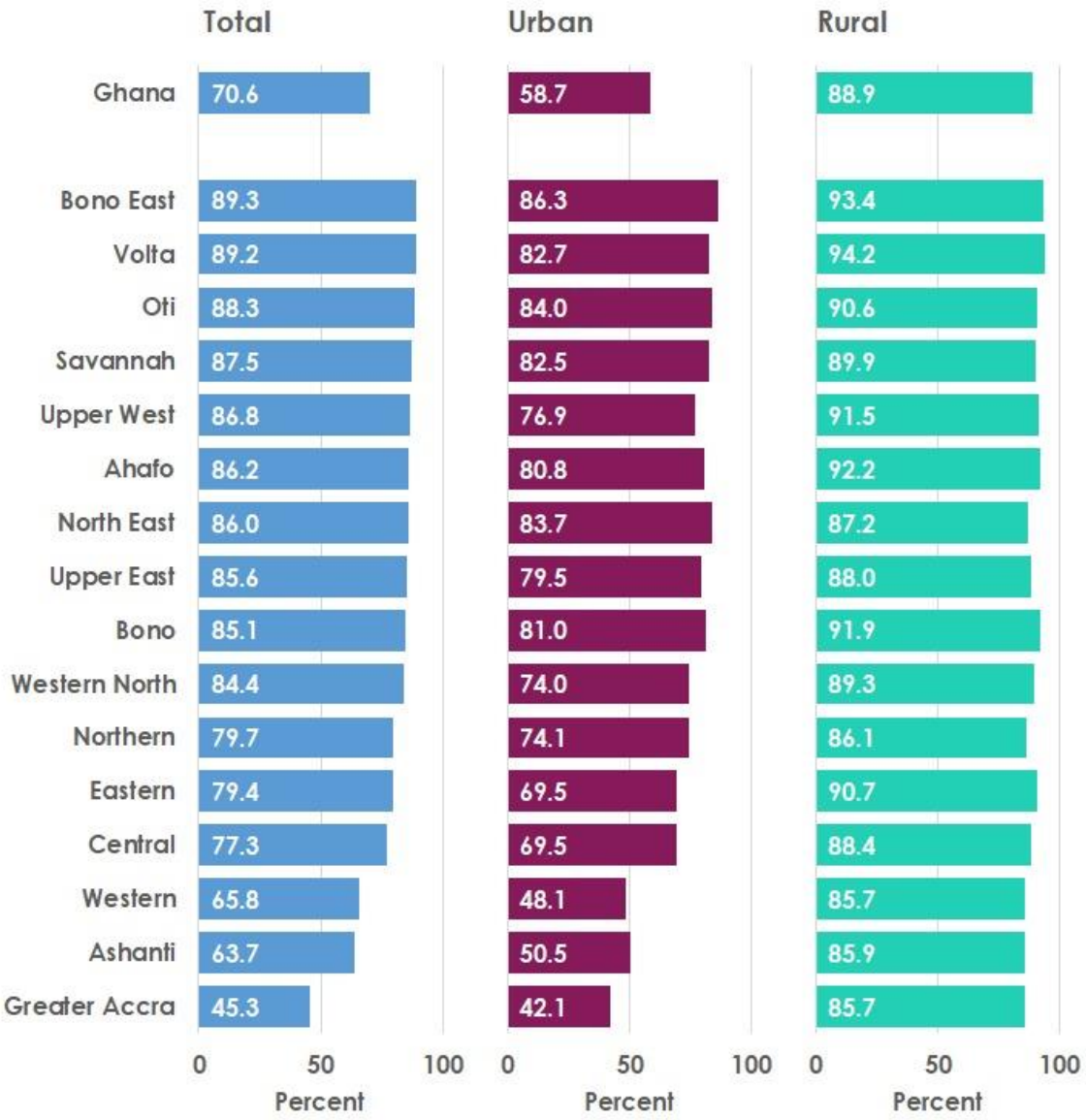
One-tenth (10.6%) of the households discharge their wastewater through soakaway (soakpit). The proportion for urban (13.7%) is more than twice that of rural (5.8%). Greater Accra (17.8%) has the highest proportion and Bono East (5.8%), the lowest.

FIGURE 4.9: PROPORTION OF HOUSEHOLDS USING SOAKAWAY (SOAKPIT) FOR WASTEWATER DISPOSAL BY TYPE OF LOCALITY AND REGION



The practice of disposing of wastewater by throwing onto the ground/street/outside varies widely in urban areas from 42.1 percent in Greater Accra to 86.3 percent in Bono East regions, and is less diverse in the rural with proportions from 85.7 percent in Greater Accra to 94.2 percent in Volta regions.

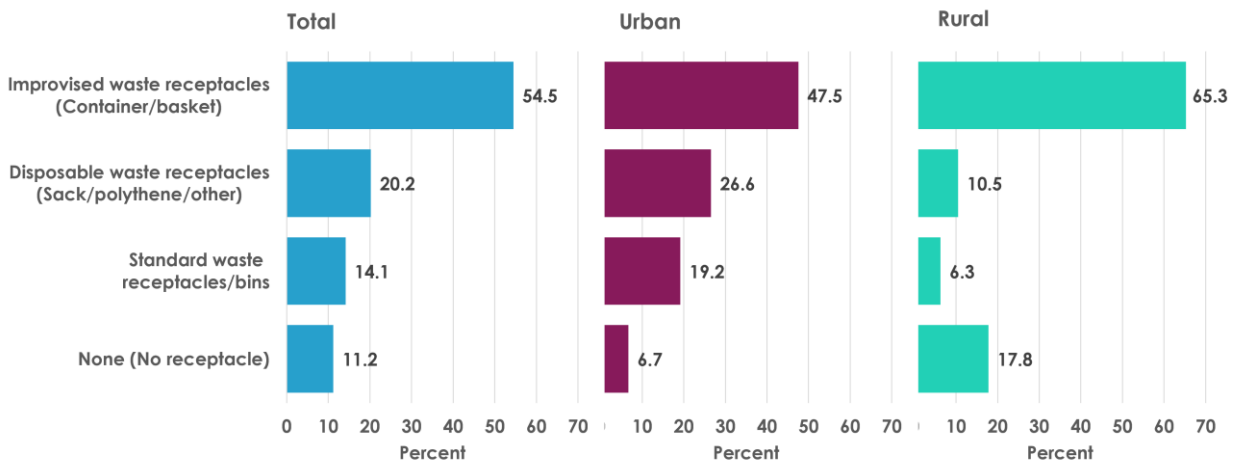
FIGURE 4.10: PROPORTION OF HOUSEHOLDS THROWING WASTEWATER ONTO GROUND/STREET/OUTSIDE BY TYPE OF LOCALITY AND REGION



Only 14.1 percent of households use standard waste containers, with the proportion for urban (19.2%) being three times as high as for rural (6.3%) areas.

More than half (54.5%) of households store solid waste in improvised containers, with the proportion higher in rural (65.3%) than urban (47.5%) areas.

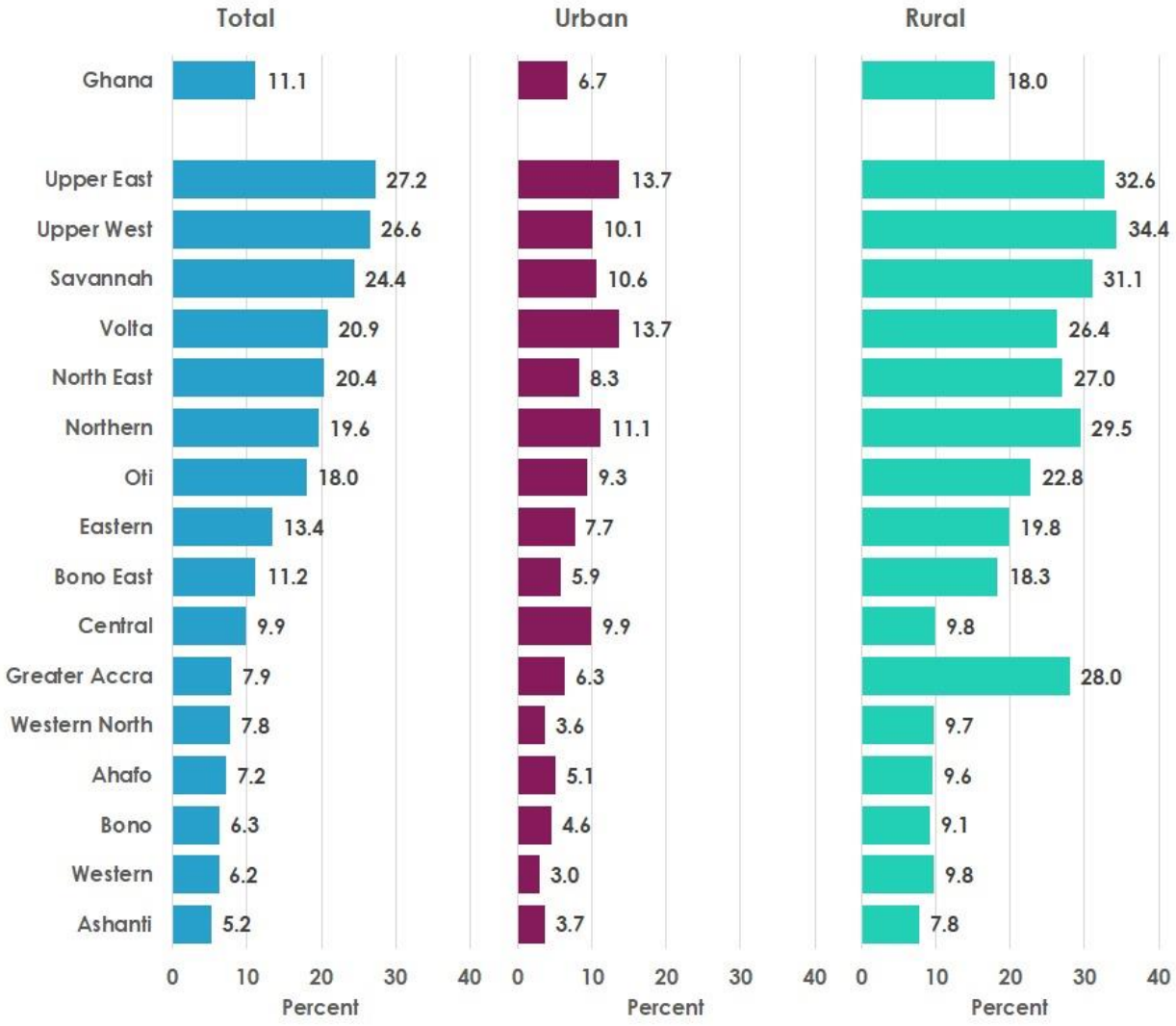
FIGURE 4.11: STORAGE OF SOLID WASTE BY TYPE OF LOCALITY



One in 10 households (11.1%) do not have any form of receptacle for solid waste generated, and the proportion in rural (18.0%) is almost three times as high as in urban (6.7%) areas.

One in five households in six regions (Upper East, Upper West, Savannah, Volta, North East and Northern) do not have any form of receptacle for solid waste generated.

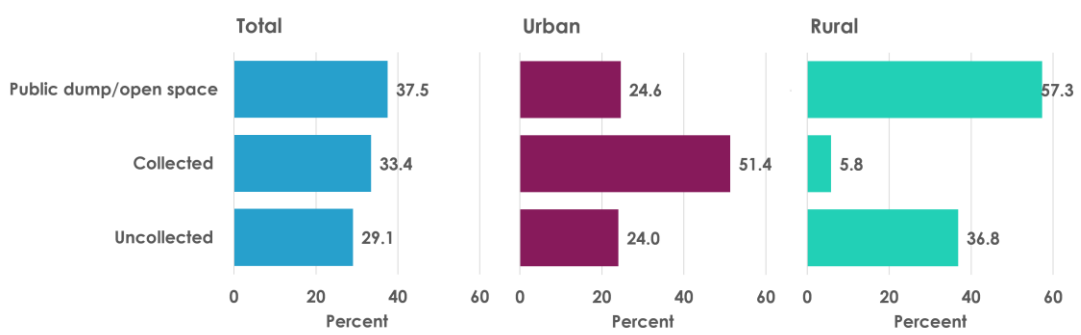
FIGURE 4.12: PROPORTION OF HOUSEHOLDS WITHOUT RECEPTACLE FOR STORAGE OF SOLID WASTE BY TYPE OF LOCALITY AND REGION



Only a third (33.4%) of households have their solid waste collected and the proportion is strikingly higher in urban (51.4%) than in rural (5.8%) areas.

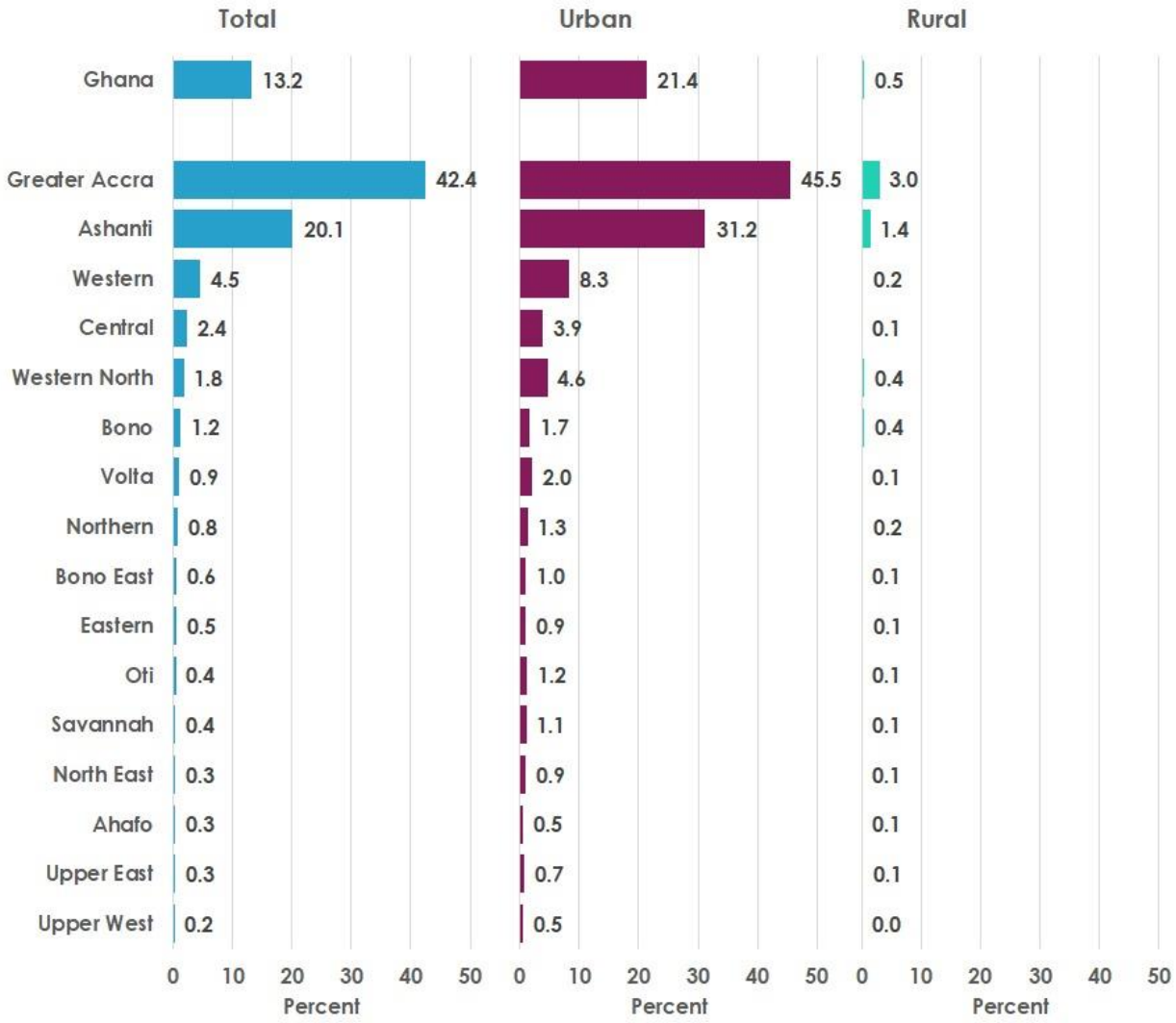
Most rural households (57.3%) use public dump/open space for solid waste disposal compared to 24.6 percent of urban households.

FIGURE 4.13: METHOD OF SOLID WASTE DISPOSAL BY TYPE OF LOCALITY



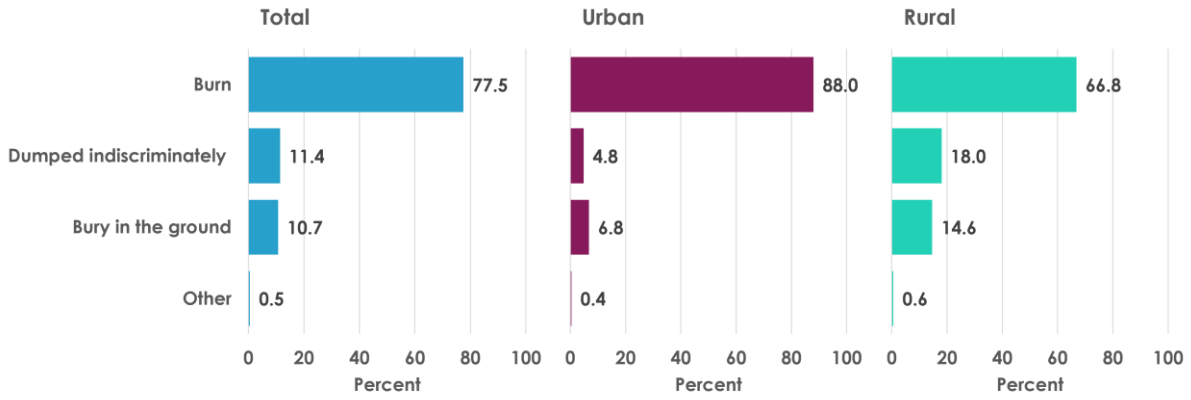
Use of tricycles accounts for 13.2 percent of methods of solid waste collection and is essentially an urban phenomenon (21.4%), with only 0.5 percent of households in rural areas. It is most prevalent in Greater Accra (42.4%) and Ashanti (20.1%) regions.

FIGURE 4.14: PROPORTION OF HOUSEHOLDS USING TRICYCLE FOR SOLID WASTE DISPOSAL BY TYPE OF LOCALITY AND REGION



The most prevalent method of disposal of uncollected solid waste is burning (77.5%). Nine in 10 of urban households (88.0%) and seven in 10 of rural households (66.8%) burn their uncollected solid waste.

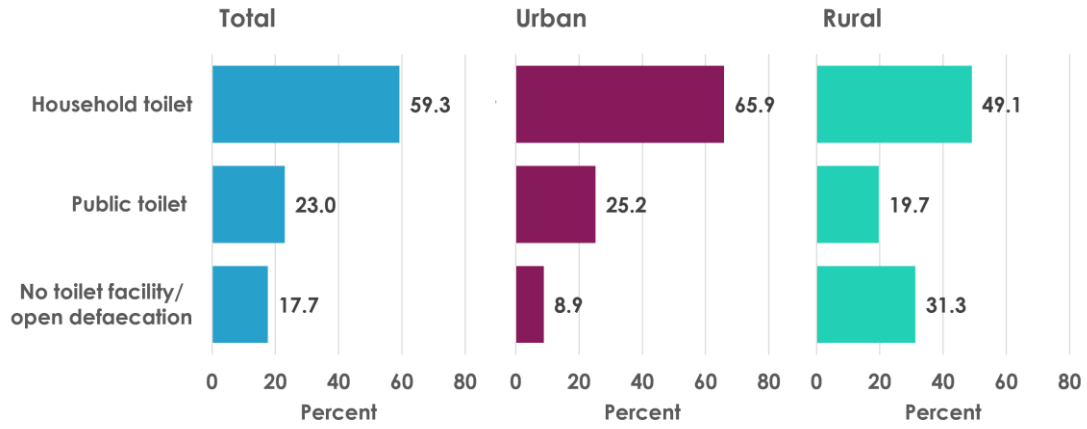
FIGURE 4.15: METHOD OF DISPOSAL OF UNCOLLECTED SOLID WASTE BY TYPE OF LOCALITY



Three in five households (59.3%) have access to a household toilet facility and the proportion is higher among urban (65.9%) than rural (49.1%) households.

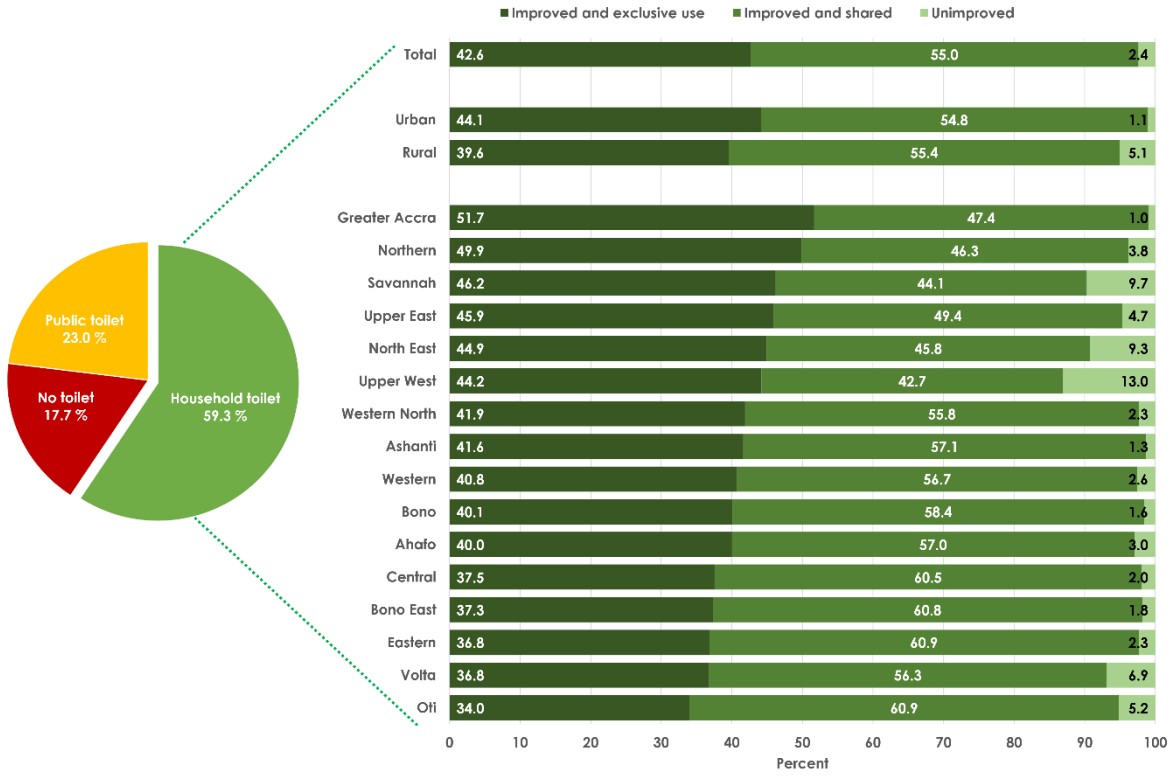
About 18 percent of households do not have access to a toilet facility with the proportion being over three times as much among rural (31.3%) as urban (8.9%) households.

FIGURE 4.16: TOILET FACILITY USED BY HOUSEHOLDS BY TYPE OF LOCALITY



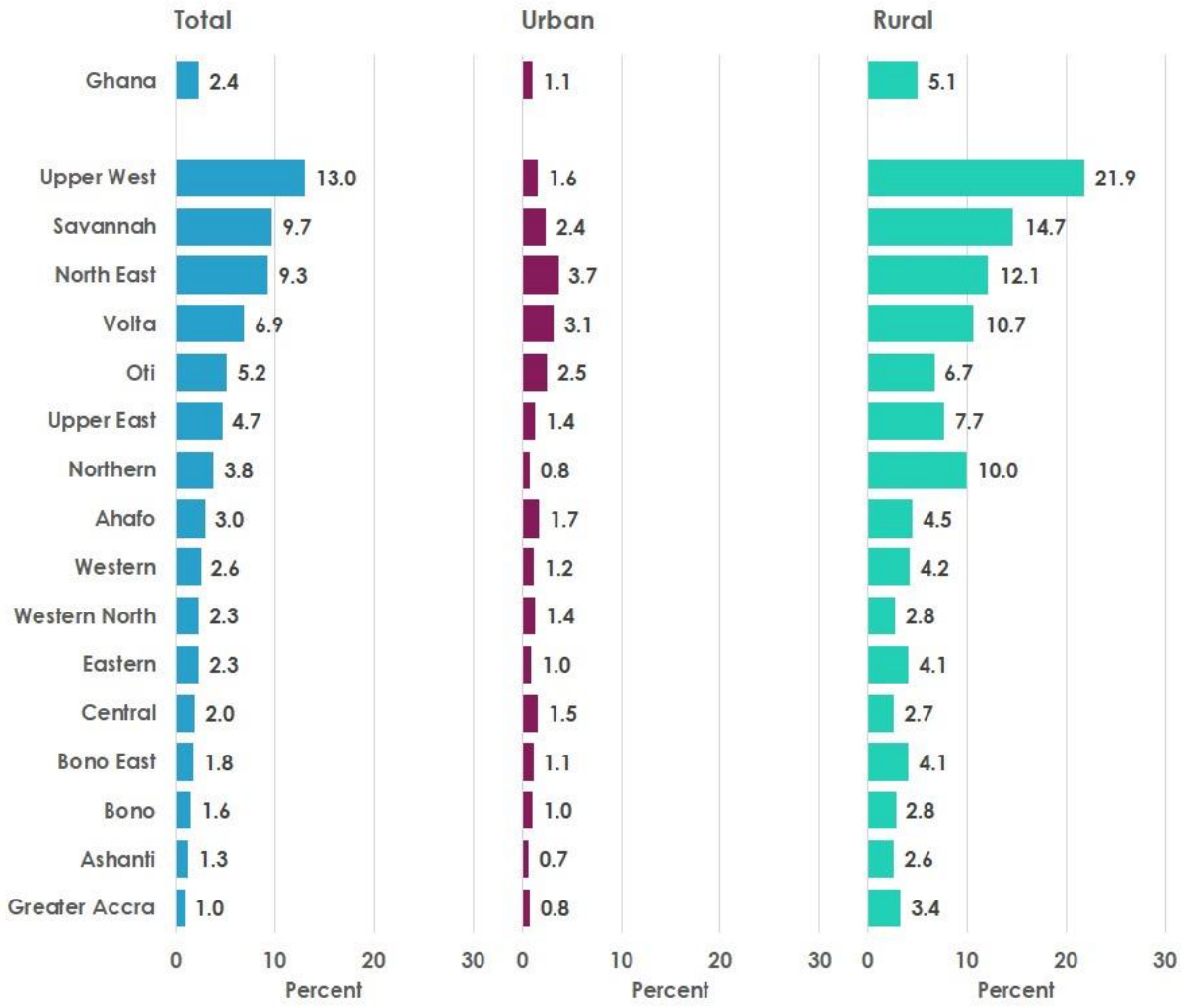
Three in five households (59.3%) use household toilet facility. Among these households, more than half (55.0%) share improved household toilet facility with other households and 2.4 percent use unimproved toilet facility. The proportions of households that share improved household toilet facilities vary little between rural (55.4%) and urban (54.8%) areas.

FIGURE 4.17: PROPORTION OF HOUSEHOLDS WITH HOUSEHOLD TOILET FACILITY BY TYPE OF LOCALITY AND BY REGION



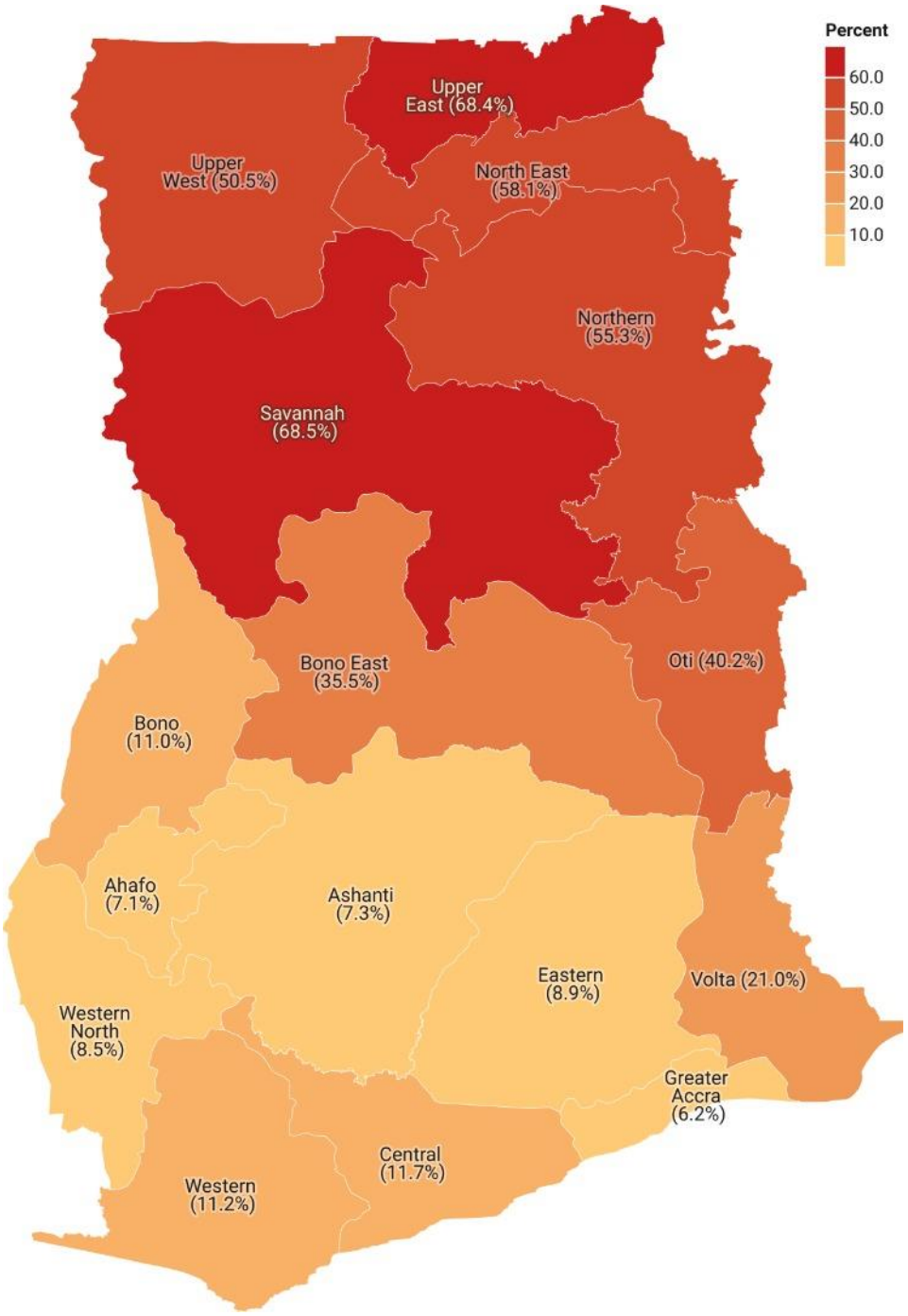
Rural households (5.1%) dominate the use of unimproved toilet facility relative to urban areas (1.1%), and show wide disparities across the regions ranging from Upper West (21.9%) to Greater Accra Region (3.4%).

FIGURE 4.18: PROPORTION OF HOUSEHOLDS USING UNIMPROVED HOUSEHOLD TOILET FACILITY BY TYPE OF LOCALITY AND REGION



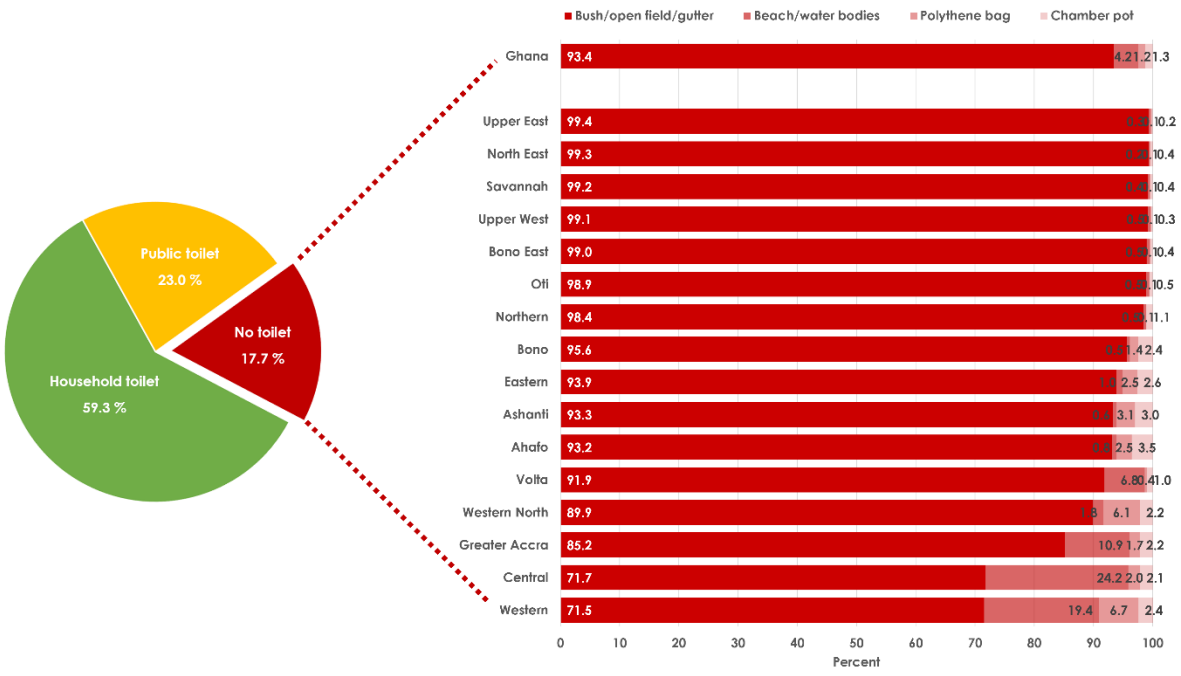
In all 16 administrative regions open defaecation is prevalent, with five regions recording more than 50 percent.

FIGURE 4.19: PROPORTION OF HOUSEHOLDS THAT PRACTISE OPEN DEFAECATION BY REGION



For households without toilet facility, point of defaecation is bush/open field/gutter for 90 percent or more of households in all regions, except in three (Central, Western and Greater Accra) where 10 percent or more use beach/water bodies. In seven regions, almost all households with no toilet facility (98% or above) defaecate in bush/open field/gutter.

FIGURE 4.20: DEFAECATION POINTS OF HOUSEHOLDS WITHOUT ACCESS TO ANY TOILET FACILITY BY REGION



5. MAIN TABLES

TABLE 5.1: MAIN SOURCE OF DRINKING WATER BY TYPE OF LOCALITY AND REGION

Source of drinking water	All Regions		Region															
	Number	Percent	Western	Central	Greater Accra	Volta	Eastern	Ashanti	Western North	Ahafo	Bono	Bono East	Oti	Northern	Savannah	North East	Upper East	Upper West
All Locality Types																		
Total	**8,356,966**	**100.0**	**620,787**	**837,879**	**1,698,374**	**491,091**	**880,838**	**1,521,844**	**239,948**	**152,690**	**317,864**	**288,506**	**173,924**	**437,788**	**133,045**	**108,053**	**264,246**	**190,089**
Improved water sources	7,685,799	92	560,311	799,661	1,670,105	416,076	792,511	1,467,004	196,675	138,544	309,858	240,647	134,113	345,910	93,733	80,786	254,965	184,900
Pipe-borne inside dwelling	*621,375*	*7.4*	*30,434*	*46,433*	*136,052*	*36,881*	*46,447*	*144,722*	*9,638*	*8,718*	*27,786*	*23,603*	*4,787*	*59,270*	*5,553*	*2,093*	*23,329*	*15,629*
Pipe-borne outside dwelling but on compound	*426,797*	*5.1*	*19,204*	*37,540*	*84,956*	*46,457*	*33,651*	*74,298*	*8,952*	*6,578*	*17,982*	*21,984*	*7,067*	*39,851*	*4,443*	*1,739*	*14,271*	*7,824*
Pipe-borne outside dwelling but in neighbour's house/compound	*542,512*	*6.5*	*24,977*	*79,953*	*95,787*	*40,611*	*50,106*	*109,185*	*13,042*	*6,304*	*18,687*	*14,427*	*12,730*	*48,005*	*6,045*	*2,687*	*9,991*	*9,975*
Public tap/Stand pipe	*1,059,187*	*12.7*	*85,521*	*152,488*	*64,779*	*91,135*	*104,451*	*233,363*	*45,194*	*34,118*	*65,935*	*45,351*	*37,806*	*54,811*	*11,347*	*7,734*	*9,581*	*15,573*
Borehole/Tube well	*1,478,536*	*17.7*	*82,644*	*75,299*	*17,051*	*54,931*	*147,688*	*258,701*	*61,869*	*45,527*	*94,045*	*65,618*	*55,039*	*116,374*	*48,657*	*48,841*	*177,792*	*128,460*
Protected well	*255,400*	*3.1*	*22,031*	*18,070*	*5,158*	*17,675*	*40,563*	*43,641*	*16,520*	*6,535*	*8,853*	*26,316*	*1,863*	*10,352*	*7,420*	*14,852*	*13,484*	*2,067*
Rain water	*41,706*	*0.5*	*1,181*	*3,969*	*1,482*	*16,140*	*9,265*	*1,637*	*363*	*143*	*158*	*1,234*	*1,077*	*2,389*	*1,698*	*708*	*170*	*92*
Protected spring	*5,088*	*0.1*	*709*	*354*	*110*	*879*	*595*	*835*	*175*	*99*	*80*	*618*	*65*	*290*	*62*	*81*	*103*	*33*
Bottled water	*126,350*	*1.5*	*8,833*	*9,467*	*63,978*	*2,209*	*7,525*	*26,675*	*1,736*	*975*	*2,087*	*924*	*316*	*682*	*242*	*105*	*369*	*227*
Sachet water	*3,128,848*	*37.4*	*284,777*	*376,088*	*1,200,752*	*109,158*	*352,220*	*573,947*	*39,186*	*29,547*	*74,245*	*40,572*	*13,363*	*13,886*	*8,266*	*1,946*	*5,875*	*5,020*
Unimproved water sources	671,167	8	60,476	38,218	28,269	75,015	88,327	54,840	43,273	14,146	8,006	47,859	39,811	91,878	39,312	27,267	9,281	5,189
Tanker supplied/Vendor provided	*52,554*	*0.6*	*941*	*2,827*	*22,272*	*6,276*	*1,552*	*2,273*	*123*	*188*	*518*	*2,047*	*229*	*6,338*	*960*	*2,471*	*2,312*	*1,227*
Unprotected well	*74,491*	*0.9*	*6,984*	*4,457*	*649*	*15,189*	*6,019*	*4,401*	*10,732*	*1,684*	*945*	*2,773*	*284*	*2,382*	*1,120*	*11,410*	*4,954*	*508*
Unprotected spring	*6,111*	*0.1*	*626*	*433*	*82*	*456*	*993*	*621*	*844*	*179*	*118*	*589*	*186*	*289*	*161*	*318*	*141*	*75*
River/Stream	*452,248*	*5.4*	*49,849*	*28,927*	*3,785*	*40,698*	*76,072*	*45,364*	*29,478*	*11,395*	*6,120*	*37,398*	*35,037*	*50,325*	*22,672*	*11,299*	*1,170*	*2,659*
Dugout/Pond/Lake/Dam/Canal	*84,170*	*1.0*	*2,008*	*1,450*	*1,139*	*12,285*	*3,580*	*2,009*	*2,051*	*630*	*257*	*4,994*	*4,030*	*32,432*	*14,336*	*1,747*	*602*	*620*
Other	*1,593*	*0.0*	*68*	*124*	*342*	*111*	*111*	*172*	*45*	*70*	*48*	*58*	*45*	*112*	*63*	*22*	*102*	*100*

Source of drinking water	All Regions		Region															
	Number	Percent	Western	Central	Greater Accra	Volta	Eastern	Ashanti	Western North	Ahafo	Bono	Bono East	Oti	Northern	Savannah	North East	Upper East	Upper West
Urban																		
Total	**5,068,903**	**100.0**	**328,160**	**493,689**	**1,575,236**	**213,339**	**467,692**	**956,088**	**77,124**	**79,438**	**197,703**	**165,408**	**61,273**	**236,115**	**43,530**	**38,147**	**75,024**	**60,937**
Improved water sources	4,956,872	98	325,636	488,561	1,554,618	202,046	459,932	949,078	75,780	78,689	196,418	156,631	56,474	212,472	39,496	28,983	72,427	59,631
Pipe-borne inside dwelling	*520,844*	*10.3*	*24,011*	*33,317*	*130,558*	*26,460*	*34,933*	*124,073*	*6,358*	*7,316*	*22,098*	*19,350*	*2,397*	*52,984*	*4,374*	*1,725*	*17,979*	*12,911*
Pipe-borne outside dwelling but on compound	*333,327*	*6.6*	*11,941*	*23,565*	*81,675*	*30,294*	*25,137*	*61,263*	*5,076*	*5,231*	*14,524*	*17,055*	*2,324*	*35,151*	*3,282*	*1,022*	*9,393*	*6,394*
Pipe-borne outside dwelling but in neighbour's house/compound	*386,688*	*7.6*	*15,388*	*46,536*	*88,112*	*23,432*	*34,327*	*76,860*	*7,044*	*4,698*	*11,993*	*9,439*	*7,027*	*41,832*	*4,309*	*1,633*	*5,796*	*8,262*
Public tap/Stand pipe	*461,786*	*9.1*	*30,782*	*56,124*	*45,642*	*24,982*	*47,981*	*95,312*	*13,003*	*19,091*	*35,832*	*21,234*	*15,675*	*35,186*	*4,798*	*4,307*	*3,258*	*8,579*
Borehole/Tube well	*372,981*	*7.4*	*15,974*	*15,108*	*8,941*	*12,148*	*30,079*	*84,175*	*12,149*	*13,542*	*38,071*	*30,631*	*18,798*	*25,693*	*10,993*	*11,231*	*27,433*	*18,015*
Protected well	*141,206*	*2.8*	*9,979*	*7,950*	*3,440*	*8,792*	*22,999*	*27,240*	*5,041*	*4,156*	*6,327*	*20,845*	*1,310*	*6,560*	*4,811*	*7,185*	*3,738*	*833*
Rain water	*16,669*	*0.3*	*355*	*1,720*	*827*	*5,822*	*3,625*	*733*	*35*	*42*	*79*	*818*	*202*	*1,464*	*783*	*120*	*26*	*18*
Protected spring	*1,449*	*0.0*	*63*	*215*	*71*	*136*	*286*	*367*	*31*	*49*	*46*	*61*	*11*	*66*	*15*	*16*	*13*	*3*
Bottled water	*113,522*	*2.2*	*7,046*	*7,613*	*61,884*	*1,573*	*5,861*	*23,407*	*1,132*	*758*	*1,874*	*813*	*221*	*585*	*195*	*66*	*295*	*199*
Sachet water	*2,608,400*	*51.5*	*210,097*	*296,413*	*1,133,468*	*68,407*	*254,704*	*455,648*	*25,911*	*23,806*	*65,574*	*36,385*	*8,509*	*12,951*	*5,936*	*1,678*	*4,496*	*4,417*
Unimproved water sources	112,031	2	2,524	5,128	20,618	11,293	7,760	7,010	1,344	749	1,285	8,777	4,799	23,643	4,034	9,164	2,597	1,306
Tanker supplied/Vendor provided	*40,356*	*0.8*	*319*	*2,537*	*19,637*	*1,090*	*853*	*1,704*	*72*	*39*	*283*	*1,808*	*131*	*5,913*	*785*	*2,374*	*1,759*	*1,052*
Unprotected well	*17,926*	*0.4*	*785*	*774*	*173*	*5,489*	*1,276*	*1,053*	*531*	*268*	*242*	*1,079*	*104*	*658*	*515*	*4,234*	*626*	*119*
Unprotected spring	*861*	*0.0*	*99*	*44*	*23*	*66*	*79*	*117*	*19*	*17*	*31*	*232*	*9*	*71*	*7*	*31*	*14*	*2*
River/Stream	*37,170*	*0.7*	*1,208*	*1,569*	*400*	*4,472*	*5,204*	*3,847*	*685*	*354*	*681*	*4,768*	*4,101*	*6,090*	*1,553*	*2,145*	*54*	*39*
Dugout/Pond/Lake/Dam/Canal	*14,770*	*0.3*	*92*	*134*	*89*	*156*	*288*	*154*	*32*	*53*	*24*	*860*	*445*	*10,832*	*1,144*	*365*	*80*	*22*
Other	*948*	*0.0*	*21*	*70*	*296*	*20*	*60*	*135*	*5*	*18*	*24*	*30*	*9*	*79*	*30*	*15*	*64*	*72*
Rural																		
Total	**3,288,063**	**100.0**	**292,627**	**344,190**	**123,138**	**277,752**	**413,146**	**565,756**	**162,824**	**73,252**	**120,161**	**123,098**	**112,651**	**201,673**	**89,515**	**69,906**	**189,222**	**129,152**
Improved water sources	2,728,927	83	234,675	311,100	115,487	214,030	332,579	517,926	120,895	59,855	113,440	84,016	77,639	133,438	54,237	51,803	182,538	125,269

Source of drinking water	All Regions		Region															
	Number	Percent	Western	Central	Greater Accra	Volta	Eastern	Ashanti	Western North	Ahafo	Bono	Bono East	Oti	Northern	Savannah	North East	Upper East	Upper West
Pipe-borne inside dwelling	*100,531*	*3.1*	*6,423*	*13,116*	*5,494*	*10,421*	*11,514*	*20,649*	*3,280*	*1,402*	*5,688*	*4,253*	*2,390*	*6,286*	*1,179*	*368*	*5,350*	*2,718*
Pipe-borne outside dwelling but on compound	*93,470*	*2.8*	*7,263*	*13,975*	*3,281*	*16,163*	*8,514*	*13,035*	*3,876*	*1,347*	*3,458*	*4,929*	*4,743*	*4,700*	*1,161*	*717*	*4,878*	*1,430*
Pipe-borne outside dwelling but in neighbour's house/compound	*155,824*	*4.7*	*9,589*	*33,417*	*7,675*	*17,179*	*15,779*	*32,325*	*5,998*	*1,606*	*6,694*	*4,988*	*5,703*	*6,173*	*1,736*	*1,054*	*4,195*	*1,713*
Public tap/Stand pipe	*597,401*	*18.2*	*54,739*	*96,364*	*19,137*	*66,153*	*56,470*	*138,051*	*32,191*	*15,027*	*30,103*	*24,117*	*22,131*	*19,625*	*6,549*	*3,427*	*6,323*	*6,994*
Borehole/Tube well	*1,105,555*	*33.6*	*66,670*	*60,191*	*8,110*	*42,783*	*117,609*	*174,526*	*49,720*	*31,985*	*55,974*	*34,987*	*36,241*	*90,681*	*37,664*	*37,610*	*150,359*	*110,445*
Protected well	*114,194*	*3.5*	*12,052*	*10,120*	*1,718*	*8,883*	*17,564*	*16,401*	*11,479*	*2,379*	*2,526*	*5,471*	*553*	*3,792*	*2,609*	*7,667*	*9,746*	*1,234*
Rain water	*25,037*	*0.8*	*826*	*2,249*	*655*	*10,318*	*5,640*	*904*	*328*	*101*	*79*	*416*	*875*	*925*	*915*	*588*	*144*	*74*
Protected spring	*3,639*	*0.1*	*646*	*139*	*39*	*743*	*309*	*468*	*144*	*50*	*34*	*557*	*54*	*224*	*47*	*65*	*90*	*30*
Bottled water	*12,828*	*0.4*	*1,787*	*1,854*	*2,094*	*636*	*1,664*	*3,268*	*604*	*217*	*213*	*111*	*95*	*97*	*47*	*39*	*74*	*28*
Sachet water	*520,448*	*15.8*	*74,680*	*79,675*	*67,284*	*40,751*	*97,516*	*118,299*	*13,275*	*5,741*	*8,671*	*4,187*	*4,854*	*935*	*2,330*	*268*	*1,379*	*603*
Unimproved	559,136	17	57,952	33,090	7,651	63,722	80,567	47,830	41,929	13,397	6,721	39,082	35,012	68,235	35,278	18,103	6,684	3,883
Tanker supplied/Vendor provided	*12,198*	*0.4*	*622*	*290*	*2,635*	*5,186*	*699*	*569*	*51*	*149*	*235*	*239*	*98*	*425*	*175*	*97*	*553*	*175*
Unprotected well	*56,565*	*1.7*	*6,199*	*3,683*	*476*	*9,700*	*4,743*	*3,348*	*10,201*	*1,416*	*703*	*1,694*	*180*	*1,724*	*605*	*7,176*	*4,328*	*389*
Unprotected spring	*5,250*	*0.2*	*527*	*389*	*59*	*390*	*914*	*504*	*825*	*162*	*87*	*357*	*177*	*218*	*154*	*287*	*127*	*73*
River/Stream	*415,078*	*12.6*	*48,641*	*27,358*	*3,385*	*36,226*	*70,868*	*41,517*	*28,793*	*11,041*	*5,439*	*32,630*	*30,936*	*44,235*	*21,119*	*9,154*	*1,116*	*2,620*
Dugout/Pond/Lake/Dam/Canal	*69,400*	*2.1*	*1,916*	*1,316*	*1,050*	*12,129*	*3,292*	*1,855*	*2,019*	*577*	*233*	*4,134*	*3,585*	*21,600*	*13,192*	*1,382*	*522*	*598*
Other	*645*	*0.0*	*47*	*54*	*46*	*91*	*51*	*37*	*40*	*52*	*24*	*28*	*36*	*33*	*33*	*7*	*38*	*28*

NOTE: The figures relate to only households in occupied dwelling units

TABLE 5.2: TIME TAKEN TO GET TO THE MAIN SOURCE OF DRINKING WATER BY TYPE OF LOCALITY AND REGION

Time (round trip)	All Regions		Region															
	Number	Percent	Western	Central	Greater Accra	Volta	Eastern	Ashanti	Western North	Ahafo	Bono	Bono East	Oti	Northern	Savannah	North East	Upper East	Upper West
All Locality Types																		
Total	**8,356,966**	**100.0**	**620,787**	**837,879**	**1,698,374**	**491,091**	**880,838**	**1,521,844**	**239,948**	**152,690**	**317,864**	**288,506**	**173,924**	**437,788**	**133,045**	**108,053**	**264,246**	**190,089**
Water on premises	4,433,766	53.1	348,403	475,294	1,510,264	210,406	450,137	837,751	63,570	47,910	127,858	101,799	27,390	122,200	21,220	9,421	47,499	32,644
Within 30 minutes	3,411,578	40.8	251,521	345,365	174,901	244,031	397,911	645,642	159,145	94,454	174,427	154,124	123,081	214,218	75,711	66,753	171,037	119,257
31 to 60 minutes	406,941	4.9	18,517	15,662	8,455	29,026	28,697	33,663	15,542	9,153	12,779	23,428	18,121	75,825	26,536	23,385	38,146	30,006
61 minutes and above	104,681	1.3	2,346	1,558	4,754	7,628	4,093	4,788	1,691	1,173	2,800	9,155	5,332	25,545	9,578	8,494	7,564	8,182
Average time (minutes)	**19**		**15**	**13**	**15**	**19**	**15**	**13**	**17**	**16**	**15**	**23**	**21**	**32**	**33**	**32**	**24**	**26**
Urban																		
Total	**5,068,903**	**100.0**	**328,160**	**493,689**	**1,575,236**	**213,339**	**467,692**	**956,088**	**77,124**	**79,438**	**197,703**	**165,408**	**61,273**	**236,115**	**43,530**	**38,147**	**75,024**	**60,937**
Water on premises	3,666,060	72.3	255,187	364,739	1,429,019	132,462	326,319	676,524	40,786	38,754	108,158	86,074	14,336	109,275	15,693	7,693	34,611	26,430
Within 30 minutes	1,312,921	25.9	69,867	125,576	140,946	76,260	137,401	274,111	34,671	38,971	86,060	71,741	41,347	101,340	22,454	24,298	36,229	31,649
31 to 60 minutes	71,662	1.4	2,673	3,092	3,432	3,943	3,502	5,000	1,477	1,607	3,072	5,066	4,062	19,898	3,760	4,775	3,771	2,532
61 minutes and above	18,260	0.4	433	282	1,839	674	470	453	190	106	413	2,527	1,528	5,602	1,623	1,381	413	326
Average time (minutes)	**13**		**12**	**11**	**11**	**13**	**11**	**9**	**12**	**11**	**11**	**16**	**19**	**25**	**24**	**24**	**17**	**14**
Rural																		
Total	**3,288,063**	**100.0**	**292,627**	**344,190**	**123,138**	**277,752**	**413,146**	**565,756**	**162,824**	**73,252**	**120,161**	**123,098**	**112,651**	**201,673**	**89,515**	**69,906**	**189,222**	**129,152**
Water on premises	767,706	23.3	93,216	110,555	81,245	77,944	123,818	161,227	22,784	9,156	19,700	15,725	13,054	12,925	5,527	1,728	12,888	6,214
Within 30 minutes	2,098,657	63.8	181,654	219,789	33,955	167,771	260,510	371,531	124,474	55,483	88,367	82,383	81,734	112,878	53,257	42,455	134,808	87,608
31 to 60 minutes	335,279	10.2	15,844	12,570	5,023	25,083	25,195	28,663	14,065	7,546	9,707	18,362	14,059	55,927	22,776	18,610	34,375	27,474
61 minutes and above	86,421	2.6	1,913	1,276	2,915	6,954	3,623	4,335	1,501	1,067	2,387	6,628	3,804	19,943	7,955	7,113	7,151	7,856
Average time (minutes)	**22**		**16**	**14**	**28**	**22**	**17**	**15**	**18**	**19**	**19**	**27**	**23**	**38**	**35**	**36**	**26**	**30**

NOTE: The figures relate to only households in occupied dwelling units and average time taken to get to the main source of drinking water excludes water on premises.

TABLE 5.3: USE OF IMPROVED WATER SOURCES AND BASIC DRINKING WATER SERVICES BY REGION AND TYPE OF LOCALITY

Region/Locality type	Number of Households	Improved Drinking Water Source						Unimproved Drinking Water Source	
		Total		Basic service (within 30 mins round-trip)		Limited service (more than 30 mins round-trip)			
		Number	Percent	Number	Percent	Number	Percent	Number	Percent
All Locality types									
Total	**8,356,966**	**7,685,799**	**92.0**	**7,331,137**	**87.7**	**354,662**	**4.2**	**671,167**	**8.0**
Western	620,787	560,311	90.3	545,262	87.8	15,049	2.4	60,476	9.7
Central	837,879	799,661	95.4	785,886	93.8	13,775	1.6	38,218	4.6
Greater Accra	1,698,374	1,670,105	98.3	1,657,920	97.6	12,185	0.7	28,269	1.7
Volta	491,091	416,076	84.7	396,323	80.7	19,753	4.0	75,015	15.3
Eastern	880,838	792,511	90.0	772,564	87.7	19,947	2.3	88,327	10.0
Ashanti	1,521,844	1,467,004	96.4	1,438,576	94.5	28,428	1.9	54,840	3.6
Western North	239,948	196,675	82.0	184,504	76.9	12,171	5.1	43,273	18.0
Ahafo	152,690	138,544	90.7	130,594	85.5	7,950	5.2	14,146	9.3
Bono	317,864	309,858	97.5	296,577	93.3	13,281	4.2	8,006	2.5
Bono East	288,506	240,647	83.4	223,715	77.5	16,932	5.9	47,859	16.6
Oti	173,924	134,113	77.1	121,176	69.7	12,937	7.4	39,811	22.9
Northern	437,788	345,910	79.0	286,250	65.4	59,660	13.6	91,878	21.0
Savannah	133,045	93,733	70.5	73,308	55.1	20,425	15.4	39,312	29.5
North East	108,053	80,786	74.8	59,248	54.8	21,538	19.9	27,267	25.2
Upper East	264,246	254,965	96.5	210,929	79.8	44,036	16.7	9,281	3.5
Upper West	190,089	184,900	97.3	148,305	78.0	36,595	19.3	5,189	2.7
Urban									
Total	**5,068,903**	**4,956,872**	**97.8**	**4,884,255**	**96.4**	**72,617**	**1.4**	**112,031**	**2.2**
Western	328,160	325,636	99.2	322,697	98.3	2,939	0.9	2,524	0.8
Central	493,689	488,561	99.0	485,345	98.3	3,216	0.7	5,128	1.0
Greater Accra	1,575,236	1,554,618	98.7	1,549,397	98.4	5,221	0.3	20,618	1.3
Volta	213,339	202,046	94.7	198,254	92.9	3,792	1.8	11,293	5.3
Eastern	467,692	459,932	98.3	456,239	97.6	3,693	0.8	7,760	1.7
Ashanti	956,088	949,078	99.3	944,268	98.8	4,810	0.5	7,010	0.7
Western North	77,124	75,780	98.3	74,165	96.2	1,615	2.1	1,344	1.7

Region/Locality type	Number of Households	Improved Drinking Water Source							
		Total		Basic service (within 30 mins round-trip)		Limited service (more than 30 mins round-trip)		Unimproved Drinking Water Source	
		Number	Percent	Number	Percent	Number	Percent	Number	Percent
Ahafo	79,438	78,689	99.1	77,024	97.0	1,665	2.1	749	0.9
Bono	197,703	196,418	99.4	193,138	97.7	3,280	1.7	1,285	0.6
Bono East	165,408	156,631	94.7	151,576	91.6	5,055	3.1	8,777	5.3
Oti	61,273	56,474	92.2	53,074	86.6	3,400	5.5	4,799	7.8
Northern	236,115	212,472	90.0	193,952	82.1	18,520	7.8	23,643	10.0
Savannah	43,530	39,496	90.7	35,408	81.3	4,088	9.4	4,034	9.3
North East	38,147	28,983	76.0	24,586	64.5	4,397	11.5	9,164	24.0
Upper East	75,024	72,427	96.5	68,342	91.1	4,085	5.4	2,597	3.5
Upper West	60,937	59,631	97.9	56,790	93.2	2,841	4.7	1,306	2.1
Rural									
Total	**3,288,063**	**2,728,927**	**83.0**	**2,446,882**	**74.4**	**282,045**	**8.6**	**559,136**	**17.0**
Western	292,627	234,675	80.2	222,565	76.1	12,110	4.1	57,952	19.8
Central	344,190	311,100	90.4	300,541	87.3	10,559	3.1	33,090	9.6
Greater Accra	123,138	115,487	93.8	108,523	88.1	6,964	5.7	7,651	6.2
Volta	277,752	214,030	77.1	198,069	71.3	15,961	5.7	63,722	22.9
Eastern	413,146	332,579	80.5	316,325	76.6	16,254	3.9	80,567	19.5
Ashanti	565,756	517,926	91.5	494,308	87.4	23,618	4.2	47,830	8.5
Western North	162,824	120,895	74.2	110,339	67.8	10,556	6.5	41,929	25.8
Ahafo	73,252	59,855	81.7	53,570	73.1	6,285	8.6	13,397	18.3
Bono	120,161	113,440	94.4	103,439	86.1	10,001	8.3	6,721	5.6
Bono East	123,098	84,016	68.3	72,139	58.6	11,877	9.6	39,082	31.7
Oti	112,651	77,639	68.9	68,102	60.5	9,537	8.5	35,012	31.1
Northern	201,673	133,438	66.2	92,298	45.8	41,140	20.4	68,235	33.8
Savannah	89,515	54,237	60.6	37,900	42.3	16,337	18.3	35,278	39.4
North East	69,906	51,803	74.1	34,662	49.6	17,141	24.5	18,103	25.9
Upper East	189,222	182,538	96.5	142,587	75.4	39,951	21.1	6,684	3.5
Upper West	129,152	125,269	97.0	91,515	70.9	33,754	26.1	3,883	3.0

NOTE: The figures relate to only households in occupied dwelling units

TABLE 5.4: MAIN SOURCE OF WATER FOR OTHER DOMESTIC USE BY TYPE OF LOCALITY AND REGION

Main source of water	All Regions		Region															
	Number	Percent	Western	Central	Greater Accra	Volta	Eastern	Ashanti	Western North	Ahafo	Bono	Bono East	Oti	Northern	Savannah	North East	Upper East	Upper West
All Locality Types																		
Total	**8,356,966**	**100.0**	**620,787**	**837,879**	**1,698,374**	**491,091**	**880,838**	**1,521,844**	**239,948**	**152,690**	**317,864**	**288,506**	**173,924**	**437,788**	**133,045**	**108,053**	**264,246**	**190,089**
Pipe-borne inside dwelling	1,365,299	16.3	81,575	124,278	523,493	45,276	93,766	284,519	12,562	12,876	46,261	28,723	5,253	57,537	5,803	2,261	24,517	16,599
Pipe-borne outside dwelling but on compound	833,916	10.0	39,854	79,327	311,959	53,359	62,509	138,250	10,655	9,530	27,181	25,808	7,267	39,316	4,632	1,588	14,567	8,114
Pipe-borne outside dwelling but in neighbour's house/compound	1,008,760	12.1	48,942	159,391	356,461	39,273	76,923	177,204	15,557	7,933	23,658	15,656	13,194	45,775	6,155	2,432	9,913	10,293
Public tap/Stand pipe	1,435,400	17.2	141,410	208,875	171,974	89,797	154,270	318,963	49,515	42,737	77,687	48,807	37,563	48,455	12,014	7,221	10,068	16,044
Borehole/Tube well	2,008,538	24.0	155,648	128,957	140,578	69,448	236,519	412,901	72,307	51,830	111,565	72,055	54,390	111,527	46,966	44,445	175,098	124,304
Protected well	596,656	7.1	71,468	55,566	45,437	38,774	123,423	108,727	26,958	10,308	18,118	37,696	3,126	13,383	10,763	14,797	14,862	3,250
Rain water	107,828	1.3	5,025	9,625	8,925	23,946	17,451	8,854	2,157	808	2,335	3,767	3,914	12,103	3,186	2,454	2,110	1,168
Protected spring	7,012	0.1	760	506	498	1,122	907	1,392	167	130	90	649	120	273	61	199	97	41
Tanker supplied/Vendor provided	176,978	2.1	2,125	20,623	117,540	8,606	3,502	3,766	160	220	823	3,596	288	8,141	1,026	2,775	2,466	1,321
Unprotected well	130,198	1.6	13,875	8,927	4,719	42,028	10,971	7,375	12,670	1,983	1,571	3,503	467	2,546	1,350	11,856	5,698	659
Unprotected spring	8,465	0.1	826	791	282	896	1,262	945	981	219	169	678	193	353	195	404	174	97
River/Stream	555,197	6.6	56,171	37,708	10,629	58,273	93,891	54,214	33,372	13,069	7,648	40,378	43,160	59,099	24,654	15,083	2,926	4,922
Dugout/Pond/Lake/Dam/Canal	109,866	1.3	2,408	2,582	3,774	17,924	4,757	3,172	2,048	682	335	6,805	4,766	38,418	16,057	2,417	1,456	2,265
Other	12,853	0.2	700	723	2,105	2,369	687	1,562	839	365	423	385	223	862	183	121	294	1,012
Urban																		
Total	**5,068,903**	**100.0**	**328,160**	**493,689**	**1,575,236**	**213,339**	**467,692**	**956,088**	**77,124**	**79,438**	**197,703**	**165,408**	**61,273**	**236,115**	**43,530**	**38,147**	**75,024**	**60,937**
Pipe-borne inside dwelling	1,222,107	24.1	71,785	102,766	508,421	33,131	77,372	250,404	9,036	10,819	39,444	24,505	2,783	52,048	4,697	1,936	19,030	13,930
Pipe-borne outside dwelling but on compound	721,591	14.2	30,958	59,632	305,193	35,930	51,359	120,636	6,775	8,056	23,054	20,851	2,605	35,387	3,515	1,002	9,894	6,744
Pipe-borne outside dwelling but in neighbour's house/compound	814,830	16.1	36,059	115,344	340,049	22,313	57,100	133,924	9,174	6,149	16,222	10,695	7,596	40,082	4,253	1,548	5,693	8,629
Public tap/Stand pipe	756,683	14.9	70,504	94,389	148,182	24,310	81,744	154,266	17,460	26,362	45,585	24,749	16,062	31,616	4,938	3,929	3,499	9,088
Borehole/Tube well	781,011	15.4	61,370	52,050	114,081	22,812	84,063	197,147	18,655	18,917	54,020	38,198	20,241	29,747	12,409	10,803	28,386	18,112

Main source of water	All Regions		Region															
	Number	Percent	Western	Central	Greater Accra	Volta	Eastern	Ashanti	Western North	Ahafo	Bono	Bono East	Oti	Northern	Savannah	North East	Upper East	Upper West
Protected well	413,283	8.2	48,126	36,495	36,006	24,676	89,297	80,194	12,520	7,335	14,882	30,634	2,446	9,195	7,475	7,329	4,909	1,764
Rain water	50,051	1.0	1,155	5,444	6,520	9,859	7,473	4,375	277	203	1,423	1,777	1,269	7,463	1,078	948	531	256
Protected spring	2,931	0.1	137	330	415	292	574	839	36	63	59	71	13	62	12	12	12	4
Tanker supplied/Vendor provided	154,794	3.1	1,370	19,464	107,894	3,091	2,022	3,202	77	72	551	3,006	116	7,546	842	2,688	1,699	1,154
Unprotected well	54,008	1.1	3,725	3,216	2,223	25,934	4,444	3,070	1,602	519	747	1,407	224	724	656	4,422	920	175
Unprotected spring	1,914	0.0	207	167	143	292	232	295	33	25	59	282	19	76	16	51	15	2
River/Stream	65,398	1.3	2,040	3,441	3,442	9,094	10,714	6,167	1,244	654	1,237	6,945	7,163	8,151	2,053	2,829	115	109
Dugout/Pond/Lake/Dam/Canal	21,950	0.4	382	438	741	670	852	289	68	74	49	1,984	703	13,444	1,525	562	146	23
Other	8,352	0.2	342	513	1,926	935	446	1,280	167	190	371	304	33	574	61	88	175	947
Rural																		
Total	**3,288,063**	**100.0**	**292,627**	**344,190**	**123,138**	**277,752**	**413,146**	**565,756**	**162,824**	**73,252**	**120,161**	**123,098**	**112,651**	**201,673**	**89,515**	**69,906**	**189,222**	**129,152**
Pipe-borne inside dwelling	143,192	4.4	9,790	21,512	15,072	12,145	16,394	34,115	3,526	2,057	6,817	4,218	2,470	5,489	1,106	325	5,487	2,669
Pipe-borne outside dwelling but on compound	112,325	3.4	8,896	19,695	6,766	17,429	11,150	17,614	3,880	1,474	4,127	4,957	4,662	3,929	1,117	586	4,673	1,370
Pipe-borne outside dwelling but in neighbour's house/compound	193,930	5.9	12,883	44,047	16,412	16,960	19,823	43,280	6,383	1,784	7,436	4,961	5,598	5,693	1,902	884	4,220	1,664
Public tap/Stand pipe	678,717	20.6	70,906	114,486	23,792	65,487	72,526	164,697	32,055	16,375	32,102	24,058	21,501	16,839	7,076	3,292	6,569	6,956
Borehole/Tube well	1,227,527	37.3	94,278	76,907	26,497	46,636	152,456	215,754	53,652	32,913	57,545	33,857	34,149	81,780	34,557	33,642	146,712	106,192
Protected well	183,373	5.6	23,342	19,071	9,431	14,098	34,126	28,533	14,438	2,973	3,236	7,062	680	4,188	3,288	7,468	9,953	1,486
Rain water	57,777	1.8	3,870	4,181	2,405	14,087	9,978	4,479	1,880	605	912	1,990	2,645	4,640	2,108	1,506	1,579	912
Protected spring	4,081	0.1	623	176	83	830	333	553	131	67	31	578	107	211	49	187	85	37
Tanker supplied/Vendor provided	22,184	0.7	755	1,159	9,646	5,515	1,480	564	83	148	272	590	172	595	184	87	767	167
Unprotected well	76,190	2.3	10,150	5,711	2,496	16,094	6,527	4,305	11,068	1,464	824	2,096	243	1,822	694	7,434	4,778	484
Unprotected spring	6,551	0.2	619	624	139	604	1,030	650	948	194	110	396	174	277	179	353	159	95
River/Stream	489,799	14.9	54,131	34,267	7,187	49,179	83,177	48,047	32,128	12,415	6,411	33,433	35,997	50,948	22,601	12,254	2,811	4,813
Dugout/Pond/Lake/Dam/Canal	87,916	2.7	2,026	2,144	3,033	17,254	3,905	2,883	1,980	608	286	4,821	4,063	24,974	14,532	1,855	1,310	2,242
Other	4,501	0.1	358	210	179	1,434	241	282	672	175	52	81	190	288	122	33	119	65

NOTE: The figures relate to only households in occupied dwelling units

TABLE 5.5: METHOD OF WASTEWATER DISPOSAL BY TYPE OF LOCALITY AND REGION

Method of disposal	All regions		Region														
	Number	Percent	Western	Central	Greater Accra	Volta	Eastern	Ashanti	Western North	Ahafo	Bono	Bono East	Oti	Northern	Savannah	North East	Upper East	Upper West
All Locality Types																		
Total households in occupied dwelling unit	**8,356,966**		**620,787**	**837,879**	**1,698,374**	**491,091**	**880,838**	**1,521,844**	**239,948**	**152,690**	**317,864**	**288,506**	**173,924**	**437,788**	**133,045**	**108,053**	**264,246**	**190,089**
Through drainage into a pit (soak away)	884,944	10.6	45,397	70,000	302,577	39,033	72,213	168,023	14,315	10,029	33,336	16,835	10,665	48,765	9,381	8,878	20,881	14,616
Through the sewerage system	192,643	2.3	9,238	10,597	96,067	4,403	11,927	33,658	2,193	2,201	4,465	2,648	1,026	5,473	1,952	1,342	3,486	1,967
Flows or thrown into drains/gutter	2,277,523	27.3	218,770	201,876	800,060	45,237	187,269	529,349	38,395	20,607	43,192	27,847	19,672	75,263	10,698	10,549	30,244	18,495
Thrown onto the ground/street/outside	5,896,815	70.6	408,661	647,322	768,703	438,004	699,608	969,396	202,413	131,684	270,449	257,713	153,564	348,729	116,440	92,889	226,148	165,092
Other	2,154	0.0	242	300	661	118	71	159	13	20	50	56	51	83	96	25	114	95
Urban																		
Total	**5,068,903**		**328,160**	**493,689**	**1,575,236**	**213,339**	**467,692**	**956,088**	**77,124**	**79,438**	**197,703**	**165,408**	**61,273**	**236,115**	**43,530**	**38,147**	**75,024**	**60,937**
Through drainage into a pit (soak away)	695,142	13.7	32,041	55,189	285,841	28,934	51,169	127,098	7,162	7,304	26,577	12,324	5,484	31,498	3,722	3,643	8,392	8,764
Through the sewerage system	162,357	3.2	7,030	8,005	92,933	2,607	8,596	27,467	1,315	1,316	3,104	1,967	354	3,403	769	690	1,597	1,204
Flows or thrown into drains/gutter	1,949,181	38.5	176,288	156,814	790,324	31,764	148,108	454,065	21,862	15,413	35,814	21,002	9,293	54,564	5,347	4,773	13,182	10,568
Thrown onto the ground/street/outside	2,973,742	58.7	157,791	343,094	663,193	176,483	324,989	483,276	57,065	64,157	160,044	142,750	51,460	175,016	35,923	31,938	59,681	46,882
Other	1,341	0.0	107	183	608	51	44	108	5	8	36	14	32	30	46	9	41	19
Rural																		
Total	**3,288,063**		**292,627**	**344,190**	**123,138**	**277,752**	**413,146**	**565,756**	**162,824**	**73,252**	**120,161**	**123,098**	**112,651**	**201,673**	**89,515**	**69,906**	**189,222**	**129,152**
Through drainage into a pit (soak away)	189,802	5.8	13,356	14,811	16,736	10,099	21,044	40,925	7,153	2,725	6,759	4,511	5,181	17,267	5,659	5,235	12,489	5,852
Through the sewerage system	30,286	0.9	2,208	2,592	3,134	1,796	3,331	6,191	878	885	1,361	681	672	2,070	1,183	652	1,889	763
Flows or thrown into drains/gutter	328,342	10.0	42,482	45,062	9,736	13,473	39,161	75,284	16,533	5,194	7,378	6,845	10,379	20,699	5,351	5,776	17,062	7,927
Thrown onto the ground/street/outside	2,923,073	88.9	250,870	304,228	105,510	261,521	374,619	486,120	145,348	67,527	110,405	114,963	102,104	173,713	80,517	60,951	166,467	118,210
Other	813	0.0	135	117	53	67	27	51	8	12	14	42	19	53	50	16	73	76

NOTE: The figures are from multiple responses and therefore the sum exceeds 100 percent.

TABLE 5.6: SOLID WASTE STORAGE BY TYPE OF LOCALITY AND REGION

Solid Waste Storage	All Regions		Region														
	Number	Percent	Western	Central	Greater Accra	Volta	Eastern	Ashanti	Western North	Ahafo	Bono	Bono East	Oti	Northern	Savannah	North East	Upper East	Upper West
All Locality Types																		
Total	**8,356,966**	**100.0**	**620,787**	**837,879**	**1,698,374**	**491,091**	**880,838**	**1,521,844**	**239,948**	**152,690**	**317,864**	**288,506**	**173,924**	**437,788**	**133,045**	**108,053**	**264,246**	**190,089**
Standard Waste Receptacles	1,180,322	14.1	74,912	88,821	432,712	37,015	90,992	218,891	20,688	15,238	42,432	26,978	9,722	53,761	11,087	9,926	27,696	19,451
Covered standard waste bin	937,790	11.2	58,503	69,028	400,454	29,295	72,017	174,873	10,647	8,497	31,154	15,796	4,572	29,927	4,689	2,677	13,686	11,975
Uncovered standard waste bin	242,532	2.9	16,409	19,793	32,258	7,720	18,975	44,018	10,041	6,741	11,278	11,182	5,150	23,834	6,398	7,249	14,010	7,476
Improvised Waste Receptacles	4,555,233	54.5	383,341	517,613	513,594	269,188	489,691	908,230	172,223	107,683	210,539	198,285	119,476	264,978	78,696	70,787	144,440	106,469
Covered container	1,305,839	15.6	102,798	120,234	330,082	45,062	126,456	361,480	26,793	20,265	47,030	31,388	15,503	33,788	8,801	5,245	18,292	12,622
Uncovered container	2,666,259	31.9	233,891	343,033	144,570	182,219	300,462	427,758	106,426	62,428	123,778	145,879	93,065	198,006	61,641	56,852	105,120	81,131
Covered/uncovered basket	583,135	7.0	46,652	54,346	38,942	41,907	62,773	118,992	39,004	24,990	39,731	21,018	10,908	33,184	8,254	8,690	21,028	12,716
Disposable Waste Receptacles	1,690,992	20.2	123,963	148,474	618,539	82,394	182,318	315,703	28,405	18,727	44,830	30,998	13,335	33,443	10,829	5,270	20,125	13,639
Sack	809,768	9.7	43,069	54,928	384,173	39,186	73,362	126,045	13,542	6,405	15,384	12,540	5,958	14,623	5,333	3,119	6,833	5,268
Polythene bag alone	855,503	10.2	80,190	90,694	230,019	41,588	106,320	187,830	14,472	11,633	28,688	17,387	6,602	16,258	4,574	1,723	10,879	6,646
Other	25,721	0.3	704	2,852	4,347	1,620	2,636	1,828	391	689	758	1,071	775	2,562	922	428	2,413	1,725
None (No receptacle)	930,419	11.2	38,571	82,971	133,529	102,494	117,837	79,020	18,632	11,042	20,063	32,245	31,391	85,606	32,433	22,070	71,985	50,530
Urban																		
Total	**5,068,903**	**100.0**	**328,160**	**493,689**	**1,575,236**	**213,339**	**467,692**	**956,088**	**77,124**	**79,438**	**197,703**	**165,408**	**61,273**	**236,115**	**43,530**	**38,147**	**75,024**	**60,937**
Standard Waste Receptacles	973,178	19.2	57,267	70,632	418,194	26,549	71,395	175,507	9,900	10,437	34,457	20,629	5,455	37,450	5,311	4,717	12,632	12,646
Covered standard waste bin	839,432	16.6	49,965	59,372	387,824	23,173	60,587	150,849	6,432	6,696	27,421	14,167	3,322	25,672	2,795	1,766	9,335	10,056
Uncovered standard waste bin	133,746	2.6	7,302	11,260	30,370	3,376	10,808	24,658	3,468	3,741	7,036	6,462	2,133	11,778	2,516	2,951	3,297	2,590
Improvised Waste Receptacles	2,409,657	47.5	171,778	258,172	464,713	102,959	235,228	509,875	50,637	52,519	119,771	112,107	43,435	149,836	29,586	28,472	44,903	35,666
Covered container	1,058,670	20.9	75,549	88,350	318,899	28,098	91,325	293,739	16,057	16,415	38,938	25,712	8,550	28,448	5,914	3,117	10,955	8,604
Uncovered container	1,127,740	22.2	81,301	146,246	115,425	61,534	118,818	173,849	27,541	28,062	64,011	76,675	31,116	106,383	21,316	22,340	28,887	24,236
Covered/uncovered basket	223,247	4.4	14,928	23,576	30,389	13,327	25,085	42,287	7,039	8,042	16,822	9,720	3,769	15,005	2,356	3,015	5,061	2,826
Disposable Waste Receptacles	1,346,000	26.6	89,199	115,791	593,257	54,556	125,049	235,713	13,778	12,445	34,403	22,994	6,667	22,663	4,017	1,788	7,194	6,486

Solid Waste Storage	All Regions		Region															
	Number	Percent	Western	Central	Greater Accra	Volta	Eastern	Ashanti	Western North	Ahafo	Bono	Bono East	Oti	Northern	Savannah	North East	Upper East	Upper West
Sack	669,980	13.2	30,139	46,170	372,106	27,184	48,319	96,490	6,517	3,892	11,055	9,105	3,203	8,863	1,540	803	2,335	2,259
Polythene bag alone	665,872	13.1	58,839	68,292	218,003	26,926	75,735	138,286	7,195	8,401	22,948	13,343	3,280	12,915	2,323	898	4,447	4,041
Other	10,148	0.2	221	1,329	3,148	446	995	937	66	152	400	546	184	885	154	87	412	186
None (No receptacle)	340,068	6.7	9,916	49,094	99,072	29,275	36,020	34,993	2,809	4,037	9,072	9,678	5,716	26,166	4,616	3,170	10,295	6,139
Rural																		
Total	**3,288,063**	**100.0**	**292,627**	**344,190**	**123,138**	**277,752**	**413,146**	**565,756**	**162,824**	**73,252**	**120,161**	**123,098**	**112,651**	**201,673**	**89,515**	**69,906**	**189,222**	**129,152**
Standard Waste Receptacles	207,144	6.3	17,645	18,189	14,518	10,466	19,597	43,384	10,788	4,801	7,975	6,349	4,267	16,311	5,776	5,209	15,064	6,805
Covered standard waste bin	98,358	3.0	8,538	9,656	12,630	6,122	11,430	24,024	4,215	1,801	3,733	1,629	1,250	4,255	1,894	911	4,351	1,919
Uncovered standard waste bin	108,786	3.3	9,107	8,533	1,888	4,344	8,167	19,360	6,573	3,000	4,242	4,720	3,017	12,056	3,882	4,298	10,713	4,886
Improvised Waste Receptacles	2,145,576	65.3	211,563	259,441	48,881	166,229	254,463	398,355	121,586	55,164	90,768	86,178	76,041	115,142	49,110	42,315	99,537	70,803
Covered container	247,169	7.5	27,249	31,884	11,183	16,964	35,131	67,741	10,736	3,850	8,092	5,676	6,953	5,340	2,887	2,128	7,337	4,018
Uncovered container	1,538,519	46.8	152,590	196,787	29,145	120,685	181,644	253,909	78,885	34,366	59,767	69,204	61,949	91,623	40,325	34,512	76,233	56,895
Covered/uncovered basket	359,888	10.9	31,724	30,770	8,553	28,580	37,688	76,705	31,965	16,948	22,909	11,298	7,139	18,179	5,898	5,675	15,967	9,890
Disposable Waste Receptacles	344,992	10.5	34,764	32,683	25,282	27,838	57,269	79,990	14,627	6,282	10,427	8,004	6,668	10,780	6,812	3,482	12,931	7,153
Sack	139,788	4.3	12,930	8,758	12,067	12,002	25,043	29,555	7,025	2,513	4,329	3,435	2,755	5,760	3,793	2,316	4,498	3,009
Polythene bag alone	189,631	5.8	21,351	22,402	12,016	14,662	30,585	49,544	7,277	3,232	5,740	4,044	3,322	3,343	2,251	825	6,432	2,605
Other	15,573	0.5	483	1,523	1,199	1,174	1,641	891	325	537	358	525	591	1,677	768	341	2,001	1,539
None (No receptacle)	590,351	17.9	28,655	33,877	34,457	73,219	81,817	44,027	15,823	7,005	10,991	22,567	25,675	59,440	27,817	18,900	61,690	44,391

NOTE: The figures relate to only households in occupied dwelling units

TABLE 5.7: METHOD OF SOLID WASTE DISPOSAL BY TYPE OF LOCALITY AND REGION

Method of disposal	All Regions		Region															
	Number	Percent	Western	Central	Greater Accra	Volta	Eastern	Ashanti	Western North	Ahafo	Bono	Bono East	Oti	Northern	Savannah	North East	Upper East	Upper West
All Locality Types																		
Total	**8,356,966**	**100.0**	**620,787**	**837,879**	**1,698,374**	**491,091**	**880,838**	**1,521,844**	**239,948**	**152,690**	**317,864**	**288,506**	**173,924**	**437,788**	**133,045**	**108,053**	**264,246**	**190,089**
Collected	2,794,841	33.4	154,355	195,946	1,185,719	83,867	244,650	576,952	27,667	21,718	80,687	55,746	22,988	78,010	9,443	5,065	22,354	29,674
Compaction truck	699,266	8.4	41,755	62,097	311,280	29,773	70,698	99,019	3,120	3,699	23,867	12,285	2,093	20,767	1,176	744	8,973	7,920
Other vehicles	108,511	1.3	7,427	9,556	50,257	2,247	3,842	26,150	1,303	634	2,009	1,079	224	2,381	143	118	704	437
Tricycle	1,100,336	13.2	27,952	19,758	720,224	4,643	4,744	306,246	4,232	513	3,879	1,788	775	3,544	521	374	793	350
Central container	755,893	9.0	66,400	96,378	47,566	42,822	158,889	122,493	16,505	15,459	47,080	36,352	17,917	47,647	6,148	3,057	11,096	20,084
Push carts/Walk-in attendant/Bicycle/Wheelbarrow	130,835	1.6	10,821	8,157	56,392	4,382	6,477	23,044	2,507	1,413	3,852	4,242	1,979	3,671	1,455	772	788	883
Public dump/open space	3,132,670	37.5	348,245	381,421	122,943	173,026	311,822	631,636	160,380	87,127	162,834	160,003	97,523	219,928	76,585	45,093	69,460	84,644
Uncollected	2,429,455	29.1	118,187	260,512	389,712	234,198	324,366	313,256	51,901	43,845	74,343	72,757	53,413	139,850	47,017	57,895	172,432	75,771
Bury in the ground	259,533	3.1	20,399	20,430	10,487	25,654	32,520	38,191	12,267	8,122	9,064	9,639	6,262	14,734	3,676	8,231	29,314	10,543
Burn	1,882,123	22.5	78,252	222,142	363,092	188,611	266,710	243,922	25,296	28,831	57,492	42,079	34,306	97,378	24,053	41,914	129,543	38,502
Dumped indiscriminately	276,515	3.3	18,692	16,583	14,459	18,793	24,139	30,251	13,752	6,608	7,389	20,586	12,396	27,309	19,096	7,710	12,800	25,952
Other	11,284	0.1	844	1,357	1,674	1,140	997	892	586	284	398	453	449	429	192	40	775	774
Urban																		
Total	**5,068,903**	**100.0**	**328,160**	**493,689**	**1,575,236**	**213,339**	**467,692**	**956,088**	**77,124**	**79,438**	**197,703**	**165,408**	**61,273**	**236,115**	**43,530**	**38,147**	**75,024**	**60,937**
Collected	2,603,174	51.4	139,280	174,974	1,166,757	70,387	206,879	532,953	20,502	19,044	73,591	51,635	18,610	72,388	7,362	3,535	18,670	26,607
Compaction truck	644,603	12.7	38,176	57,273	300,128	25,106	60,848	88,153	2,030	3,300	21,382	11,508	1,686	19,019	751	325	7,325	7,593
Other vehicles	101,387	2.0	6,782	9,132	48,391	1,830	3,217	24,487	715	470	1,887	995	194	2,152	124	64	569	378
Tricycle	1,084,536	21.4	27,328	19,371	716,548	4,327	4,234	298,239	3,575	430	3,343	1,720	714	3,045	465	339	541	317
Central container	664,256	13.1	60,789	82,447	46,073	35,500	133,666	102,047	13,131	14,209	44,129	34,973	15,006	46,401	5,460	2,579	9,959	17,887
Push carts/Walk-in attendant/Bicycle/Wheelbarrow	108,392	2.1	6,205	6,751	55,617	3,624	4,914	20,027	1,051	635	2,850	2,439	1,010	1,771	562	228	276	432

Method of disposal	All Regions		Region															
	Number	Percent	Western	Central	Greater Accra	Volta	Eastern	Ashanti	Western North	Ahafo	Bono	Bono East	Oti	Northern	Savannah	North East	Upper East	Upper West
Public dump/open space	1,247,095	24.6	135,288	149,051	95,905	53,149	121,492	257,476	44,382	39,033	80,641	79,094	27,192	92,802	23,326	17,243	16,185	14,836
Uncollected	1,218,634	24.0	53,592	169,664	312,574	89,803	139,321	165,659	12,240	21,361	43,471	34,679	15,471	70,925	12,842	17,369	40,169	19,494
Bury in the ground	82,499	1.6	5,334	8,196	7,131	9,841	11,884	14,887	1,615	2,444	4,057	3,489	1,322	5,173	783	2,220	2,808	1,315
Burn	1,072,783	21.2	45,258	154,363	292,900	77,095	123,674	143,122	9,954	17,768	37,512	25,559	11,570	59,182	10,320	13,779	35,344	15,383
Dumped indiscriminately	58,772	1.2	2,752	6,360	11,023	2,660	3,595	7,212	619	1,034	1,721	5,353	2,401	6,375	1,730	1,360	1,856	2,721
Other	4,580	0.1	248	745	1,520	207	168	438	52	115	181	278	178	195	9	10	161	75
Rural																		
Total	**3,288,063**	**100.0**	**292,627**	**344,190**	**123,138**	**277,752**	**413,146**	**565,756**	**162,824**	**73,252**	**120,161**	**123,098**	**112,651**	**201,673**	**89,515**	**69,906**	**189,222**	**129,152**
Collected	191,667	5.8	15,075	20,972	18,962	13,480	37,771	43,999	7,165	2,674	7,096	4,111	4,378	5,622	2,081	1,530	3,684	3,067
Compaction truck	54,663	1.7	3,579	4,824	11,152	4,667	9,850	10,866	1,090	399	2,485	777	407	1,748	425	419	1,648	327
Other vehicles	7,124	0.2	645	424	1,866	417	625	1,663	588	164	122	84	30	229	19	54	135	59
Tricycle	15,800	0.5	624	387	3,676	316	510	8,007	657	83	536	68	61	499	56	35	252	33
Central container	91,637	2.8	5,611	13,931	1,493	7,322	25,223	20,446	3,374	1,250	2,951	1,379	2,911	1,246	688	478	1,137	2,197
Push carts/Walk-in attendant/Bicycle/Wheelbarrow	22,443	0.7	4,616	1,406	775	758	1,563	3,017	1,456	778	1,002	1,803	969	1,900	893	544	512	451
Public dump/open space	1,885,575	57.3	212,957	232,370	27,038	119,877	190,330	374,160	115,998	48,094	82,193	80,909	70,331	127,126	53,259	27,850	53,275	69,808
Uncollected	1,210,821	36.8	64,595	90,848	77,138	144,395	185,045	147,597	39,661	22,484	30,872	38,078	37,942	68,925	34,175	40,526	132,263	56,277
Bury in the ground	177,034	5.4	15,065	12,234	3,356	15,813	20,636	23,304	10,652	5,678	5,007	6,150	4,940	9,561	2,893	6,011	26,506	9,228
Burn	809,340	24.6	32,994	67,779	70,192	111,516	143,036	100,800	15,342	11,063	19,980	16,520	22,736	38,196	13,733	28,135	94,199	23,119
Dumped indiscriminately	217,743	6.6	15,940	10,223	3,436	16,133	20,544	23,039	13,133	5,574	5,668	15,233	9,995	20,934	17,366	6,350	10,944	23,231
Other	6,704	0.2	596	612	154	933	829	454	534	169	217	175	271	234	183	30	614	699

NOTE: The figures relate to only households in occupied dwelling units

TABLE 5.8: TOILET FACILITY BY TYPE OF LOCALITY AND REGION

Type of toilet facility	All Regions		Region														
	Number	Percent	Western	Central	Greater Accra	Volta	Eastern	Ashanti	Western North	Ahafo	Bono	Bono East	Oti	Northern	Savannah	North East	Upper East	Upper West
All Locality Types																		
Total	**8,356,966**	**100.0**	**620,787**	**837,879**	**1,698,374**	**491,091**	**880,838**	**1,521,844**	**239,948**	**152,690**	**317,864**	**288,506**	**173,924**	**437,788**	**133,045**	**108,053**	**264,246**	**190,089**
No toilet facility	1,477,747	17.7	69,642	98,344	105,717	102,997	78,413	111,306	20,406	10,845	35,109	102,442	69,892	242,034	91,115	62,754	180,797	95,934
Septic tank	2,163,752	25.9	164,779	190,334	715,019	92,494	180,050	500,565	29,568	24,714	86,721	44,028	10,170	51,966	8,239	7,299	30,032	27,774
KVIP/VIP	1,193,736	14.3	64,961	157,748	197,569	98,619	204,079	203,454	22,036	24,545	46,242	48,275	33,043	32,875	10,897	9,595	20,907	18,891
Pit latrine	1,339,869	16.0	123,543	170,329	125,713	85,161	223,659	231,943	128,373	38,092	61,406	22,940	30,905	20,962	10,592	23,011	16,511	26,729
Enviro Loo	19,613	0.2	2,291	2,158	3,315	779	2,755	3,039	790	331	1,265	1,005	268	745	212	111	419	130
Bio-digester	130,251	1.6	7,185	18,800	74,758	5,080	9,240	8,506	684	343	768	1,367	552	1,778	298	64	618	210
Bio gas	23,208	0.3	1,323	3,045	9,754	820	1,963	4,228	209	204	202	343	137	507	106	33	261	73
Bucket/Pan	2,576	0.0	173	300	344	255	178	706	57	26	60	43	42	145	40	29	166	12
Portable toilet	14,544	0.2	814	1,595	2,478	713	1,632	3,635	370	369	720	510	282	570	274	58	360	164
Sewer	55,655	0.7	151	403	46,358	377	2,966	4,524	0	0	221	0	266	242	0	0	147	0
Public toilet	1,925,906	23.0	185,473	192,886	416,158	102,914	174,070	448,940	37,333	52,744	84,666	67,029	27,893	85,659	11,222	4,989	13,866	20,064
Other	10,109	0.1	452	1,937	1,191	882	1,833	998	122	477	484	524	474	305	50	110	162	108
Urban																		
Total	**5,068,903**	**100.0**	**328,160**	**493,689**	**1,575,236**	**213,339**	**467,692**	**956,088**	**77,124**	**79,438**	**197,703**	**165,408**	**61,273**	**236,115**	**43,530**	**38,147**	**75,024**	**60,937**
No toilet facility	449,849	8.9	18,749	45,933	67,600	20,590	18,550	32,740	4,011	4,653	12,806	32,319	18,933	82,950	22,595	20,589	32,584	14,247
Septic tank	1,829,876	36.1	125,414	150,291	687,745	66,480	140,932	415,787	15,205	18,548	72,428	38,407	5,260	43,666	5,423	3,581	20,798	19,911
KVIP/VIP	766,533	15.1	33,076	95,408	183,590	50,463	122,300	119,880	10,405	17,136	30,798	35,368	15,484	23,763	5,127	4,712	9,380	9,643
Pit latrine	537,327	10.6	33,389	79,775	103,496	21,952	76,062	108,515	34,417	12,945	32,461	14,235	6,407	3,087	1,243	5,131	1,896	2,316
Enviro Loo	9,876	0.2	885	947	2,949	224	969	1,445	129	165	557	772	111	457	132	47	54	33
Bio-digester	107,842	2.1	5,757	15,661	66,333	2,962	5,765	6,302	340	264	501	1,132	343	1,601	257	57	427	140
Bio gas	18,904	0.4	996	2,451	8,985	382	1,442	3,040	135	171	141	302	71	417	94	32	190	55
Bucket/Pan	1,647	0.0	73	222	306	105	85	569	7	12	38	35	15	101	25	6	40	8

Type of toilet facility	All Regions		Region															
	Number	Percent	Western	Central	Greater Accra	Volta	Eastern	Ashanti	Western North	Ahafo	Bono	Bono East	Oti	Northern	Savannah	North East	Upper East	Upper West
Portable toilet	10,883	0.2	443	1,095	2,287	391	1,236	2,790	207	317	405	429	168	534	237	46	197	101
Sewer	52,828	1.0	39	344	45,611	234	2,423	3,578	0	0	72	0	248	233	0	0	46	0
Public toilet	1,278,935	25.2	109,203	100,841	405,343	49,197	97,315	260,979	12,263	24,991	47,346	42,169	14,079	79,157	8,372	3,887	9,333	14,460
Other	4,403	0.1	136	721	991	359	613	463	5	236	150	240	154	149	25	59	79	23
Rural																		
Total	**3,288,063**	**100.0**	**292,627**	**344,190**	**123,138**	**277,752**	**413,146**	**565,756**	**162,824**	**73,252**	**120,161**	**123,098**	**112,651**	**201,673**	**89,515**	**69,906**	**189,222**	**129,152**
No toilet facility	1,027,898	31.3	50,893	52,411	38,117	82,407	59,863	78,566	16,395	6,192	22,303	70,123	50,959	159,084	68,520	42,165	148,213	81,687
Septic tank	333,876	10.2	39,365	40,043	27,274	26,014	39,118	84,778	14,363	6,166	14,293	5,621	4,910	8,300	2,816	3,718	9,234	7,863
KVIP/VIP	427,203	13.0	31,885	62,340	13,979	48,156	81,779	83,574	11,631	7,409	15,444	12,907	17,559	9,112	5,770	4,883	11,527	9,248
Pit latrine	802,542	24.4	90,154	90,554	22,217	63,209	147,597	123,428	93,956	25,147	28,945	8,705	24,498	17,875	9,349	17,880	14,615	24,413
Enviro Loo	9,737	0.3	1,406	1,211	366	555	1,786	1,594	661	166	708	233	157	288	80	64	365	97
Bio-digester	22,409	0.7	1,428	3,139	8,425	2,118	3,475	2,204	344	79	267	235	209	177	41	7	191	70
Bio gas	4,304	0.1	327	594	769	438	521	1,188	74	33	61	41	66	90	12	1	71	18
Bucket/Pan	929	0.0	100	78	38	150	93	137	50	14	22	8	27	44	15	23	126	4
Portable toilet	3,661	0.1	371	500	191	322	396	845	163	52	315	81	114	36	37	12	163	63
Sewer	2,827	0.1	112	59	747	143	543	946	0	0	149	0	18	9	0	0	101	0
Public toilet	646,971	19.7	76,270	92,045	10,815	53,717	76,755	187,961	25,070	27,753	37,320	24,860	13,814	6,502	2,850	1,102	4,533	5,604
Other	5,706	0.2	316	1,216	200	523	1,220	535	117	241	334	284	320	156	25	51	83	85

NOTE: The figures relate to only households in occupied dwelling units

TABLE 5.9: TYPE OF DROP HOLE BY TYPE OF LOCALITY AND REGION

Type of drop hole	All Regions		Region														
	Number	Percent	Western	Central	Greater Accra	Volta	Eastern	Ashanti	Western North	Ahafo	Bono	Bono East	Oti	Northern	Savannah	North East	Upper East	Upper West
All Locality Types																		
Total	**4,953,313**	**100.0**	**365,672**	**546,649**	**1,176,499**	**285,180**	**628,355**	**961,598**	**182,209**	**89,101**	**198,089**	**119,035**	**76,139**	**110,095**	**30,708**	**40,310**	**69,583**	**74,091**
WC seat	2,675,097	54.0	190,480	256,980	909,213	114,370	252,444	608,650	35,261	29,925	89,659	50,963	13,426	48,488	9,288	7,532	30,847	27,571
Flush squat bowl	351,741	7.1	23,006	36,631	61,228	15,468	33,478	67,945	17,397	9,126	20,265	16,495	6,419	21,591	3,993	3,604	8,736	6,359
Pour flush bowl	84,473	1.7	5,257	7,080	15,442	3,069	6,808	16,844	2,633	1,668	4,571	3,761	1,163	9,863	1,180	749	2,806	1,579
Urine-diverting dry toilet (UDDT)	25,557	0.5	870	2,634	2,343	1,294	1,754	4,270	1,519	601	1,796	2,076	442	1,953	771	843	1,404	987
Concrete pedestal/slab	1,015,965	20.5	66,618	153,140	97,680	74,199	171,141	171,215	70,728	19,628	54,703	33,584	29,459	16,457	7,921	16,274	17,293	15,925
Wooden pedestal/slab	668,140	13.5	68,912	77,200	77,594	56,488	145,701	78,611	49,591	25,203	23,329	8,900	21,104	7,187	4,367	7,301	5,007	11,645
Satopan/Micro flush	14,140	0.3	1,192	2,225	1,566	613	2,264	2,055	844	279	632	971	192	362	195	278	243	229
No slab	115,952	2.3	9,234	10,424	11,095	19,476	14,476	11,802	4,208	2,613	3,061	2,157	3,888	4,071	2,936	3,705	3,145	9,661
Other	2,248	0.0	103	335	338	203	289	206	28	58	73	128	46	123	57	24	102	135
Urban																		
Total	**3,340,119**	**100.0**	**200,208**	**346,915**	**1,102,293**	**143,552**	**351,827**	**662,369**	**60,850**	**49,794**	**137,551**	**90,920**	**28,261**	**74,008**	**12,563**	**13,671**	**33,107**	**32,230**
WC seat	2,225,901	66.6	144,443	199,827	868,527	78,666	190,082	486,232	19,682	22,905	74,289	43,111	7,442	39,679	6,374	3,491	20,700	20,451
Flush squat bowl	238,287	7.1	10,355	22,591	58,063	8,919	21,155	44,297	7,512	6,234	13,923	13,390	2,980	16,903	2,196	1,784	4,589	3,396
Pour flush bowl	59,630	1.8	2,400	4,290	14,734	1,687	4,499	11,651	911	1,092	2,882	3,045	641	8,242	790	381	1,548	837
Urine-diverting dry toilet (UDDT)	15,264	0.5	302	1,636	2,120	840	1,233	2,446	851	268	1,260	1,739	155	903	317	414	445	335
Concrete pedestal/slab	557,630	16.7	26,468	81,335	86,379	35,081	95,212	90,323	28,363	12,998	36,225	25,132	13,097	7,142	2,395	6,056	5,092	6,332
Wooden pedestal/slab	200,870	6.0	13,400	31,260	62,184	13,665	35,075	22,061	2,432	5,320	7,379	2,799	3,160	491	80	998	245	321
Satopan/Micro flush	6,643	0.2	458	656	1,344	219	1,187	1,120	266	96	186	671	77	111	116	50	51	35
No slab	34,979	1.0	2,353	5,182	8,641	4,436	3,287	4,107	833	856	1,358	1,004	698	522	280	495	415	512
Other	915	0.0	29	138	301	39	97	132	0	25	49	29	11	15	15	2	22	11
Rural																		
Total	**1,613,194**	**100.0**	**165,464**	**199,734**	**74,206**	**141,628**	**276,528**	**299,229**	**121,359**	**39,307**	**60,538**	**28,115**	**47,878**	**36,087**	**18,145**	**26,639**	**36,476**	**41,861**
WC seat	449,196	27.8	46,037	57,153	40,686	35,704	62,362	122,418	15,579	7,020	15,370	7,852	5,984	8,809	2,914	4,041	10,147	7,120

Type of drop hole	All Regions		Region															
	Number	Percent	Western	Central	Greater Accra	Volta	Eastern	Ashanti	Western North	Ahafo	Bono	Bono East	Oti	Northern	Savannah	North East	Upper East	Upper West
Flush squat bowl	113,454	7.0	12,651	14,040	3,165	6,549	12,323	23,648	9,885	2,892	6,342	3,105	3,439	4,688	1,797	1,820	4,147	2,963
Pour flush bowl	24,843	1.5	2,857	2,790	708	1,382	2,309	5,193	1,722	576	1,689	716	522	1,621	390	368	1,258	742
Urine-diverting dry toilet (UDDT)	10,293	0.6	568	998	223	454	521	1,824	668	333	536	337	287	1,050	454	429	959	652
Concrete pedestal/slab	458,335	28.4	40,150	71,805	11,301	39,118	75,929	80,892	42,365	6,630	18,478	8,452	16,362	9,315	5,526	10,218	12,201	9,593
Wooden pedestal/slab	467,270	29.0	55,512	45,940	15,410	42,823	110,626	56,550	47,159	19,883	15,950	6,101	17,944	6,696	4,287	6,303	4,762	11,324
Satopan/Micro flush	7,497	0.5	734	1,569	222	394	1,077	935	578	183	446	300	115	251	79	228	192	194
No slab	80,973	5.0	6,881	5,242	2,454	15,040	11,189	7,695	3,375	1,757	1,703	1,153	3,190	3,549	2,656	3,210	2,730	9,149
Other	1,333	0.1	74	197	37	164	192	74	28	33	24	99	35	108	42	22	80	124

TABLE 5.10: HOUSEHOLD USE OF TOILET FACILITY BY CATEGORY, TYPE OF LOCALITY AND REGION

Region	Number of households	Household toilet facility					No Household toilet facility			
		Total	Improved		Unimproved		Public toilet		None	
			Number	Percent	Number	Percent	Number	Percent	Number	Percent
All Locality Types										
Total	**8,356,966**	**4,953,313**	**4,835,099**	**57.9**	**118,214**	**1.4**	**1,925,906.0**	**23.0**	**1,477,747.0**	**17.7**
Western	620,787	365,672	356,288	57.4	9,384	1.5	185,473	29.9	69,642	11.2
Central	837,879	546,649	535,968	64.0	10,681	1.3	192,886	23.0	98,344	11.7
Greater Accra	1,698,374	1,176,499	1,165,096	68.6	11,403	0.7	416,158	24.5	105,717	6.2
Volta	491,091	285,180	265,511	54.1	19,669	4.0	102,914	21.0	102,997	21.0
Eastern	880,838	628,355	613,721	69.7	14,634	1.7	174,070	19.8	78,413	8.9
Ashanti	1,521,844	961,598	949,143	62.4	12,455	0.8	448,940	29.5	111,306	7.3
Western North	239,948	182,209	177,950	74.2	4,259	1.8	37,333	15.6	20,406	8.5
Ahafo	152,690	89,101	86,464	56.6	2,637	1.7	52,744	34.5	10,845	7.1
Bono	317,864	198,089	194,974	61.3	3,115	1.0	84,666	26.6	35,109	11.0
Bono East	288,506	119,035	116,838	40.5	2,197	0.8	67,029	23.2	102,442	35.5
Oti	173,924	76,139	72,217	41.5	3,922	2.3	27,893	16.0	69,892	40.2
Northern	437,788	110,095	105,881	24.2	4,214	1.0	85,659	19.6	242,034	55.3
Savannah	133,045	30,708	27,735	20.8	2,973	2.2	11,222	8.4	91,115	68.5
North East	108,053	40,310	36,577	33.9	3,733	3.5	4,989	4.6	62,754	58.1
Upper East	264,246	69,583	66,313	25.1	3,270	1.2	13,866	5.2	180,797	68.4
Upper West	190,089	74,091	64,423	33.9	9,668	5.1	20,064	10.6	95,934	50.5
Urban										
Total	**5,068,903**	**3,340,119**	**3,303,647**	**65.2**	**36,472**	**0.7**	**1,278,935.0**	**25.2**	**449,849.0**	**8.9**
Western	328,160	200,208	197,794	60.3	2,414	0.7	109,203	33.3	18,749	5.7
Central	493,689	346,915	341,539	69.2	5,376	1.1	100,841	20.4	45,933	9.3
Greater Accra	1,575,236	1,102,293	1,093,377	69.4	8,916	0.6	405,343	25.7	67,600	4.3
Volta	213,339	143,552	139,032	65.2	4,520	2.1	49,197	23.1	20,590	9.7
Eastern	467,692	351,827	348,466	74.5	3,361	0.7	97,315	20.8	18,550	4.0
Ashanti	956,088	662,369	657,729	68.8	4,640	0.5	260,979	27.3	32,740	3.4
Western North	77,124	60,850	60,010	77.8	840	1.1	12,263	15.9	4,011	5.2

Region	Number of households	Household toilet facility					No Household toilet facility			
		Total	Improved		Unimproved		Public toilet		None	
			Number	Percent	Number	Percent	Number	Percent	Number	Percent
Ahafo	79,438	49,794	48,926	61.6	868	1.1	24,991	31.5	4,653	5.9
Bono	197,703	137,551	136,158	68.9	1,393	0.7	47,346	23.9	12,806	6.5
Bono East	165,408	90,920	89,884	54.3	1,036	0.6	42,169	25.5	32,319	19.5
Oti	61,273	28,261	27,549	45.0	712	1.2	14,079	23.0	18,933	30.9
Northern	236,115	74,008	73,386	31.1	622	0.3	79,157	33.5	82,950	35.1
Savannah	43,530	12,563	12,259	28.2	304	0.7	8,372	19.2	22,595	51.9
North East	38,147	13,671	13,171	34.5	500	1.3	3,887	10.2	20,589	54.0
Upper East	75,024	33,107	32,653	43.5	454	0.6	9,333	12.4	32,584	43.4
Upper West	60,937	32,230	31,714	52.0	516	0.8	14,460	23.7	14,247	23.4
Rural										
Total	**3,288,063**	**1,613,194**	**1,531,452**	**46.6**	**81,742**	**2.5**	**646,971.0**	**19.7**	**1,027,898**	**31.3**
Western	292,627	165,464	158,494	54.2	6,970	2.4	76,270	26.1	50,893	17.4
Central	344,190	199,734	194,429	56.5	5,305	1.5	92,045	26.7	52,411	15.2
Greater Accra	123,138	74,206	71,719	58.2	2,487	2.0	10,815	8.8	38,117	31.0
Volta	277,752	141,628	126,479	45.5	15,149	5.5	53,717	19.3	82,407	29.7
Eastern	413,146	276,528	265,255	64.2	11,273	2.7	76,755	18.6	59,863	14.5
Ashanti	565,756	299,229	291,414	51.5	7,815	1.4	187,961	33.2	78,566	13.9
Western North	162,824	121,359	117,940	72.4	3,419	2.1	25,070	15.4	16,395	10.1
Ahafo	73,252	39,307	37,538	51.2	1,769	2.4	27,753	37.9	6,192	8.5
Bono	120,161	60,538	58,816	48.9	1,722	1.4	37,320	31.1	22,303	18.6
Bono East	123,098	28,115	26,954	21.9	1,161	0.9	24,860	20.2	70,123	57.0
Oti	112,651	47,878	44,668	39.7	3,210	2.8	13,814	12.3	50,959	45.2
Northern	201,673	36,087	32,495	16.1	3,592	1.8	6,502	3.2	159,084	78.9
Savannah	89,515	18,145	15,476	17.3	2,669	3.0	2,850	3.2	68,520	76.5
North East	69,906	26,639	23,406	33.5	3,233	4.6	1,102	1.6	42,165	60.3
Upper East	189,222	36,476	33,660	17.8	2,816	1.5	4,533	2.4	148,213	78.3
Upper West	129,152	41,861	32,709	25.3	9,152	7.1	5,604	4.3	81,687	63.2

NOTE: The figures relate to only households in occupied dwelling units

TABLE 5.11: LEVELS OF SERVICE BY TYPE OF LOCALITY AND REGION

Region	Number of households using household toilet facility	Improved Toilet Facilities						Unimproved	
		Total		Basic service (Improved and exclusive use)		Limited service (Improved and shared)			
		Number	Percent	Number	Percent	Number	Percent	Number	Percent
All Locality Types									
Total	**4,953,313**	**4,835,099**	**97.6**	**2,111,998**	**42.6**	**2,723,101**	**55.0**	**118,214**	**2.4**
Western	365,672	356,288	97.4	149,025	40.8	207,263	56.7	9,384	2.6
Central	546,649	535,968	98.0	205,263	37.5	330,705	60.5	10,681	2.0
Greater Accra	1,176,499	1,165,096	99.0	607,831	51.7	557,265	47.4	11,403	1.0
Volta	285,180	265,511	93.1	104,908	36.8	160,603	56.3	19,669	6.9
Eastern	628,355	613,721	97.7	231,249	36.8	382,472	60.9	14,634	2.3
Ashanti	961,598	949,143	98.7	400,171	41.6	548,972	57.1	12,455	1.3
Western North	182,209	177,950	97.7	76,309	41.9	101,641	55.8	4,259	2.3
Ahafo	89,101	86,464	97.0	35,665	40.0	50,799	57.0	2,637	3.0
Bono	198,089	194,974	98.4	79,376	40.1	115,598	58.4	3,115	1.6
Bono East	119,035	116,838	98.2	44,416	37.3	72,422	60.8	2,197	1.8
Oti	76,139	72,217	94.8	25,875	34.0	46,342	60.9	3,922	5.2
Northern	110,095	105,881	96.2	54,893	49.9	50,988	46.3	4,214	3.8
Savannah	30,708	27,735	90.3	14,184	46.2	13,551	44.1	2,973	9.7
North East	40,310	36,577	90.7	18,107	44.9	18,470	45.8	3,733	9.3
Upper East	69,583	66,313	95.3	31,968	45.9	34,345	49.4	3,270	4.7
Upper West	74,091	64,423	87.0	32,758	44.2	31,665	42.7	9,668	13.0
Urban									
Total	**3,340,119**	**3,303,647**	**98.9**	**1,473,561**	**44.1**	**1,830,086**	**54.8**	**36472**	**1.1**
Western	200,208	197,794	98.8	88,936	44.4	108,858	54.4	2414	1.2
Central	346,915	341,539	98.5	139,630	40.2	201,909	58.2	5376	1.5
Greater Accra	1,102,293	1,093,377	99.2	567,943	51.5	525,434	47.7	8916	0.8
Volta	143,552	139,032	96.9	57,258	39.9	81,774	57.0	4520	3.1
Eastern	351,827	348,466	99.0	130,349	37.0	218,117	62.0	3361	1.0
Ashanti	662,369	657,729	99.3	276,628	41.8	381,101	57.5	4640	0.7
Western North	60,850	60,010	98.6	19,723	32.4	40,287	66.2	840	1.4

Region	Number of households using household toilet facility	Improved Toilet Facilities						Unimproved	
		Total		Basic service (Improved and exclusive use)		Limited service (Improved and shared)			
		Number	Percent	Number	Percent	Number	Percent	Number	Percent
Ahafo	49,794	48,926	98.3	17,318	34.8	31,608	63.5	868	1.7
Bono	137,551	136,158	99.0	53,401	38.8	82,757	60.2	1393	1.0
Bono East	90,920	89,884	98.9	31,709	34.9	58,175	64.0	1036	1.1
Oti	28,261	27,549	97.5	8,924	31.6	18,625	65.9	712	2.5
Northern	74,008	73,386	99.2	37,946	51.3	35,440	47.9	622	0.8
Savannah	12,563	12,259	97.6	5,541	44.1	6,718	53.5	304	2.4
North East	13,671	13,171	96.3	5,795	42.4	7,376	54.0	500	3.7
Upper East	33,107	32,653	98.6	16,089	48.6	16,564	50.0	454	1.4
Upper West	32,230	31,714	98.4	16,371	50.8	15,343	47.6	516	1.6
Rural									
Total	**1,613,194**	**1,531,452**	**94.9**	**638,437**	**39.6**	**893,015**	**55.4**	**81742**	**5.1**
Western	165,464	158,494	95.8	60,089	36.3	98,405	59.5	6970	4.2
Central	199,734	194,429	97.3	65,633	32.9	128,796	64.5	5305	2.7
Greater Accra	74,206	71,719	96.6	39,888	53.8	31,831	42.9	2487	3.4
Volta	141,628	126,479	89.3	47,650	33.6	78,829	55.7	15149	10.7
Eastern	276,528	265,255	95.9	100,900	36.5	164,355	59.4	11273	4.1
Ashanti	299,229	291,414	97.4	123,543	41.3	167,871	56.1	7815	2.6
Western North	121,359	117,940	97.2	56,586	46.6	61,354	50.6	3419	2.8
Ahafo	39,307	37,538	95.5	18,347	46.7	19,191	48.8	1769	4.5
Bono	60,538	58,816	97.2	25,975	42.9	32,841	54.2	1722	2.8
Bono East	28,115	26,954	95.9	12,707	45.2	14,247	50.7	1161	4.1
Oti	47,878	44,668	93.3	16,951	35.4	27,717	57.9	3210	6.7
Northern	36,087	32,495	90.0	16,947	47.0	15,548	43.1	3592	10.0
Savannah	18,145	15,476	85.3	8,643	47.6	6,833	37.7	2669	14.7
North East	26,639	23,406	87.9	12,312	46.2	11,094	41.6	3233	12.1
Upper East	36,476	33,660	92.3	15,879	43.5	17,781	48.7	2816	7.7
Upper West	41,861	32,709	78.1	16,387	39.1	16,322	39.0	9152	21.9

TABLE 5.12: DEFAECATION POINT FOR HOUSEHOLDS WITHOUT TOILET FACILITY, TYPE OF LOCALITY AND REGION

Region/ Locality type	Number	Percent	Defaecation point			
			Chamber pot	Polythene bag	Beach/ Water bodies	Bush/Open field/ Gutter
All Locality Types						
Total	**1,477,747**	**100.0**	**18,633**	**16,993**	**61,401**	**1,380,720**
Western	69,642	4.7	1,676	4,630	13,523	49,813
Central	98,344	6.7	2,081	1,955	23,762	70,546
Greater Accra	105,717	7.2	2,331	1,838	11,531	90,017
Volta	102,997	7.0	984	381	7,015	94,617
Eastern	78,413	5.3	2,036	1,947	802	73,628
Ashanti	111,306	7.5	3,338	3,430	653	103,885
Western North	20,406	1.4	443	1,245	375	18,343
Ahafo	10,845	0.7	384	276	81	10,104
Bono	35,109	2.4	856	504	171	33,578
Bono East	102,442	6.9	416	112	523	101,391
Oti	69,892	4.7	367	52	319	69,154
Northern	242,034	16.4	2,561	173	1,101	238,199
Savannah	91,115	6.2	340	82	318	90,375
North East	62,754	4.2	249	42	136	62,327
Upper East	180,797	12.2	331	239	596	179,631
Upper West	95,934	6.5	240	87	495	95,112
Urban						
Total	**449,849**	**100.0**	**11,423**	**9,582**	**36,765**	**392,079**
Western	18,749	4.2	853	2,066	5,714	10,116
Central	45,933	10.2	1,121	1,354	18,777	24,681
Greater Accra	67,600	15.0	2,104	1,592	8,365	55,539
Volta	20,590	4.6	418	245	1,919	18,008
Eastern	18,550	4.1	958	1,197	133	16,262
Ashanti	32,740	7.3	2,203	1,851	312	28,374
Western North	4,011	0.9	163	386	43	3,419
Ahafo	4,653	1.0	145	193	12	4,303
Bono	12,806	2.8	641	384	41	11,740

Region/ Locality type	Number	Percent	Defaecation point			
			Chamber pot	Polythene bag	Beach/ Water bodies	Bush/Open field/ Gutter
Bono East	32,319	7.2	212	71	190	31,846
Oti	18,933	4.2	71	26	108	18,728
Northern	82,950	18.4	2,186	88	728	79,948
Savannah	22,595	5.0	91	28	175	22,301
North East	20,589	4.6	61	19	63	20,446
Upper East	32,584	7.2	134	60	165	32,225
Upper West	14,247	3.2	62	22	20	14,143
Rural						
Total	**1,027,898**	**100.0**	**7,210**	**7,411**	**24,636**	**988,641**
Western	50,893	5.0	823	2,564	7,809	39,697
Central	52,411	5.1	960	601	4,985	45,865
Greater Accra	38,117	3.7	227	246	3,166	34,478
Volta	82,407	8.0	566	136	5,096	76,609
Eastern	59,863	5.8	1,078	750	669	57,366
Ashanti	78,566	7.6	1,135	1,579	341	75,511
Western North	16,395	1.6	280	859	332	14,924
Ahafo	6,192	0.6	239	83	69	5,801
Bono	22,303	2.2	215	120	130	21,838
Bono East	70,123	6.8	204	41	333	69,545
Oti	50,959	5.0	296	26	211	50,426
Northern	159,084	15.5	375	85	373	158,251
Savannah	68,520	6.7	249	54	143	68,074
North East	42,165	4.1	188	23	73	41,881
Upper East	148,213	14.4	197	179	431	147,406
Upper West	81,687	7.9	178	65	475	80,969

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