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GHANA 2021 POPULATION AND HOUSING CENSUS

GENERAL REPORT VOLUME 3G

INFORMATION AND COMMUNICATION TECHNOLOGY



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



**TRANSFORMING OUR WORLD
THE 2030 AGENDA FOR SUSTAINABLE
DEVELOPMENT**

GHANA 2021 POPULATION AND HOUSING CENSUS

**GENERAL REPORT
VOLUME 3G**

**GHANA STATISTICAL SERVICE
FEBRUARY 2022**

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, 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.

In response to increasing interest in digitalisation and digital inclusion, the Information and Communication Technology (ICT) module in the 2021 PHC revised and added to questions asked in the 2010 PHC. Among the areas revised and questions added were information on access and use of ICT, ownership of functional ICT devices, use of mobile phones for mobile money and other financial transactions, and devices used to access the internet.

Volume 3G: Information and Communication Technology presents statistics on ownership of functional ICT devices and their use in the last three months, type of ICT device, use of the internet in the three months preceding the census, and use of mobile phone for mobile money and other financial services. These statistics are disaggregated by region, sex, 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), Private Sector, Research Institutions and Academia, and the public to foster evidence-based decision-making. The statistics in the report will support the Ministry of Communications and Digitalisation in the implementation of the nation's ICT for Accelerated Development Policy (ICT4AD) (2003) whose objectives include the creation of an enabling environment for ICT usage and the utilisation of ICT for the development of other sectors. The report will also aid other MDAs in the implementation and monitoring of sector-specific ICT policies such as the ICT in Education Policy (2015), and the Health Sector ICT Policy and Strategy (2005).

The statistics on usage of mobile devices for financial transactions will provide information to guide the implementation and monitoring of the Digital Financial Services Policy (2020) which aims to leverage digital finance as one of the pathways to achieving the nation's financial inclusion goals. Additionally, the data will be foundational in propelling Ghana's e-commerce agenda which has become a consequential imperative following the COVID-19 pandemic. The COVID-19 pandemic heightened the importance of deploying ICT in all aspects of life (e.g., for employment and educational opportunities). This report will thus provide statistics to guide the development and deployment of targeted solutions to ensure that people in Ghana can have access to and utilise information and communication technology for a fully digital inclusive society.

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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 the 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 (GRID³), 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.

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

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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
RFs	Regional Field Supervisors
SA	Supervisory Area
SDGs	Sustainable Development Goals
UNDP	United Nations Development Programme

UNECA
UNFPA
WAEC
ZFCs

United Nations Economic Commission for Africa
United Nations Population Fund
West African Examinations Council
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 March¹. 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, 272² 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 (GRID³)

GRID³ 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 3G: BACKGROUND INFORMATION

Information and Communication Technology (ICT) is increasingly defining the pace of global socio-economic development. Countries are prioritising investment in the digital ecosystem to transform and modernise their economies in recognition of the developmental role ICT plays in facilitating and accelerating overall development. As observed by The Earth Institute, universal ICT connectivity offers a powerful platform to deliver essential services like e-governance, education, health, energy, and financial inclusion and ensure that no one is left behind.

The Sustainable Development Goals (SDGs), constituting the global blueprint to achieving a better and more sustainable future for all people by 2030 (Agenda 2030), identify ICT as integral to transformation and effective implementation of socio-economic development policies and programmes. Seven out of the 17 goals have targets on ICT, which aim at achieving national and global efforts towards full inclusivity. Furthermore, the effective monitoring of progress of all the 17 SDGs largely depends on a fully developed ICT infrastructure and ICT capacitated population. Other frameworks for measuring development in Africa, including the African Union Agenda 2063 also underscore the central role of ICT in the development agenda of the continent.

As part of Ghana's commitment to these international frameworks to mainstream ICT use, the government adopted the Information and Communication Technology for Accelerated Development (ICT4AD) Policy in 2003 to transform the country into an information-rich and knowledge-based economy and society. There is an aggressive programme towards digitalising the economy across all sectors including mobile phone interoperability and money transfer, National Health Insurance Scheme (NHIS) registration and renewal, issuance of the Ghana Card, the Drivers and Vehicle Licensing Authority (DVLA) operations and national passport acquisition. For effective monitoring of Ghana's transition to a digitalised economy, there is the need for reliable, timely and accurate statistics on the ICT sector. Earlier efforts towards addressing these data needs by the state include the addition of ICT module in the 2010 Population and Housing Census (PHC), a nationwide survey on ICT access, usage and skills at the household level in 2019 and an ICT module in the 2021 PHC.

This report presents information on ICT generated from the 2021 PHC pertaining to use of ICT for population 6 years and older, ownership of functional ICT devices for population 12 years and older, use of mobile phone for money transfer and other financial services for population 12 years and older and use of the internet by type of ICT device for population 6 years and older, by sex, type of locality and region. It is based on responses obtained from persons in households and stable institutions, as defined under Section 1.10.2. The reference period for questions on use of functional ICT devices is the last three months preceding the Census Night (April to June 2021). These questions were asked at the individual level in the 2021 PHC while in the 2010 PHC ownership of desktop and laptop computers were asked at the household level.

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

3. DEFINITION OF CONCEPTS

3.1. ICT Device

ICT device refers to an electronic equipment and other systems that combine to allow people to interact in the digital world; e.g., mobile phone, tablet, laptop, desktop computer, TV and radio sets.

3.2. Functional ICT Device

Functional ICT device refers to a device that is operational and able to perform at least some basic functions which it was designed to do.

3.3. Use of ICT Device

It refers to the productive purpose which an ICT device was put to, irrespective of its owner, in the last three months prior to the Census Night.

3.4. Ownership of ICT Device

It refers to the individual to whom the device belongs.

3.5. The Internet

It is a telecommunication network that uses telephone lines, cables, satellites or wireless connection to aid communication between and among individuals across the globe.

3.6. Smart Mobile Phone

This refers to a mobile phone device that performs many of the functions of a computer, typically having a touchscreen interface, Internet access, and an operating system capable of running apps such as Facebook, WhatsApp or YouTube.

3.7. Non-Smart Mobile Phone

It refers to a phone device that performs only basic functions such as making and receiving calls and sending/receiving text messages.

3.8. Cordless Telephone

It refers to a wireless landline telephone used to transmit and receive signals by radio waves within a range of a couple of hundred metres.

3.9. Fixed Telephone

It refers to a corded landline telephone used to transmit and receive signals by the cable attached to it and usually sits on a desk or is fixed to a wall or a particular location.

3.10. Laptop

A laptop is a personal computer designed for portability which has an alpha-numerical keyboard and is powered by electricity or re-chargeable battery.

3.11. Tablet

A tablet is a wireless, portable personal computer with a touch screen interface, typically smaller than a laptop computer and larger than a smart phone.

3.12. Desktop Computer

It refers to a personal computer designed for regular use at a single location, on a desk or table, due to its size and power requirements.

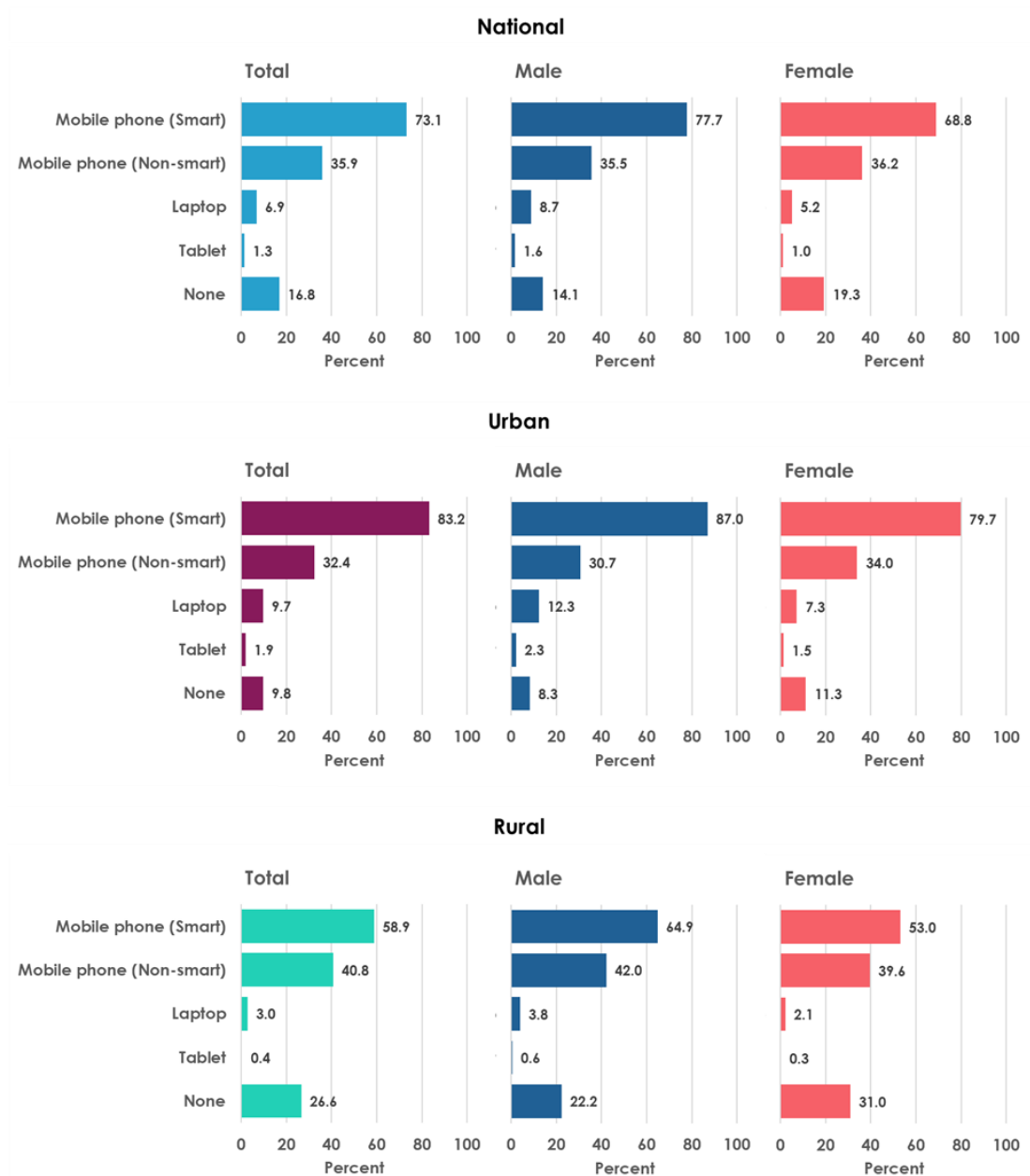
3.13. Radio

A radio is an electronic device that receives electromagnetic waves from designated broadcasting stations at specified frequencies or channels and converts them into audio forms suitable for people to listen to.

4. HIGHLIGHTS OF RESULTS

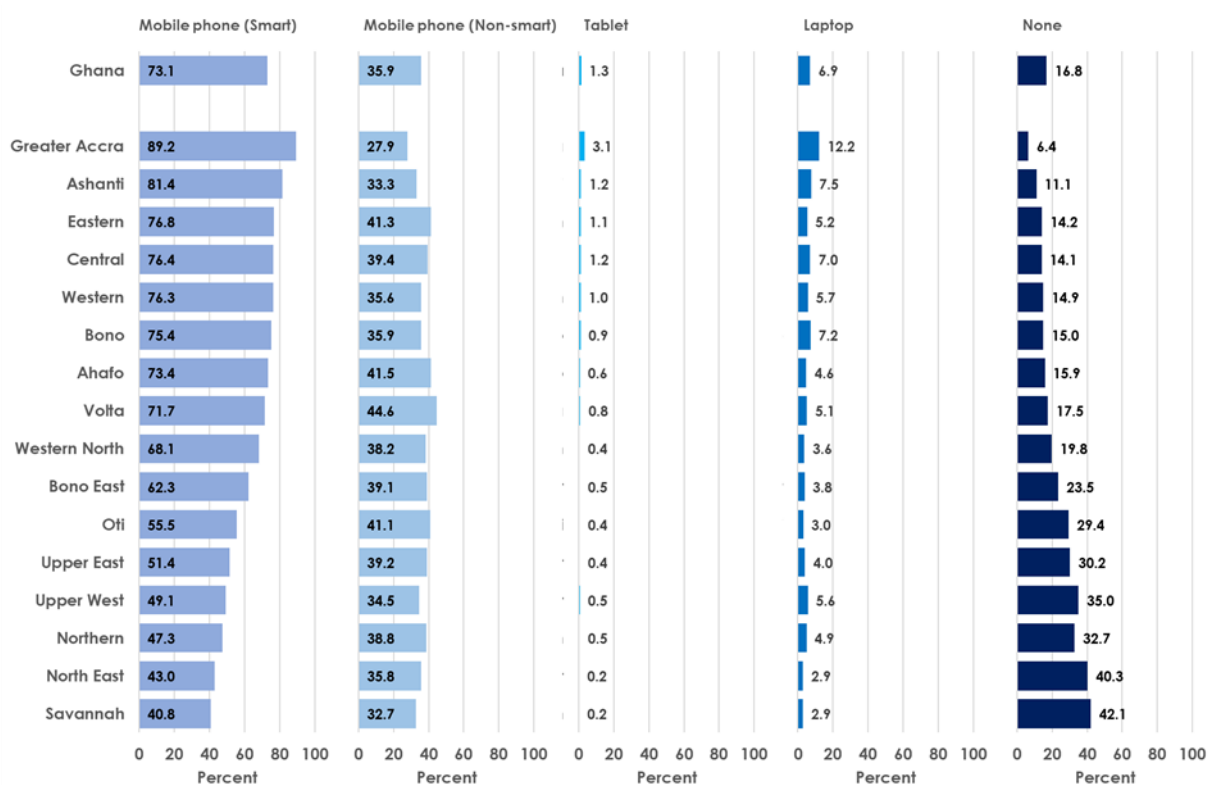
About 17 percent of persons 12 years and older do not own any functional ICT device. The proportion is higher among females (19.3%) than males (14.1%) and in rural (26.6%) than urban (9.8%) areas.

FIGURE 4.1: OWNERSHIP OF FUNCTIONAL ICT DEVICE AMONG PERSONS 12 YEARS AND OLDER BY SEX AND TYPE OF LOCALITY



The proportion of persons 12 years and older who do not own any functional ICT device ranges from 6.4 percent in Greater Accra Region to 42.1 percent in Savannah Region.

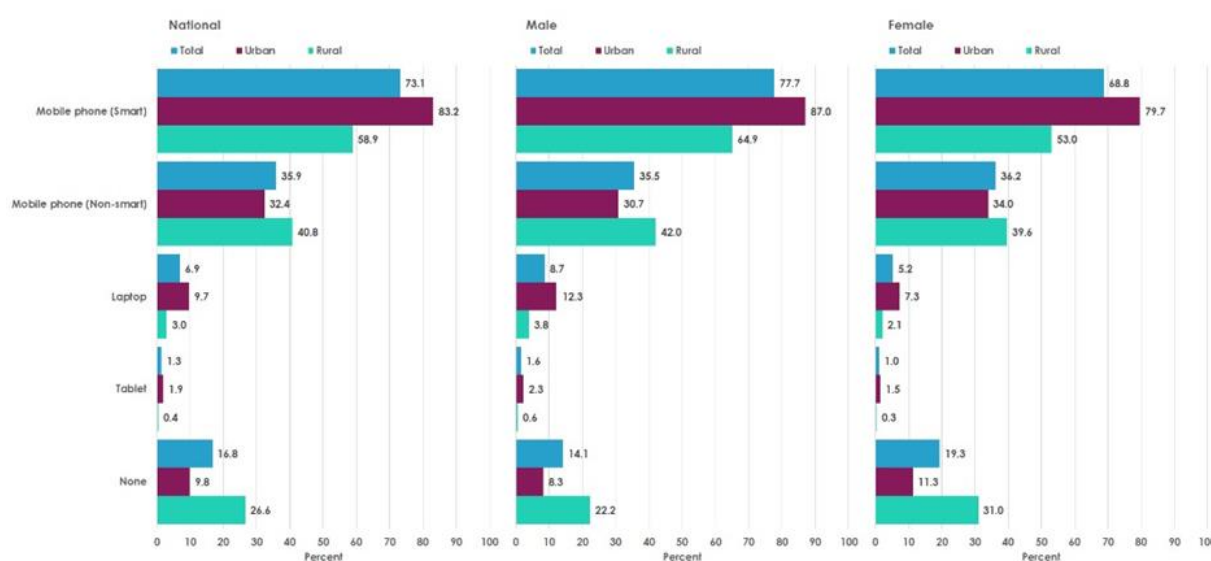
FIGURE 4.2: OWNERSHIP OF FUNCTIONAL ICT DEVICE AMONG PERSONS 12 YEARS AND OLDER BY SEX AND TYPE OF LOCALITY



Ownership of functional ICT device among persons 12 years and older is higher among males than females in both urban and rural areas except for non-smart phones at national and urban areas.

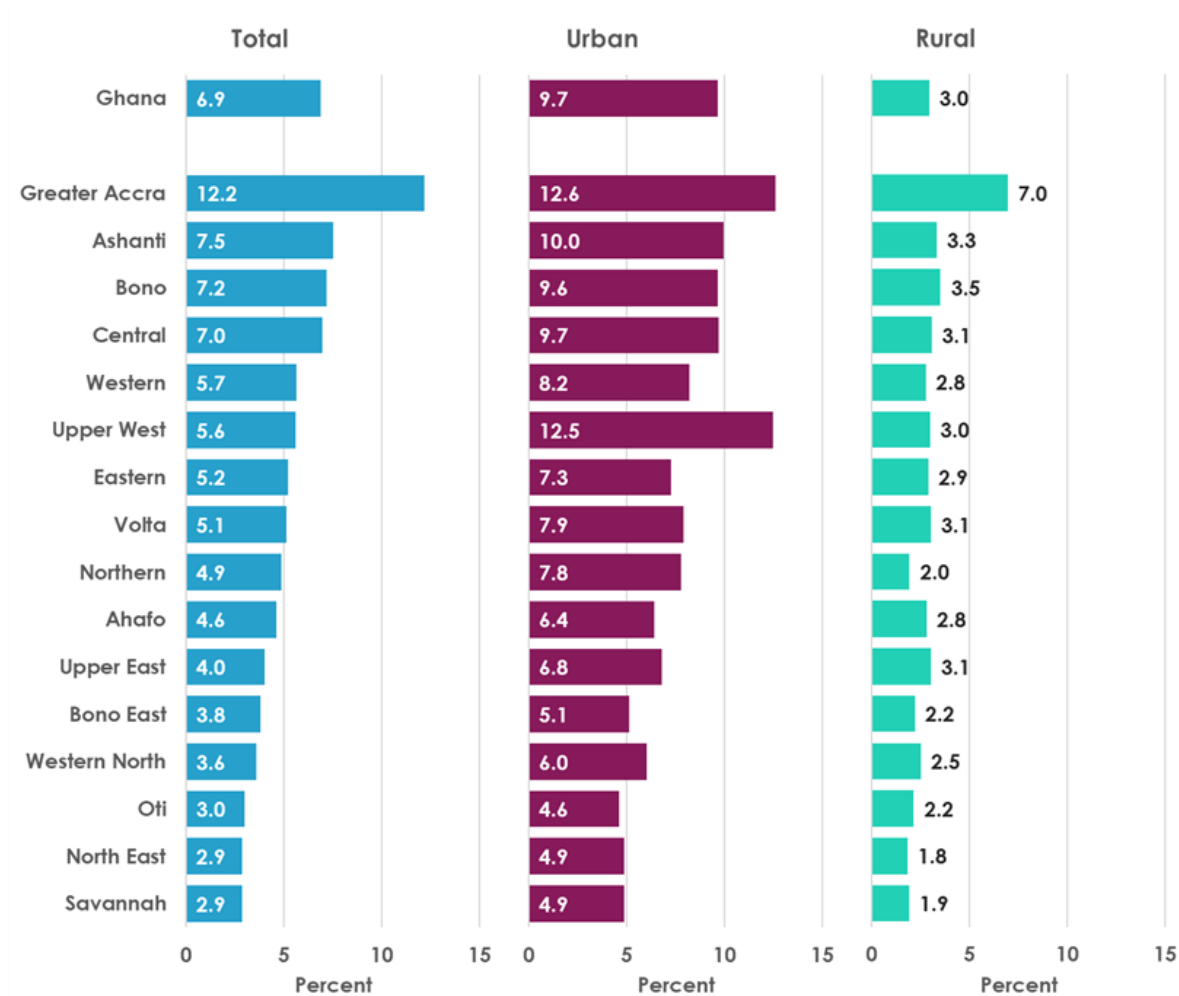
Smart mobile phone (73.1%) is the most widely owned functional ICT device among persons 12 years and older, and it is 10 times the proportion of persons possessing laptops.

FIGURE 4.3: OWNERSHIP OF FUNCTIONAL ICT DEVICES AMONG PERSONS 12 YEARS AND OLDER BY SEX AND TYPE OF LOCALITY



Ownership of laptop is highest in Greater Accra (12.2%) and lowest in Savannah and North East regions with 2.9 percent each. In urban areas, the proportion of persons who own laptops is about the same in Upper West (12.5%) and Greater Accra (12.6%) regions. The proportions for urban are two to three times as high as in rural areas in all regions except for Upper West and Northern regions where the proportions are four times as high.

FIGURE 4.4: OWNERSHIP OF LAPTOP AMONG PERSONS 12 YEARS AND OLDER BY TYPE OF LOCALITY AND REGION

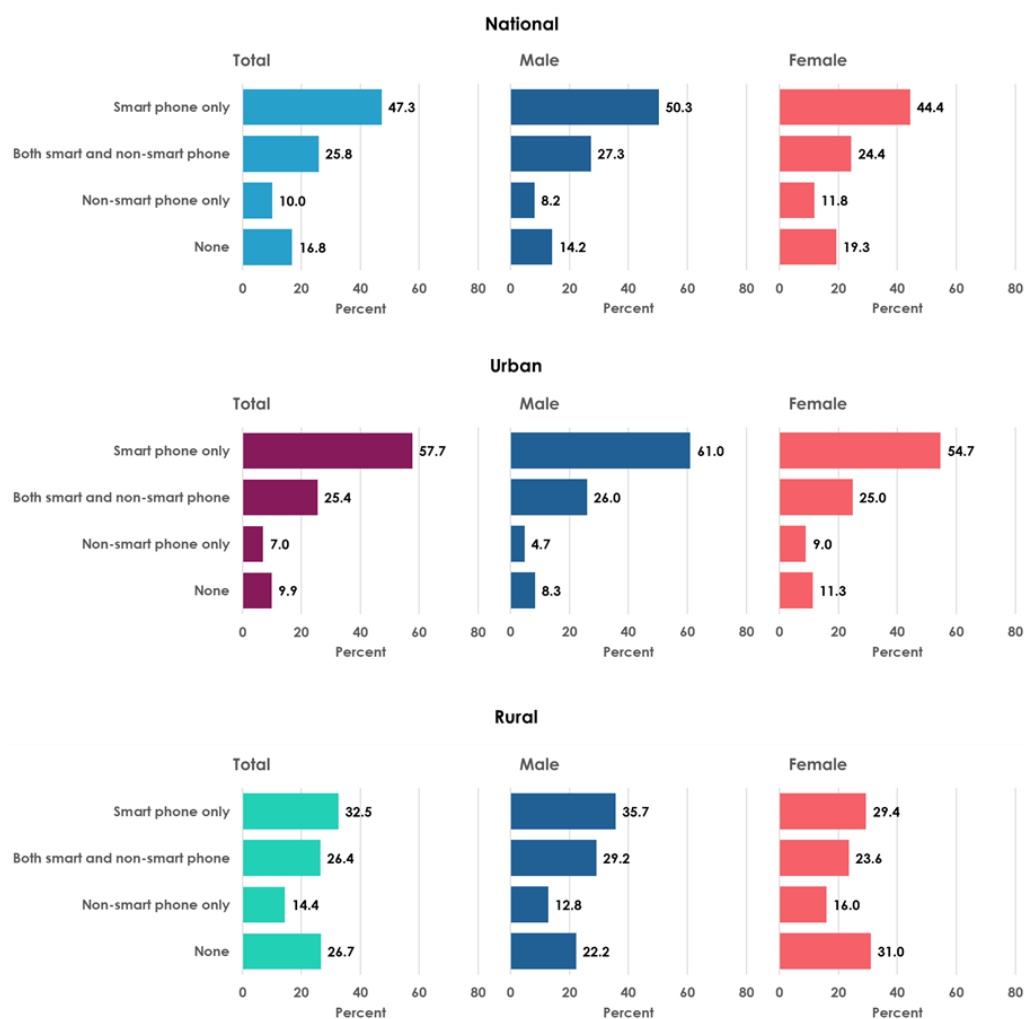


Eight in 10 (83.2%) persons 12 years and older own mobile phones. The proportion is higher for males (85.8%) than females (80.7%). Ownership of mobile phones in urban (90.1%) is higher than rural (63.3%) areas.

Ten percent of persons 12 years and older own only non-smart mobile phone.

Higher proportions of persons 12 years and older in rural areas (male: 12.8% and female: 16.0%) own non-smart mobile phone than urban areas (male: 4.7% and female: 9.0%).

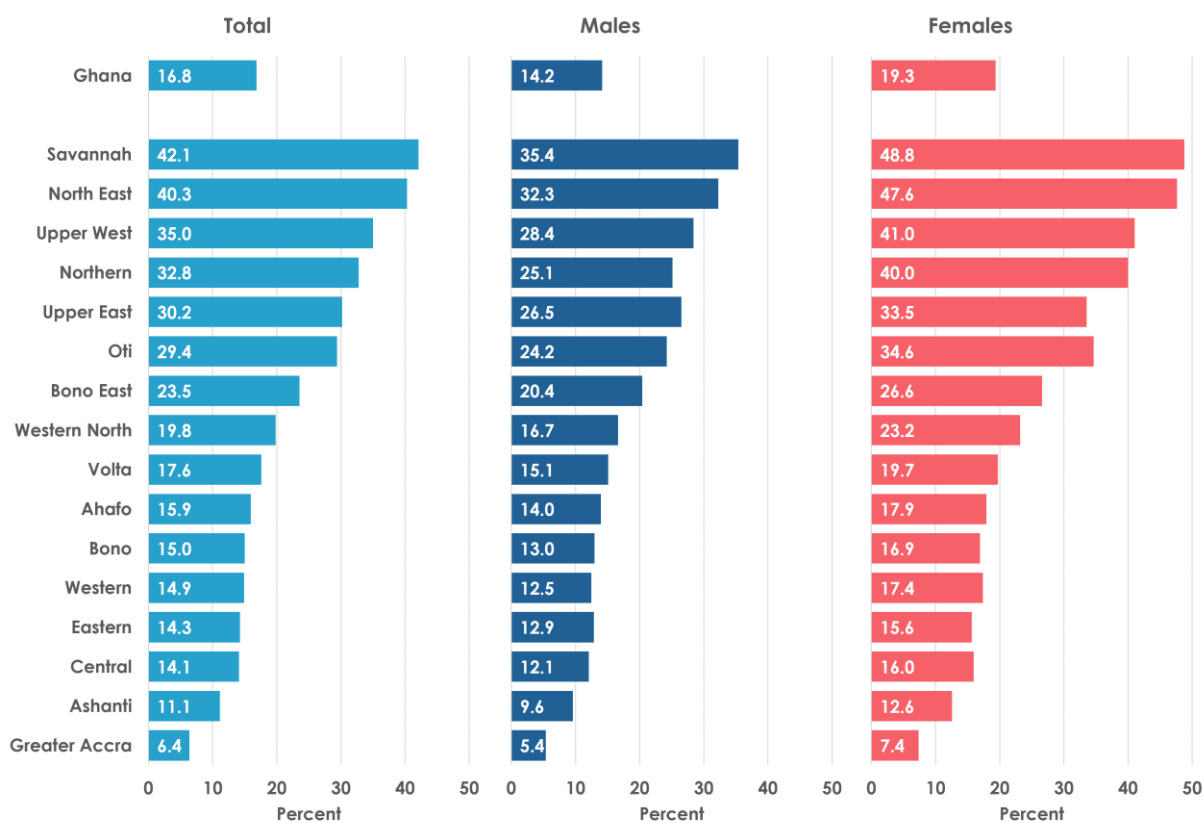
FIGURE 4.5: OWNERSHIP OF MOBILE PHONE AMONG PERSONS 12 YEARS AND OLDER BY SEX AND TYPE OF LOCALITY



In five regions, 30 percent or more of persons 12 years and older do not own any mobile phone, two of which have proportions of 40 percent or more. Only one region has less than 10 percent of persons 12 years and older who do not own any mobile phone.

In the regions where non-ownership is high, the difference between males and females is pronounced in Savannah (males: 35.4% and females: 48.8%) and North East (males: 32.3% and females: 47.6%).

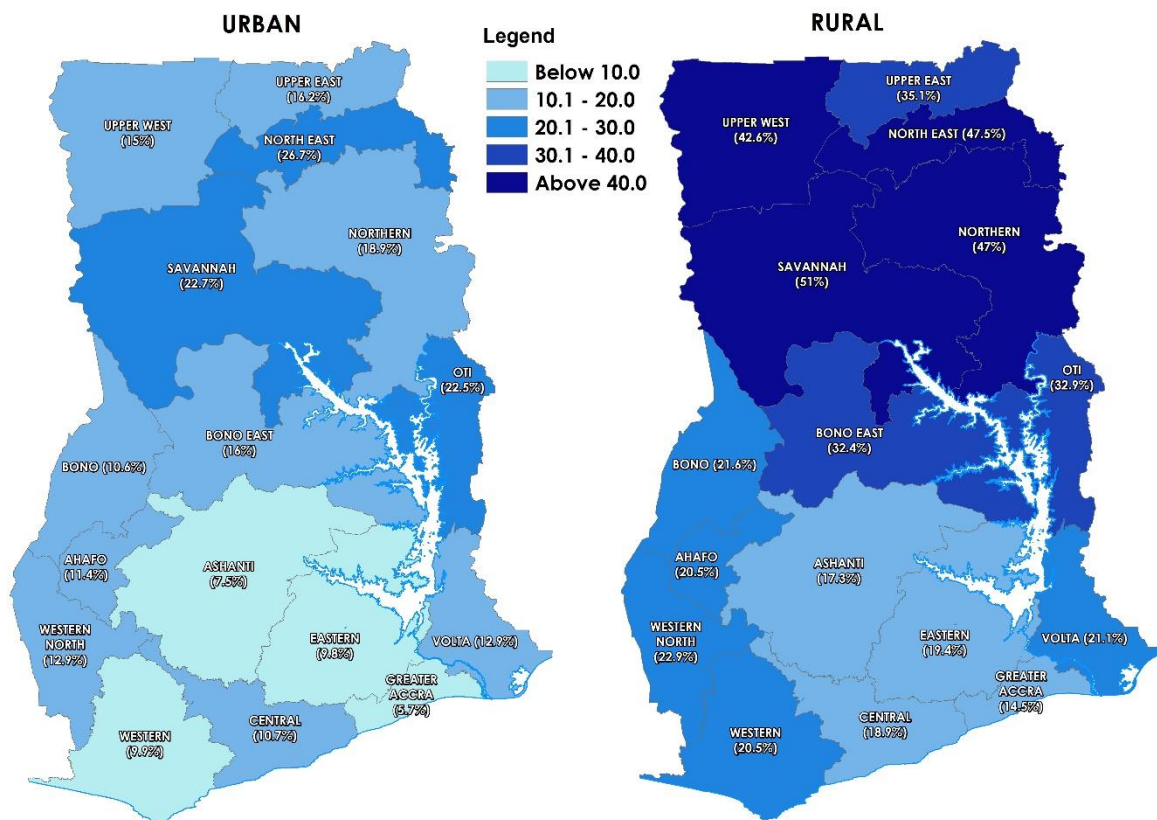
FIGURE 4.6: NON-OWNERSHIP OF MOBILE PHONE AMONG PERSONS 12 YEARS AND OLDER BY SEX AND REGION



Rural areas in seven regions have 30 percent or more of persons 12 years and older do not own any mobile phone, four of which have proportions of 40 percent or more.

In the urban areas, all regions have less than 30 percent of persons 12 years and older who do not own any mobile phone and four of the regions have proportions below 10 percent.

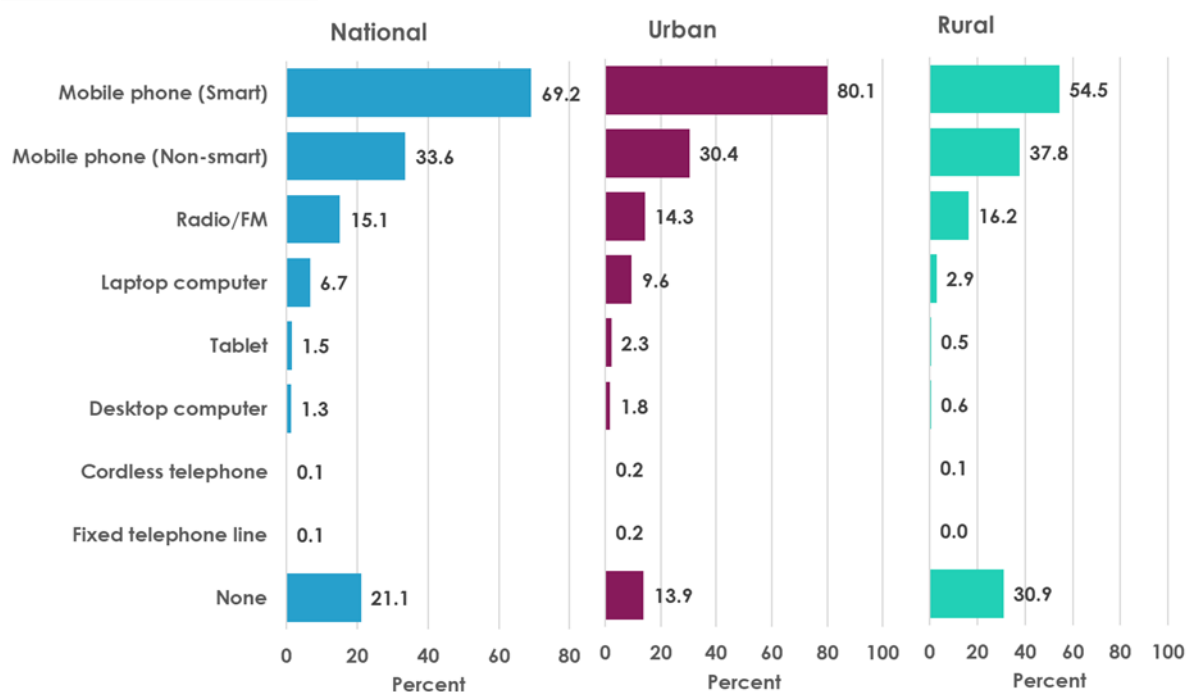
FIGURE 4.7: NON-OWNERSHIP OF MOBILE PHONE AMONG PERSONS 12 YEARS AND OLDER BY TYPE OF LOCALITY AND REGION



In the three months preceding the Census Night (from April to June 2021), more than one-fifth of the population 6 years and older did not use any ICT device.

Most used ICT device among persons 6 years and older is smart mobile phone (69.2%), with the proportion being 80.1 percent in urban and 54.5 percent in rural areas. Use of all ICT devices is higher in urban than rural areas except for non-smart mobile phone and radio/FM.

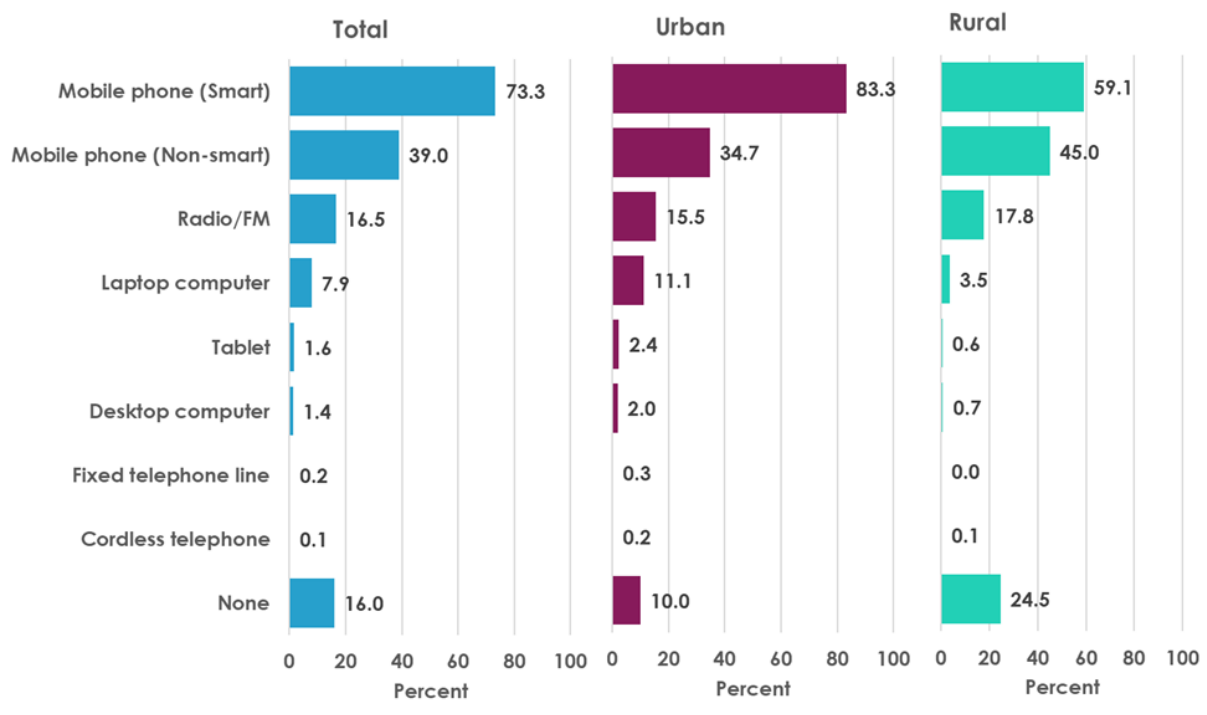
FIGURE 4.8: USE OF ICT DEVICE AMONG PERSONS 6 YEARS AND OLDER BY TYPE OF LOCALITY



Among persons 12 years and older, 16 percent did not use any ICT device in the three-month period from April to June 2021 and the proportion is higher in rural (24.5%) than urban (10.0%) areas.

Smart mobile phone is the most used ICT device among persons 12 years and older (73.3%), with the proportion being 83.3 percent in urban and 59.1 percent in rural areas. Use of all ICT devices is higher in urban than rural areas except for mobile phone (non-smart) and radio/FM.

FIGURE 4.9: USE OF ICT DEVICES AMONG PERSONS 12 YEARS AND OLDER BY TYPE OF LOCALITY

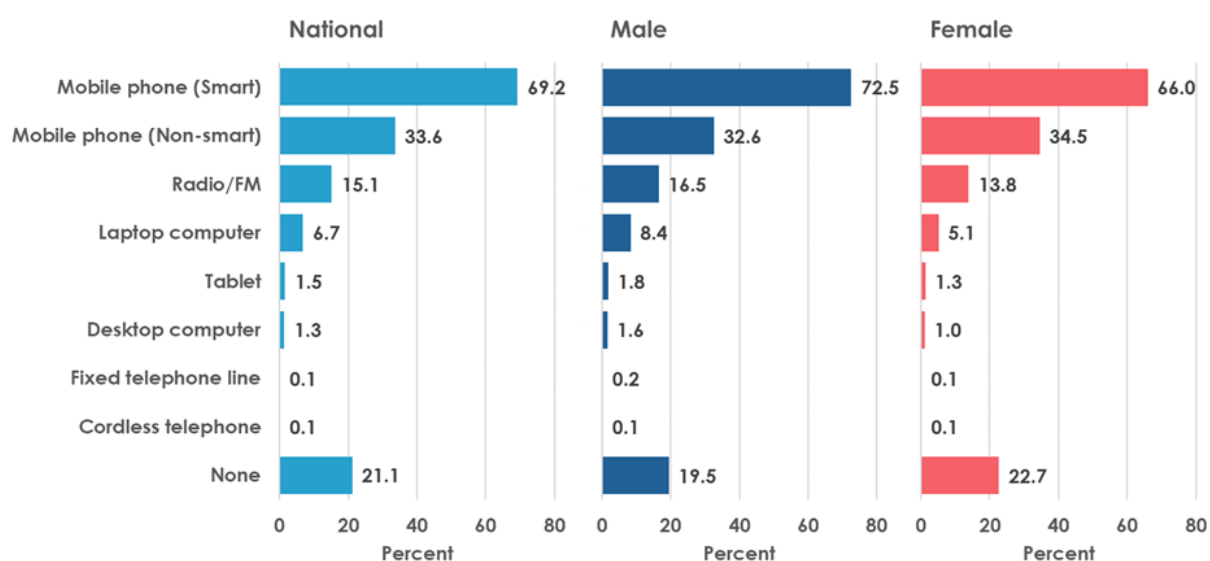


Use of all ICT devices among persons 6 years and older is higher for males than females except non-smart mobile phone.

Among persons 6 years and older smart mobile phone is the most used device by both males (72.5%) and females (66.0%).

The proportions that do not use any ICT devices vary marginally between males (19.5%) and females (22.7%).

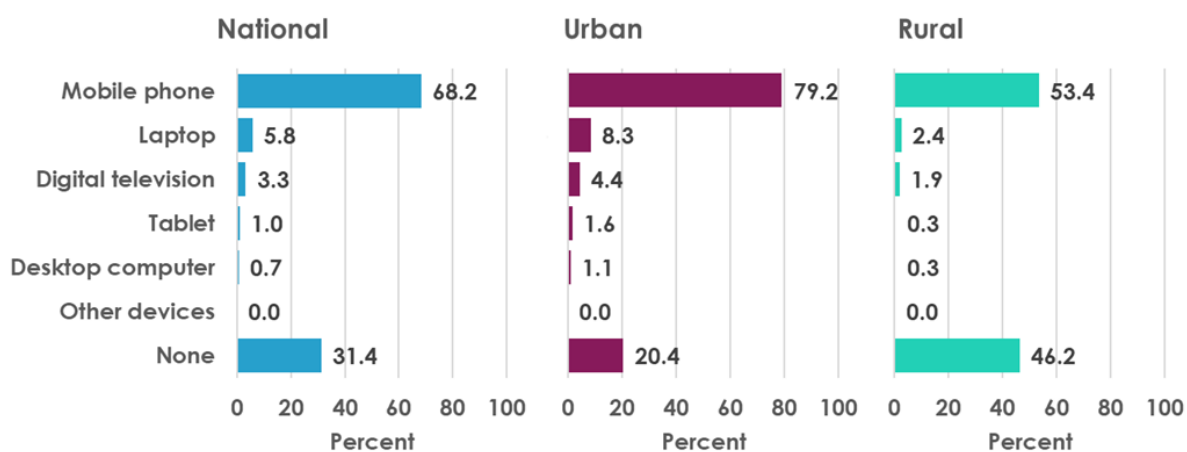
FIGURE 4.10: USE OF ICT DEVICES AMONG PERSONS 6 YEARS AND OLDER BY SEX



More than two-thirds (68.2%) of persons 6 years and older accessed the Internet with smart phone in the three-month period from April to June 2021, and it is more predominant in urban (79.2%) than rural (53.4%) areas.

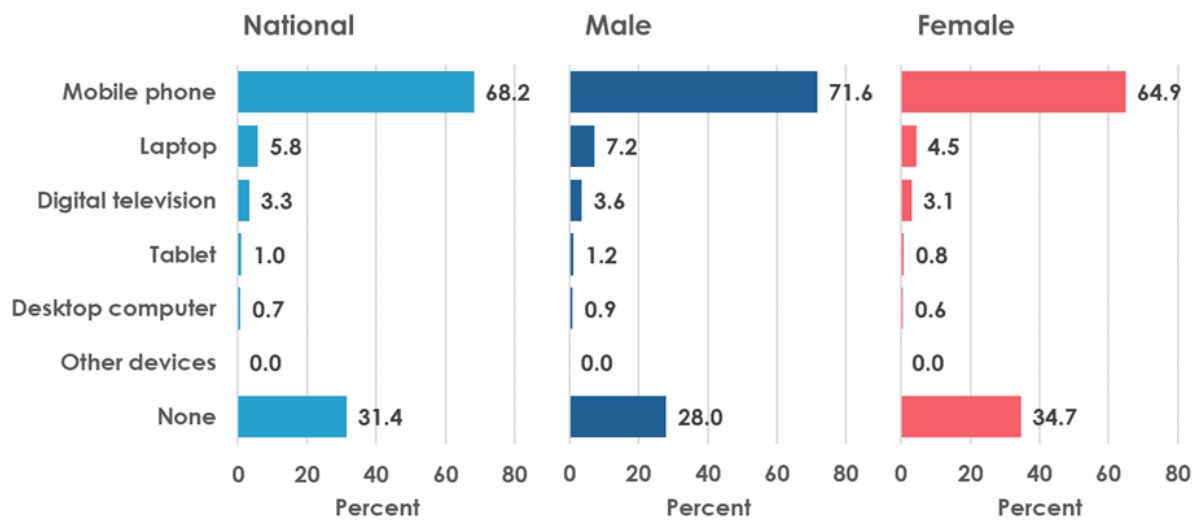
Only 6.5 percent of persons 6 years and older accessed the Internet in the three-month period from April to June 2021 using either a laptop (5.8%) or a desktop computer (0.7%).

FIGURE 4.11: USE OF ICT DEVICE TO ACCESS THE INTERNET AMONG PERSONS 6 YEARS AND OLDER BY TYPE OF LOCALITY



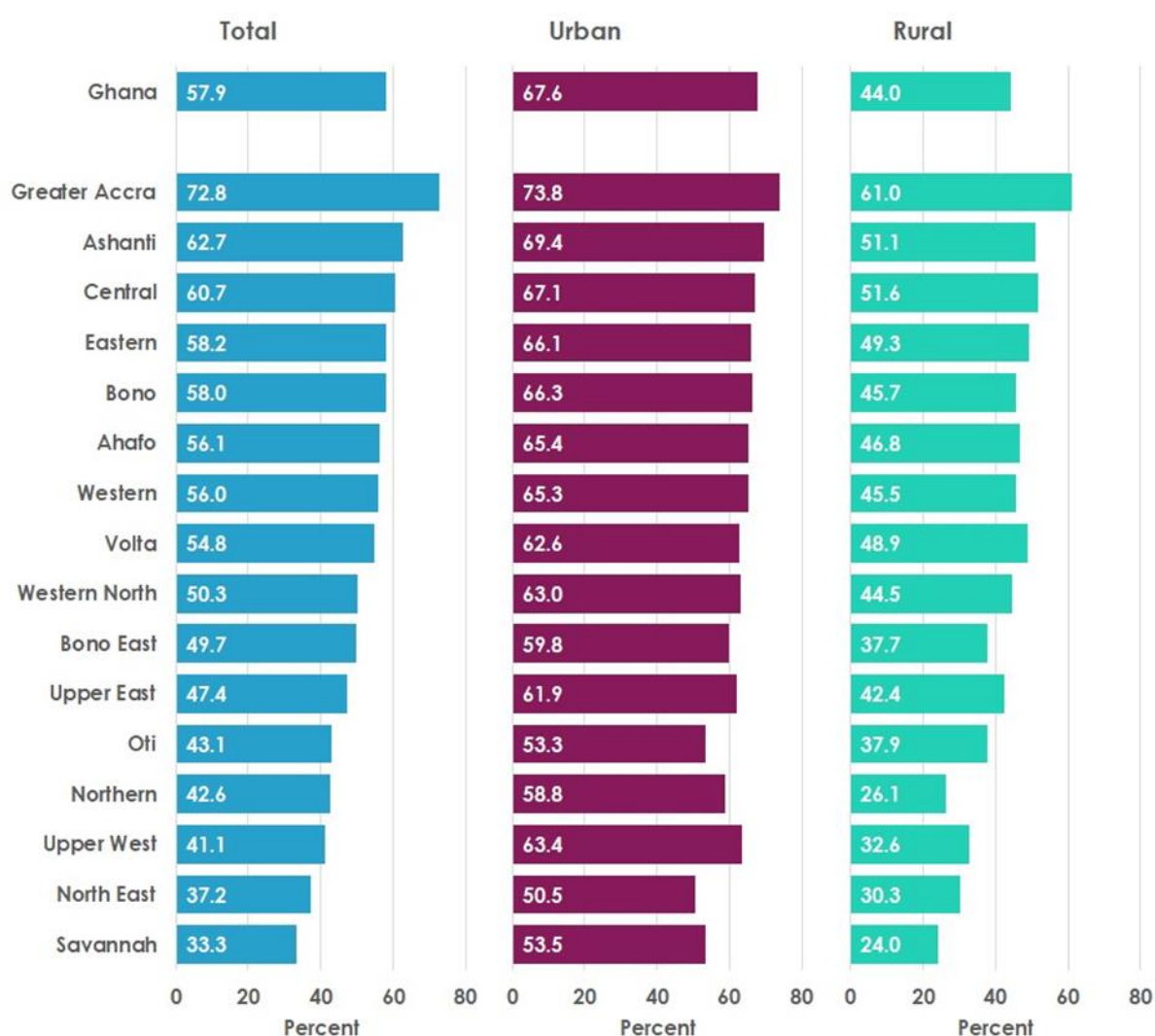
Among persons 6 years and older, about a third (31.4%) did not access the Internet in the three-month period from April to June 2021. The proportion is higher among females (34.7%) than males (28.0%).

FIGURE 4.12: USE OF ICT DEVICES TO ACCESS THE INTERNET AMONG PERSONS 6 YEARS AND OLDER BY SEX



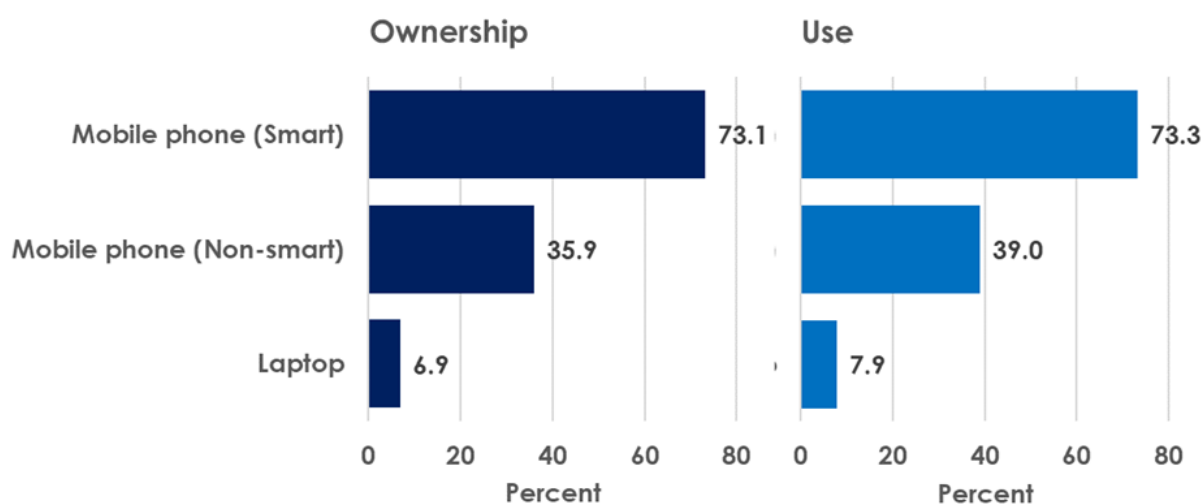
Nearly three in five persons 12 years and older used mobile phone for financial transaction in the three-month period of April to June 2021; and is an urban phenomenon with proportions above 50 percent in all regions. In rural areas, all but three regions (Greater Accra, Ashanti and Central) have proportions below 50 percent.

FIGURE 4.13: USE OF MOBILE PHONE AMONG PERSONS 12 YEARS AND OLDER FOR FINANCIAL TRANSACTION BY TYPE OF LOCALITY AND REGION



Proportion of persons 12 years and older who used smart mobile phone (73.3%) in the three-month period from April to June 2021 is almost the same as the proportion who owned (73.1%), while the proportion who used (7.9%) laptop exceeds those who owned (6.9%) it.

FIGURE 4.14: OWNERSHIP AND USE OF ICT DEVICE AMONG PERSONS 12 YEARS AND OLDER



5. MAIN TABLES

TABLE 5.1: POPULATION 6 YEARS AND OLDER BY OWNERSHIP OF FUNCTIONAL ICT DEVICES, SEX, TYPE OF LOCALITY AND REGION

ICT Device	All Regions		Regions															
	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																		
Both Sexes																		
Total population 6 years and older	26,210,872		1,764,583	2,452,182	4,766,249	1,433,518	2,526,584	4,657,976	749,168	480,708	1,036,053	1,002,548	616,851	1,828,512	521,415	522,717	1,097,541	754,267
Mobile phone (Smart)	16,062,200	61.3	1,133,393	1,568,592	3,697,742	864,385	1,640,997	3,189,225	424,001	293,488	658,573	512,132	277,396	685,416	171,068	176,167	464,582	305,043
Mobile phone (Non-smart)	7,896,433	30.1	529,991	811,217	1,155,969	539,088	884,204	1,304,879	238,569	166,334	313,756	322,637	206,481	565,957	138,285	148,090	355,648	215,328
Tablet	316,089	1.2	16,711	26,899	148,228	10,157	24,715	52,660	2,776	2,629	8,989	4,051	1,883	7,036	892	739	4,203	3,521
Laptop	1,521,385	5.8	84,332	143,794	506,923	61,954	112,002	296,196	22,433	18,547	62,888	31,218	14,939	71,050	12,046	11,812	36,322	34,929
None	7,858,088	30.0	495,189	680,836	861,758	436,757	688,839	1,162,890	248,485	143,231	291,177	371,877	262,610	848,007	276,801	276,603	463,942	349,086
Males																		
Total population 6 years and older	12,855,936		895,914	1,184,054	2,328,368	675,712	1,233,456	2,281,837	385,265	242,688	508,197	501,400	311,694	898,183	261,918	253,475	527,860	365,915
Mobile phone (Smart)	8,304,062	64.6	607,038	797,300	1,854,606	436,204	833,736	1,617,790	233,745	155,117	337,535	273,238	155,328	393,606	98,152	98,917	245,818	165,932
Mobile phone (Non-smart)	3,803,898	29.6	266,518	371,810	534,270	243,237	419,043	610,548	123,629	83,192	149,625	163,660	108,507	294,680	75,569	79,661	168,969	110,980
Tablet	186,309	1.4	10,140	16,127	83,392	6,333	14,543	31,366	1,948	1,708	5,443	2,613	1,318	4,772	670	568	2,887	2,481
Laptop	934,506	7.3	52,825	88,561	306,302	38,264	68,761	181,075	14,414	11,326	38,705	19,658	9,995	44,854	7,572	7,537	22,582	22,075
None	3,635,391	28.3	233,381	317,614	406,714	198,753	329,798	552,947	117,542	69,103	136,626	175,021	120,449	367,751	125,788	120,191	211,580	152,133
Females																		
Total population 6 years and older	13,354,936		868,669	1,268,128	2,437,881	757,806	1,293,128	2,376,139	363,903	238,020	527,856	501,148	305,157	930,329	259,497	269,242	569,681	388,352
Mobile phone (Smart)	7,758,138	58.1	526,355	771,292	1,843,136	428,181	807,261	1,571,435	190,256	138,371	321,038	238,894	122,068	291,810	72,916	77,250	218,764	139,111
Mobile phone (Non-smart)	4,092,535	30.6	263,473	439,407	621,699	295,851	465,161	694,331	114,940	83,142	164,131	158,977	97,974	271,277	62,716	68,429	186,679	104,348
Tablet	129,780	1.0	6,571	10,772	64,836	3,824	10,172	21,294	828	921	3,546	1,438	565	2,264	222	171	1,316	1,040

ICT Device	All Regions		Regions															
	Number	Percent	Western	Central	Greater Accra	Volta	Eastern	Ashanti	Western North	Ahafo	Bono	Bono East	Oti	Northern	Savannah	North East	Upper East	Upper West
Laptop	586,879	4.4	31,507	55,233	200,621	23,690	43,241	115,121	8,019	7,221	24,183	11,560	4,944	26,196	4,474	4,275	13,740	12,854
None	4,222,697	31.6	261,808	363,222	455,044	238,004	359,041	609,943	130,943	74,128	154,551	196,856	142,161	480,256	151,013	156,412	252,362	196,953
Urban																		
Both Sexes																		
Total population 6 years and older	15,068,752		921,191	1,428,298	4,381,262	607,362	1,313,319	2,900,907	225,879	236,452	612,376	532,706	203,613	892,250	159,168	174,571	278,219	201,179
Mobile phone (Smart)	10,714,489	71.1	663,028	986,974	3,455,606	408,285	945,028	2,160,596	151,945	162,953	431,388	322,104	106,051	464,620	82,083	81,145	164,594	128,089
Mobile phone (Non-smart)	4,177,421	27.7	249,908	431,957	1,038,207	214,518	422,467	723,412	64,543	75,640	173,143	167,074	70,358	296,425	47,878	56,776	87,414	57,701
Tablet	275,703	1.8	13,552	22,019	142,352	6,989	18,822	44,464	1,480	1,965	7,449	3,292	1,074	5,984	592	500	2,585	2,584
Laptop	1,250,742	8.3	64,749	117,592	484,488	40,886	82,323	247,565	11,569	12,893	50,475	22,767	7,745	57,006	6,458	6,892	15,872	21,462
None	3,400,266	22.6	209,209	344,089	751,624	155,148	291,656	599,956	57,909	58,097	142,656	158,753	72,933	295,447	56,453	70,421	81,371	54,544
Males																		
Total population 6 years and older	7,290,511		455,572	685,893	2,136,842	283,367	624,110	1,397,362	111,173	114,916	293,616	258,354	100,539	437,182	78,538	83,786	132,627	96,634
Mobile phone (Smart)	5,384,639	73.9	340,335	492,054	1,727,088	200,572	462,565	1,069,440	78,730	82,085	214,110	164,828	57,547	256,681	44,504	43,303	84,531	66,266
Mobile phone (Non-smart)	1,903,628	26.1	117,607	193,258	478,106	93,831	188,381	322,046	30,229	34,765	77,824	78,609	34,425	138,368	22,695	27,389	39,649	26,446
Tablet	160,040	2.2	8,023	13,142	79,967	4,199	10,786	26,149	1,025	1,238	4,444	2,064	733	3,978	431	376	1,737	1,748
Laptop	761,527	10.4	40,287	72,242	292,459	24,347	49,939	150,376	7,190	7,701	30,876	14,063	5,202	35,399	4,003	4,224	9,862	13,357
None	1,582,529	21.7	98,148	161,540	354,617	70,721	138,101	284,258	26,831	27,533	66,668	73,632	32,902	130,560	25,642	30,989	36,646	23,741
Females																		
Total population 6 years and older	7,778,241		465,619	742,405	2,244,420	323,995	689,209	1,503,545	114,706	121,536	318,760	274,352	103,074	455,068	80,630	90,785	145,592	104,545
Mobile phone (Smart)	5,329,850	68.5	322,693	494,920	1,728,518	207,713	482,463	1,091,156	73,215	80,868	217,278	157,276	48,504	207,939	37,579	37,842	80,063	61,823
Mobile phone (Non-smart)	2,273,793	29.2	132,301	238,699	560,101	120,687	234,086	401,366	34,314	40,875	95,319	88,465	35,933	158,057	25,183	29,387	47,765	31,255
Tablet	115,663	1.5	5,529	8,877	62,385	2,790	8,036	18,315	455	727	3,005	1,228	341	2,006	161	124	848	836
Laptop	489,215	6.3	24,462	45,350	192,029	16,539	32,384	97,189	4,379	5,192	19,599	8,704	2,543	21,607	2,455	2,668	6,010	8,105
None	1,817,737	23.4	111,061	182,549	397,007	84,427	153,555	315,698	31,078	30,564	75,988	85,121	40,031	164,887	30,811	39,432	44,725	30,803

ICT Device	All Regions		Regions															
	Number	Percent	Western	Central	Greater Accra	Volta	Eastern	Ashanti	Western North	Ahafo	Bono	Bono East	Oti	Northern	Savannah	North East	Upper East	Upper West
Rural																		
Both Sexes																		
Total population 6 years and older	11,142,120		843,392	1,023,884	384,987	826,156	1,213,265	1,757,069	523,289	244,256	423,677	469,842	413,238	936,262	362,247	348,146	819,322	553,088
Mobile phone (Smart)	5,347,711	48.0	470,365	581,618	242,136	456,100	695,969	1,028,629	272,056	130,535	227,185	190,028	171,345	220,796	88,985	95,022	299,988	176,954
Mobile phone (Non-smart)	3,719,012	33.4	280,083	379,260	117,762	324,570	461,737	581,467	174,026	90,694	140,613	155,563	136,123	269,532	90,407	91,314	268,234	157,627
Tablet	40,386	0.4	3,159	4,880	5,876	3,168	5,893	8,196	1,296	664	1,540	759	809	1,052	300	239	1,618	937
Laptop	270,643	2.4	19,583	26,202	22,435	21,068	29,679	48,631	10,864	5,654	12,413	8,451	7,194	14,044	5,588	4,920	20,450	13,467
None	4,457,822	40.0	285,980	336,747	110,134	281,609	397,183	562,934	190,576	85,134	148,521	213,124	189,677	552,560	220,348	206,182	382,571	294,542
Males																		
Total population 6 years and older	5,565,425		440,342	498,161	191,526	392,345	609,346	884,475	274,092	127,772	214,581	243,046	211,155	461,001	183,380	169,689	395,233	269,281
Mobile phone (Smart)	2,919,423	52.5	266,703	305,246	127,518	235,632	371,171	548,350	155,015	73,032	123,425	108,410	97,781	136,925	53,648	55,614	161,287	99,666
Mobile phone (Non-smart)	1,900,270	34.1	148,911	178,552	56,164	149,406	230,662	288,502	93,400	48,427	71,801	85,051	74,082	156,312	52,874	52,272	129,320	84,534
Tablet	26,269	0.5	2,117	2,985	3,425	2,134	3,757	5,217	923	470	999	549	585	794	239	192	1,150	733
Laptop	172,979	3.1	12,538	16,319	13,843	13,917	18,822	30,699	7,224	3,625	7,829	5,595	4,793	9,455	3,569	3,313	12,720	8,718
None	2,052,862	36.9	135,233	156,074	52,097	128,032	191,697	268,689	90,711	41,570	69,958	101,389	87,547	237,191	100,146	89,202	174,934	128,392
Females																		
Total population 6 years and older	5,576,695		403,050	525,723	193,461	433,811	603,919	872,594	249,197	116,484	209,096	226,796	202,083	475,261	178,867	178,457	424,089	283,807
Mobile phone (Smart)	2,428,288	43.5	203,662	276,372	114,618	220,468	324,798	480,279	117,041	57,503	103,760	81,618	73,564	83,871	35,337	39,408	138,701	77,288
Mobile phone (Non-smart)	1,818,742	32.6	131,172	200,708	61,598	175,164	231,075	292,965	80,626	42,267	68,812	70,512	62,041	113,220	37,533	39,042	138,914	73,093
Tablet	14,117	0.3	1,042	1,895	2,451	1,034	2,136	2,979	373	194	541	210	224	258	61	47	468	204
Laptop	97,664	1.8	7,045	9,883	8,592	7,151	10,857	17,932	3,640	2,029	4,584	2,856	2,401	4,589	2,019	1,607	7,730	4,749
None	2,404,960	43.1	150,747	180,673	58,037	153,577	205,486	294,245	99,865	43,564	78,563	111,735	102,130	315,369	120,202	116,980	207,637	166,150

NOTE: The figures are from multiple responses and therefore add up to more than 100 percent.

TABLE 5.2: POPULATION 12 YEARS AND OLDER BY OWNERSHIP OF FUNCTIONAL ICT DEVICES, SEX, TYPE OF LOCALITY AND REGION

ICT Device	All Regions		Regions															
	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																		
Both Sexes																		
Total population 12 years and older	21,861,344		1,478,652	2,046,166	4,114,553	1,203,201	2,129,264	3,898,077	620,531	398,288	868,771	818,671	498,253	1,442,618	417,260	407,903	900,394	618,742
Mobile phone (Smart)	15,986,295	73.1	1,127,831	1,562,548	3,672,125	862,685	1,635,735	3,173,656	422,545	292,219	655,252	510,068	276,731	682,528	170,206	175,459	462,634	304,073
Mobile phone (Non-smart)	7,841,651	35.9	526,448	806,052	1,148,909	536,468	879,386	1,297,249	237,104	165,106	311,556	320,484	204,755	559,299	136,250	146,229	352,648	213,708
Tablet	281,878	1.3	14,995	24,661	128,866	9,707	22,769	46,509	2,664	2,473	8,131	3,790	1,834	6,555	858	727	3,964	3,375
Laptop	1,507,568	6.9	83,624	142,930	500,683	61,747	111,120	293,157	22,309	18,406	62,460	31,010	14,890	70,553	11,974	11,755	36,160	34,790
None	3,671,843	16.8	219,845	287,978	261,685	211,048	303,412	432,817	122,836	63,398	129,995	192,403	146,391	472,138	175,544	164,298	271,777	216,278
Male																		
Total population 12 years and older	10,641,736		750,778	977,690	2,002,891	558,986	1,029,626	1,895,260	319,271	200,173	423,138	407,113	250,534	700,563	208,111	194,561	426,623	296,418
Mobile phone (Smart)	8,264,739	77.7	604,231	794,216	1,841,480	435,348	831,007	1,609,703	232,965	154,452	335,823	272,174	154,944	392,010	97,697	98,507	244,779	165,403
Mobile phone (Non-smart)	3,775,529	35.5	264,726	369,253	530,795	241,966	416,577	606,747	122,883	82,572	148,515	162,526	107,530	290,994	74,383	78,577	167,414	110,071
Tablet	169,106	1.6	9,311	14,982	73,691	6,111	13,551	28,234	1,886	1,629	5,033	2,492	1,288	4,517	654	562	2,756	2,409
Laptop	927,018	8.7	52,471	88,082	302,984	38,155	68,283	179,379	14,350	11,250	38,469	19,528	9,964	44,589	7,535	7,500	22,490	21,989
None	1,505,448	14.1	93,571	117,893	107,390	84,315	132,078	181,731	53,102	27,938	54,667	83,038	60,634	175,631	73,627	62,724	112,964	84,145
Female																		
Total population 12 years and older	11,219,608		727,874	1,068,476	2,111,662	644,215	1,099,638	2,002,817	301,260	198,115	445,633	411,558	247,719	742,055	209,149	213,342	473,771	322,324
Mobile phone (Smart)	7,721,556	68.8	523,600	768,332	1,830,645	427,337	804,728	1,563,953	189,580	137,767	319,429	237,894	121,787	290,518	72,509	76,952	217,855	138,670
Mobile phone (Non-smart)	4,066,122	36.2	261,722	436,799	618,114	294,502	462,809	690,502	114,221	82,534	163,041	157,958	97,225	268,305	61,867	67,652	185,234	103,637
Tablet	112,772	1.0	5,684	9,679	55,175	3,596	9,218	18,275	778	844	3,098	1,298	546	2,038	204	165	1,208	966
Laptop	580,550	5.2	31,153	54,848	197,699	23,592	42,837	113,778	7,959	7,156	23,991	11,482	4,926	25,964	4,439	4,255	13,670	12,801
None	2,166,395	19.3	126,274	170,085	154,295	126,733	171,334	251,086	69,734	35,460	75,328	109,365	85,757	296,507	101,917	101,574	158,813	132,133
Urban																		
Both Sexes																		

ICT Device	All Regions		Regions															
	Number	Percent	Western	Central	Greater Accra	Volta	Eastern	Ashanti	Western North	Ahafo	Bono	Bono East	Oti	Northern	Savannah	North East	Upper East	Upper West
Total population 12 years and older	12,809,254		782,693	1,203,420	3,796,027	515,951	1,122,819	2,462,863	191,609	199,623	520,072	441,418	167,517	728,359	131,730	140,711	232,977	171,465
Mobile phone (Smart)	10,653,590	83.2	659,156	982,272	3,431,179	407,199	941,178	2,147,918	151,300	162,081	428,782	320,444	105,711	462,434	81,710	80,819	163,779	127,628
Mobile phone (Non-smart)	4,149,761	32.4	248,251	429,101	1,031,761	213,305	419,942	718,909	64,149	75,091	171,904	166,041	69,899	293,653	47,350	56,154	86,831	57,420
Tablet	244,197	1.9	12,048	20,005	123,732	6,630	17,192	39,060	1,411	1,840	6,718	3,062	1,036	5,549	565	491	2,409	2,449
Laptop	1,239,089	9.7	64,216	116,911	478,459	40,761	81,705	245,184	11,514	12,792	50,143	22,587	7,722	56,607	6,434	6,870	15,799	21,385
None	1,259,713	9.8	77,635	128,588	215,496	66,272	109,045	184,789	24,719	22,781	54,708	70,349	37,637	136,960	29,913	37,479	37,661	25,681
Male																		
Total population 12 years and older	6,156,178		386,175	572,855	1,845,113	237,856	528,214	1,176,791	94,026	96,278	247,187	212,209	82,346	354,151	64,710	66,568	109,891	81,808
Mobile phone (Smart)	5,353,300	87.0	338,406	489,660	1,714,598	200,025	460,588	1,062,820	78,382	81,629	212,780	163,982	57,350	255,513	44,316	43,107	84,115	66,029
Mobile phone (Non-smart)	1,889,832	30.7	116,779	191,867	474,937	93,258	187,115	319,865	30,033	34,504	77,210	78,084	34,147	136,917	22,413	27,038	39,349	26,316
Tablet	144,221	2.3	7,293	12,116	70,649	4,014	9,973	23,391	989	1,172	4,094	1,960	710	3,746	419	370	1,643	1,682
Laptop	755,213	12.3	40,016	71,862	289,245	24,285	49,587	149,062	7,163	7,644	30,692	13,950	5,185	35,184	3,994	4,210	9,827	13,307
None	508,725	8.3	32,191	53,216	87,734	26,466	46,199	75,444	10,243	9,673	22,432	28,963	15,181	50,369	12,281	14,296	14,693	9,344
Female																		
Total population 12 years and older	6,653,076		396,518	630,565	1,950,914	278,095	594,605	1,286,072	97,583	103,345	272,885	229,209	85,171	374,208	67,020	74,143	123,086	89,657
Mobile phone (Smart)	5,300,290	79.7	320,750	492,612	1,716,581	207,174	480,590	1,085,098	72,918	80,452	216,002	156,462	48,361	206,921	37,394	37,712	79,664	61,599
Mobile phone (Non-smart)	2,259,929	34.0	131,472	237,234	556,824	120,047	232,827	399,044	34,116	40,587	94,694	87,957	35,752	156,736	24,937	29,116	47,482	31,104
Tablet	99,976	1.5	4,755	7,889	53,083	2,616	7,219	15,669	422	668	2,624	1,102	326	1,803	146	121	766	767
Laptop	483,876	7.3	24,200	45,049	189,214	16,476	32,118	96,122	4,351	5,148	19,451	8,637	2,537	21,423	2,440	2,660	5,972	8,078
None	750,988	11.3	45,444	75,372	127,762	39,806	62,846	109,345	14,476	13,108	32,276	41,386	22,456	86,591	17,632	23,183	22,968	16,337
Rural																		
Both Sexes																		
Total population 12 years and older	9,052,090		695,959	842,746	318,526	687,250	1,006,445	1,435,214	428,922	198,665	348,699	377,253	330,736	714,259	285,530	267,192	667,417	447,277
Mobile phone (Smart)	5,332,705	58.9	468,675	580,276	240,946	455,486	694,557	1,025,738	271,245	130,138	226,470	189,624	171,020	220,094	88,496	94,640	298,855	176,445

ICT Device	All Regions		Regions															
	Number	Percent	Western	Central	Greater Accra	Volta	Eastern	Ashanti	Western North	Ahafo	Bono	Bono East	Oti	Northern	Savannah	North East	Upper East	Upper West
Mobile phone (Non-smart)	3,691,890	40.8	278,197	376,951	117,148	323,163	459,444	578,340	172,955	90,015	139,652	154,443	134,856	265,646	88,900	90,075	265,817	156,288
Tablet	37,681	0.4	2,947	4,656	5,134	3,077	5,577	7,449	1,253	633	1,413	728	798	1,006	293	236	1,555	926
Laptop	268,479	3.0	19,408	26,019	22,224	20,986	29,415	47,973	10,795	5,614	12,317	8,423	7,168	13,946	5,540	4,885	20,361	13,405
None	2,412,130	26.6	142,210	159,390	46,189	144,776	194,367	248,028	98,117	40,617	75,287	122,054	108,754	335,178	145,631	126,819	234,116	190,597
Male																		
Total population 12 years and older	4,485,558		364,603	404,835	157,778	321,130	501,412	718,469	225,245	103,895	175,951	194,904	168,188	346,412	143,401	127,993	316,732	214,610
Mobile phone (Smart)	2,911,439	64.9	265,825	304,556	126,882	235,323	370,419	546,883	154,583	72,823	123,043	108,192	97,594	136,497	53,381	55,400	160,664	99,374
Mobile phone (Non-smart)	1,885,697	42.0	147,947	177,386	55,858	148,708	229,462	286,882	92,850	48,068	71,305	84,442	73,383	154,077	51,970	51,539	128,065	83,755
Tablet	24,885	0.6	2,018	2,866	3,042	2,097	3,578	4,843	897	457	939	532	578	771	235	192	1,113	727
Laptop	171,805	3.8	12,455	16,220	13,739	13,870	18,696	30,317	7,187	3,606	7,777	5,578	4,779	9,405	3,541	3,290	12,663	8,682
None	996,723	22.2	61,380	64,677	19,656	57,849	85,879	106,287	42,859	18,265	32,235	54,075	45,453	125,262	61,346	48,428	98,271	74,801
Female																		
Total population 12 years and older	4,566,532		331,356	437,911	160,748	366,120	505,033	716,745	203,677	94,770	172,748	182,349	162,548	367,847	142,129	139,199	350,685	232,667
Mobile phone (Smart)	2,421,266	53.0	202,850	275,720	114,064	220,163	324,138	478,855	116,662	57,315	103,427	81,432	73,426	83,597	35,115	39,240	138,191	77,071
Mobile phone (Non-smart)	1,806,193	39.6	130,250	199,565	61,290	174,455	229,982	291,458	80,105	41,947	68,347	70,001	61,473	111,569	36,930	38,536	137,752	72,533
Tablet	12,796	0.3	929	1,790	2,092	980	1,999	2,606	356	176	474	196	220	235	58	44	442	199
Laptop	96,674	2.1	6,953	9,799	8,485	7,116	10,719	17,656	3,608	2,008	4,540	2,845	2,389	4,541	1,999	1,595	7,698	4,723
None	1,415,407	31.0	80,830	94,713	26,533	86,927	108,488	141,741	55,258	22,352	43,052	67,979	63,301	209,916	84,285	78,391	135,845	115,796

NOTE: The figures are from multiple responses and therefore add up to more than 100 percent.

TABLE 5.3: POPULATION 6 YEARS AND OLDER BY OWNERSHIP OF FUNCTIONAL MOBILE PHONE, SEX, TYPE OF LOCALITY AND REGION

Ownership of mobile phone	All Regions		Regions															
	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																		
Both Sexes																		
Total population 6 years and older	26,210,872	100.0	1,764,583	2,452,182	4,766,249	1,433,518	2,526,584	4,657,976	749,168	480,708	1,036,053	1,002,548	616,851	1,828,512	521,415	522,717	1,097,541	754,267
Smart phone only	10,410,782	39.7	737,064	957,050	2,726,624	456,810	950,349	2,181,397	261,801	170,811	429,829	307,514	147,573	413,139	106,128	97,878	277,371	189,444
Non-smart phone only	2,245,015	8.6	133,662	199,675	184,851	131,513	193,556	297,051	76,369	43,657	85,012	118,019	76,658	293,680	73,345	69,801	168,437	99,729
Both smart and non-smart phones	5,651,418	21.6	396,329	611,542	971,118	407,575	690,648	1,007,828	162,200	122,677	228,744	204,618	129,823	272,277	64,940	78,289	187,211	115,599
None	7,903,657	30.2	497,528	683,915	883,656	437,620	692,031	1,171,700	248,798	143,563	292,468	372,397	262,797	849,416	277,002	276,749	464,522	349,495
Males																		
Total population 6 years and older	12,855,936	100.0	895,914	1,184,054	2,328,368	675,712	1,233,456	2,281,837	385,265	242,688	508,197	501,400	311,694	898,183	261,918	253,475	527,860	365,915
Smart phone only	5,393,706	42.0	394,867	493,089	1,376,417	233,296	483,095	1,113,789	143,931	90,222	221,272	162,444	82,636	235,065	60,450	53,544	147,010	102,579
Non-smart phone only	893,542	7.0	54,347	67,599	56,081	40,329	68,402	106,547	33,815	18,297	33,362	52,866	35,815	136,139	37,867	34,288	70,161	47,627
Both smart and non-smart phones	2,910,356	22.6	212,171	304,211	478,189	202,908	350,641	504,001	89,814	64,895	116,263	110,794	72,692	158,541	37,702	45,373	98,808	63,353
None	3,658,332	28.5	234,529	319,155	417,681	199,179	331,318	557,500	117,705	69,274	137,300	175,296	120,551	368,438	125,899	120,270	211,881	152,356
Females																		
Total population 6 years and older	13,354,936	100.0	868,669	1,268,128	2,437,881	757,806	1,293,128	2,376,139	363,903	238,020	527,856	501,148	305,157	930,329	259,497	269,242	569,681	388,352
Smart phone only	5,017,076	37.6	342,197	463,961	1,350,207	223,514	467,254	1,067,608	117,870	80,589	208,557	145,070	64,937	178,074	45,678	44,334	130,361	86,865
Non-smart phone only	1,351,473	10.1	79,315	132,076	128,770	91,184	125,154	190,504	42,554	25,360	51,650	65,153	40,843	157,541	35,478	35,513	98,276	52,102
Both smart and non-smart phones	2,741,062	20.5	184,158	307,331	492,929	204,667	340,007	503,827	72,386	57,782	112,481	93,824	57,131	113,736	27,238	32,916	88,403	52,246
None	4,245,325	31.8	262,999	364,760	465,975	238,441	360,713	614,200	131,093	74,289	155,168	197,101	142,246	480,978	151,103	156,479	252,641	197,139
Urban																		
Both sexes																		

Ownership of mobile phone	All Regions		Regions															
	Number	Percent	Western	Central	Greater Accra	Volta	Eastern	Ashanti	Western North	Ahafo	Bono	Bono East	Oti	Northern	Savannah	North East	Upper East	Upper West
Total population 6 years and older	15,068,752	100.0	921,191	1,428,298	4,381,262	607,362	1,313,319	2,900,907	225,879	236,452	612,376	532,706	203,613	892,250	159,168	174,571	278,219	201,179
Smart phone only	7,451,978	49.5	460,202	649,691	2,570,413	237,148	596,885	1,570,313	103,298	102,492	295,564	206,482	60,230	299,302	54,785	47,323	109,158	88,692
Non-smart phone only	914,910	6.1	47,082	94,674	153,014	43,381	74,324	133,129	15,896	15,179	37,319	51,452	24,537	131,107	20,580	22,954	31,978	18,304
Both smart and non-smart phones	3,262,511	21.7	202,826	337,283	885,193	171,137	348,143	590,283	48,647	60,461	135,824	115,622	45,821	165,318	27,298	33,822	55,436	39,397
None	3,439,353	22.8	211,081	346,650	772,642	155,696	293,967	607,182	58,038	58,320	143,669	159,150	73,025	296,523	56,505	70,472	81,647	54,786
Males																		
Total population 6 years and older	7,290,511	100.0	455,572	685,893	2,136,842	283,367	624,110	1,397,362	111,173	114,916	293,616	258,354	100,539	437,182	78,538	83,786	132,627	96,634
Smart phone only	3,784,690	51.9	238,907	329,807	1,293,602	118,542	296,487	787,339	54,044	52,501	148,586	105,911	33,159	167,739	30,176	25,380	56,199	46,311
Non-smart phone only	303,679	4.2	16,179	31,011	44,620	11,801	22,303	39,945	5,543	5,181	12,300	19,692	10,037	49,426	8,367	9,466	11,317	6,491
Both smart and non-smart phones	1,599,949	21.9	101,428	162,247	433,486	82,030	166,078	282,101	24,686	29,584	65,524	58,917	24,388	88,942	14,328	17,923	28,332	19,955
None	1,602,193	22.0	99,058	162,828	365,134	70,994	139,242	287,977	26,900	27,650	67,206	73,834	32,955	131,075	25,667	31,017	36,779	23,877
Females																		
Total population 6 years and older	7,778,241	100.0	465,619	742,405	2,244,420	323,995	689,209	1,503,545	114,706	121,536	318,760	274,352	103,074	455,068	80,630	90,785	145,592	104,545
Smart phone only	3,667,288	47.1	221,295	319,884	1,276,811	118,606	300,398	782,974	49,254	49,991	146,978	100,571	27,071	131,563	24,609	21,943	52,959	42,381
Non-smart phone only	611,231	7.9	30,903	63,663	108,394	31,580	52,021	93,184	10,353	9,998	25,019	31,760	14,500	81,681	12,213	13,488	20,661	11,813
Both smart and non-smart phones	1,662,562	21.4	101,398	175,036	451,707	89,107	182,065	308,182	23,961	30,877	70,300	56,705	21,433	76,376	12,970	15,899	27,104	19,442
None	1,837,160	23.6	112,023	183,822	407,508	84,702	154,725	319,205	31,138	30,670	76,463	85,316	40,070	165,448	30,838	39,455	44,868	30,909
Rural																		
Both Sexes																		
Total population 6 years and older	11,142,120	100.0	843,392	1,023,884	384,987	826,156	1,213,265	1,757,069	523,289	244,256	423,677	469,842	413,238	936,262	362,247	348,146	819,322	553,088
Smart phone only	2,958,804	26.6	276,862	307,359	156,211	219,662	353,464	611,084	158,503	68,319	134,265	101,032	87,343	113,837	51,343	50,555	168,213	100,752
Non-smart phone only	1,330,105	11.9	86,580	105,001	31,837	88,132	119,232	163,922	60,473	28,478	47,693	66,567	52,121	162,573	52,765	46,847	136,459	81,425

Ownership of mobile phone	All Regions		Regions															
	Number	Percent	Western	Central	Greater Accra	Volta	Eastern	Ashanti	Western North	Ahafo	Bono	Bono East	Oti	Northern	Savannah	North East	Upper East	Upper West
Both smart and non-smart phones	2,388,907	21.4	193,503	274,259	85,925	236,438	342,505	417,545	113,553	62,216	92,920	88,996	84,002	106,959	37,642	44,467	131,775	76,202
None	4,464,304	40.1	286,447	337,265	111,014	281,924	398,064	564,518	190,760	85,243	148,799	213,247	189,772	552,893	220,497	206,277	382,875	294,709
Males																		
Total population 6 years and older	5,565,425	100.0	440,342	498,161	191,526	392,345	609,346	884,475	274,092	127,772	214,581	243,046	211,155	461,001	183,380	169,689	395,233	269,281
Smart phone only	1,609,016	28.9	155,960	163,282	82,815	114,754	186,608	326,450	89,887	37,721	72,686	56,533	49,477	67,326	30,274	28,164	90,811	56,268
Non-smart phone only	589,863	10.6	38,168	36,588	11,461	28,528	46,099	66,602	28,272	13,116	21,062	33,174	25,778	86,713	29,500	24,822	58,844	41,136
Both smart and non-smart phones	1,310,407	23.5	110,743	141,964	44,703	120,878	184,563	221,900	65,128	35,311	50,739	51,877	48,304	69,599	23,374	27,450	70,476	43,398
None	2,056,139	36.9	135,471	156,327	52,547	128,185	192,076	269,523	90,805	41,624	70,094	101,462	87,596	237,363	100,232	89,253	175,102	128,479
Females																		
Total population 6 years and older	5,576,695	100.0	403,050	525,723	193,461	433,811	603,919	872,594	249,197	116,484	209,096	226,796	202,083	475,261	178,867	178,457	424,089	283,807
Smart phone only	1,349,788	24.2	120,902	144,077	73,396	104,908	166,856	284,634	68,616	30,598	61,579	44,499	37,866	46,511	21,069	22,391	77,402	44,484
Non-smart phone only	740,242	13.3	48,412	68,413	20,376	59,604	73,133	97,320	32,201	15,362	26,631	33,393	26,343	75,860	23,265	22,025	77,615	40,289
Both smart and non-smart phones	1,078,500	19.3	82,760	132,295	41,222	115,560	157,942	195,645	48,425	26,905	42,181	37,119	35,698	37,360	14,268	17,017	61,299	32,804
None	2,408,165	43.2	150,976	180,938	58,467	153,739	205,988	294,995	99,955	43,619	78,705	111,785	102,176	315,530	120,265	117,024	207,773	166,230

TABLE 5.4: POPULATION 12 YEARS AND OLDER BY OWNERSHIP OF FUNCTIONAL MOBILE PHONE, SEX, TYPE OF LOCALITY AND REGION

Ownership of mobile phone	All Regions		Regions															
	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																		
Both Sexes																		
Total population 12 years and older	21,861,344	100.0	1,478,652	2,046,166	4,114,553	1,203,201	2,129,264	3,898,077	620,531	398,288	868,771	818,671	498,253	1,442,618	417,260	407,903	900,394	618,742
Smart phone only	10,340,649	47.3	731,954	951,516	2,702,206	455,359	945,605	2,166,775	260,470	169,675	426,941	305,628	147,007	410,590	105,348	97,292	275,711	188,572
Non-smart phone only	2,196,005	10.0	130,571	195,020	178,990	129,142	189,256	290,368	75,029	42,562	83,245	116,044	75,031	287,361	71,392	68,062	165,725	98,207
Both smart and non-smart phones	5,645,646	25.8	395,877	611,032	969,919	407,326	690,130	1,006,881	162,075	122,544	228,311	204,440	129,724	271,938	64,858	78,167	186,923	115,501
None	3,679,044	16.8	220,250	288,598	263,438	211,374	304,273	434,053	122,957	63,507	130,274	192,559	146,491	472,729	175,662	164,382	272,035	216,462
Male																		
Total population 12 years and older	10,641,736	100.0	750,778	977,690	2,002,891	558,986	1,029,626	1,895,260	319,271	200,173	423,138	407,113	250,534	700,563	208,111	194,561	426,623	296,418
Smart phone only	5,357,403	50.3	392,288	490,268	1,363,906	232,551	480,642	1,106,176	143,228	89,612	219,787	161,466	82,321	233,679	60,038	53,220	146,119	102,102
Non-smart phone only	868,193	8.2	52,783	65,305	53,221	39,169	66,212	103,220	33,146	17,732	32,479	51,818	34,907	132,663	36,724	33,290	68,754	46,770
Both smart and non-smart phones	2,907,336	27.3	211,943	303,948	477,574	202,797	350,365	503,527	89,737	64,840	116,036	110,708	72,623	158,331	37,659	45,287	98,660	63,301
None	1,508,804	14.2	93,764	118,169	108,190	84,469	132,407	182,337	53,160	27,989	54,836	83,121	60,683	175,890	73,690	62,764	113,090	84,245
Female																		
Total population 12 years and older	11,219,608	100.0	727,874	1,068,476	2,111,662	644,215	1,099,638	2,002,817	301,260	198,115	445,633	411,558	247,719	742,055	209,149	213,342	473,771	322,324
Smart phone only	4,983,246	44.4	339,666	461,248	1,338,300	222,808	464,963	1,060,599	117,242	80,063	207,154	144,162	64,686	176,911	45,310	44,072	129,592	86,470
Non-smart phone only	1,327,812	11.8	77,788	129,715	125,769	89,973	123,044	187,148	41,883	24,830	50,766	64,226	40,124	154,698	34,668	34,772	96,971	51,437
Both smart and non-smart phones	2,738,310	24.4	183,934	307,084	492,345	204,529	339,765	503,354	72,338	57,704	112,275	93,732	57,101	113,607	27,199	32,880	88,263	52,200
None	2,170,240	19.3	126,486	170,429	155,248	126,905	171,866	251,716	69,797	35,518	75,438	109,438	85,808	296,839	101,972	101,618	158,945	132,217
Urban																		
Both Sexes																		

Ownership of mobile phone	All Regions		Regions															
	Number	Percent	Western	Central	Greater Accra	Volta	Eastern	Ashanti	Western North	Ahafo	Bono	Bono East	Oti	Northern	Savannah	North East	Upper East	Upper West
Total population 12 years and older	12,809,254	100.0	782,693	1,203,420	3,796,027	515,951	1,122,819	2,462,863	191,609	199,623	520,072	441,418	167,517	728,359	131,730	140,711	232,977	171,465
Smart phone only	7,395,024	57.7	456,583	645,308	2,547,112	236,218	593,356	1,558,318	102,712	101,696	293,273	204,943	59,942	297,355	54,449	47,054	108,421	88,284
Non-smart phone only	891,195	7.0	45,678	92,137	147,694	42,324	72,120	129,309	15,561	14,706	36,395	50,540	24,130	128,574	20,089	22,389	31,473	18,076
Both smart and non-smart phones	3,258,566	25.4	202,573	336,964	884,067	170,981	347,822	589,600	48,588	60,385	135,509	115,501	45,769	165,079	27,261	33,765	55,358	39,344
None	1,264,469	9.9	77,859	129,011	217,154	66,428	109,521	185,636	24,748	22,836	54,895	70,434	37,676	137,351	29,931	37,503	37,725	25,761
Male																		
Total population 12 years and older	6,156,178	100.0	386,175	572,855	1,845,113	237,856	528,214	1,176,791	94,026	96,278	247,187	212,209	82,346	354,151	64,710	66,568	109,891	81,808
Smart phone only	3,755,415	61.0	237,108	327,584	1,281,688	118,061	294,690	781,062	53,735	52,076	147,422	105,122	32,999	166,711	30,009	25,224	55,825	46,099
Non-smart phone only	291,947	4.7	15,481	29,791	42,027	11,294	21,217	38,107	5,386	4,951	11,852	19,224	9,796	48,115	8,106	9,155	11,059	6,386
Both smart and non-smart phones	1,597,885	26.0	101,298	162,076	432,910	81,964	165,898	281,758	24,647	29,553	65,358	58,860	24,351	88,802	14,307	17,883	28,290	19,930
None	510,931	8.3	32,288	53,404	88,488	26,537	46,409	75,864	10,258	9,698	22,555	29,003	15,200	50,523	12,288	14,306	14,717	9,393
Female																		
Total population 12 years and older	6,653,076	100.0	396,518	630,565	1,950,914	278,095	594,605	1,286,072	97,583	103,345	272,885	229,209	85,171	374,208	67,020	74,143	123,086	89,657
Smart phone only	3,639,609	54.7	219,475	317,724	1,265,424	118,157	298,666	777,256	48,977	49,620	145,851	99,821	26,943	130,644	24,440	21,830	52,596	42,185
Non-smart phone only	599,248	9.0	30,197	62,346	105,667	31,030	50,903	91,202	10,175	9,755	24,543	31,316	14,334	80,459	11,983	13,234	20,414	11,690
Both smart and non-smart phones	1,660,681	25.0	101,275	174,888	451,157	89,017	181,924	307,842	23,941	30,832	70,151	56,641	21,418	76,277	12,954	15,882	27,068	19,414
None	753,538	11.3	45,571	75,607	128,666	39,891	63,112	109,772	14,490	13,138	32,340	41,431	22,476	86,828	17,643	23,197	23,008	16,368
Rural																		
Both Sexes																		
Total population 12 years and older	9,052,090	100.0	695,959	842,746	318,526	687,250	1,006,445	1,435,214	428,922	198,665	348,699	377,253	330,736	714,259	285,530	267,192	667,417	447,277
Smart phone only	2,945,625	32.5	275,371	306,208	155,094	219,141	352,249	608,457	157,758	67,979	133,668	100,685	87,065	113,235	50,899	50,238	167,290	100,288
Non-smart phone only	1,304,810	14.4	84,893	102,883	31,296	86,818	117,136	161,059	59,468	27,856	46,850	65,504	50,901	158,787	51,303	45,673	134,252	80,131

Ownership of mobile phone	All Regions		Regions															
	Number	Percent	Western	Central	Greater Accra	Volta	Eastern	Ashanti	Western North	Ahafo	Bono	Bono East	Oti	Northern	Savannah	North East	Upper East	Upper West
Both smart and non-smart phones	2,387,080	26.4	193,304	274,068	85,852	236,345	342,308	417,281	113,487	62,159	92,802	88,939	83,955	106,859	37,597	44,402	131,565	76,157
None	2,414,575	26.7	142,391	159,587	46,284	144,946	194,752	248,417	98,209	40,671	75,379	122,125	108,815	335,378	145,731	126,879	234,310	190,701
Male																		
Total population 12 years and older	4,485,558	100.0	364,603	404,835	157,778	321,130	501,412	718,469	225,245	103,895	175,951	194,904	168,188	346,412	143,401	127,993	316,732	214,610
Smart phone only	1,601,988	35.7	155,180	162,684	82,218	114,490	185,952	325,114	89,493	37,536	72,365	56,344	49,322	66,968	30,029	27,996	90,294	56,003
Non-smart phone only	576,246	12.8	37,302	35,514	11,194	27,875	44,995	65,113	27,760	12,781	20,627	32,594	25,111	84,548	28,618	24,135	57,695	40,384
Both smart and non-smart phones	1,309,451	29.2	110,645	141,872	44,664	120,833	184,467	221,769	65,090	35,287	50,678	51,848	48,272	69,529	23,352	27,404	70,370	43,371
None	997,873	22.2	61,476	64,765	19,702	57,932	85,998	106,473	42,902	18,291	32,281	54,118	45,483	125,367	61,402	48,458	98,373	74,852
Female																		
Total population 12 years and older	4,566,532	100.0	331,356	437,911	160,748	366,120	505,033	716,745	203,677	94,770	172,748	182,349	162,548	367,847	142,129	139,199	350,685	232,667
Smart phone only	1,343,637	29.4	120,191	143,524	72,876	104,651	166,297	283,343	68,265	30,443	61,303	44,341	37,743	46,267	20,870	22,242	76,996	44,285
Non-smart phone only	728,564	16.0	47,591	67,369	20,102	58,943	72,141	95,946	31,708	15,075	26,223	32,910	25,790	74,239	22,685	21,538	76,557	39,747
Both smart and non-smart phones	1,077,629	23.6	82,659	132,196	41,188	115,512	157,841	195,512	48,397	26,872	42,124	37,091	35,683	37,330	14,245	16,998	61,195	32,786
None	1,416,702	31.0	80,915	94,822	26,582	87,014	108,754	141,944	55,307	22,380	43,098	68,007	63,332	210,011	84,329	78,421	135,937	115,849

TABLE 5.5: POPULATION 6 YEARS AND OLDER WHO USED ICT DEVICE IN THE 3 MONTHS PRECEDING CENSUS NIGHT (APRIL TO JUNE), BY SEX, TYPE OF LOCALITY AND REGION

ICT Device	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																		
Both Sexes																		
Total population 6 years and older	26,210,872		1,764,583	2,452,182	4,766,249	1,433,518	2,526,584	4,657,976	749,168	480,708	1,036,053	1,002,548	616,851	1,828,512	521,415	522,717	1,097,541	754,267
Mobile phone (Smart)	18,140,476	69.2	1,278,167	1,784,093	4,136,958	960,930	1,841,177	3,624,913	477,158	329,987	743,988	576,912	308,693	796,386	192,196	205,390	537,046	346,482
Mobile phone (Non-smart)	8,799,932	33.6	586,156	941,700	1,238,189	595,189	985,317	1,445,067	257,834	188,175	360,920	360,950	244,997	616,501	149,644	172,602	406,385	250,306
Cordless telephone	31,906	0.1	2,250	2,276	12,571	915	2,597	4,110	440	459	1,563	680	205	1,520	454	321	895	650
Fixed telephone line	37,441	0.1	1,942	2,113	21,824	846	1,978	4,369	386	240	1,146	343	82	849	84	135	638	466
Tablet	404,560	1.5	22,249	37,486	178,192	13,990	32,688	68,360	3,766	3,662	12,740	5,596	2,983	8,896	1,035	1,213	6,722	4,982
Laptop computer	1,764,588	6.7	100,753	167,350	588,841	70,997	133,064	340,729	26,319	22,239	73,955	36,784	17,426	79,174	13,415	13,463	41,181	38,898
Desktop computer	340,929	1.3	21,174	34,533	107,115	13,805	34,754	64,031	5,340	5,822	14,841	7,354	3,248	12,061	1,801	2,055	6,695	6,300
Radio/FM	3,962,949	15.1	263,394	470,087	679,657	236,332	454,476	805,301	128,744	115,353	242,301	153,954	57,816	117,156	29,113	23,439	88,799	97,027
None	5,534,465	21.1	337,929	430,597	454,273	321,709	463,769	714,546	179,883	94,107	176,479	284,423	212,907	717,917	247,628	241,372	375,773	281,153
Males																		
Total population 6 years and older	12,855,936		895,914	1,184,054	2,328,368	675,712	1,233,456	2,281,837	385,265	242,688	508,197	501,400	311,694	898,183	261,918	253,475	527,860	365,915
Mobile phone (Smart)	9,323,433	72.5	678,116	902,186	2,070,158	482,540	931,812	1,832,254	259,915	173,296	379,171	304,823	170,708	449,839	108,597	113,424	280,655	185,939
Mobile phone (Non-smart)	4,190,527	32.6	291,022	429,229	570,055	266,576	462,619	672,865	131,750	93,149	171,065	180,409	124,553	312,545	79,656	88,962	190,966	125,106
Cordless telephone	18,641	0.1	1,356	1,334	7,241	531	1,478	2,371	267	273	832	386	135	917	345	202	578	395
Fixed telephone line	21,918	0.2	1,209	1,233	12,378	519	1,144	2,769	241	156	611	231	44	529	62	83	414	295
Tablet	234,935	1.8	13,173	21,726	99,027	8,448	18,943	40,331	2,585	2,279	7,562	3,589	1,997	5,962	751	867	4,283	3,412
Laptop computer	1,080,183	8.4	62,828	102,351	352,818	43,706	81,437	208,456	17,004	13,734	45,153	23,274	11,673	50,608	8,526	8,682	25,497	24,436
Desktop computer	206,666	1.6	12,908	21,041	63,715	7,980	19,362	41,209	3,262	3,484	8,817	4,697	2,048	7,196	1,134	1,315	4,251	4,247
Radio/FM	2,116,059	16.5	146,180	242,724	355,045	119,752	245,201	430,628	73,266	62,921	126,688	84,195	33,139	65,505	17,838	13,247	47,377	52,353
None	2,508,567	19.5	156,454	196,427	205,242	143,784	219,426	331,378	84,185	44,802	81,616	132,613	97,601	307,624	111,961	104,693	169,574	121,187

ICT Device	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
Females																		
Total population 6 years and older	13,354,936		868,669	1,268,128	2,437,881	757,806	1,293,128	2,376,139	363,903	238,020	527,856	501,148	305,157	930,329	259,497	269,242	569,681	388,352
Mobile phone (Smart)	8,817,043	66.0	600,051	881,907	2,066,800	478,390	909,365	1,792,659	217,243	156,691	364,817	272,089	137,985	346,547	83,599	91,966	256,391	160,543
Mobile phone (Non-smart)	4,609,405	34.5	295,134	512,471	668,134	328,613	522,698	772,202	126,084	95,026	189,855	180,541	120,444	303,956	69,988	83,640	215,419	125,200
Cordless telephone	13,265	0.1	894	942	5,330	384	1,119	1,739	173	186	731	294	70	603	109	119	317	255
Fixed telephone line	15,523	0.1	733	880	9,446	327	834	1,600	145	84	535	112	38	320	22	52	224	171
Tablet	169,625	1.3	9,076	15,760	79,165	5,542	13,745	28,029	1,181	1,383	5,178	2,007	986	2,934	284	346	2,439	1,570
Laptop computer	684,405	5.1	37,925	64,999	236,023	27,291	51,627	132,273	9,315	8,505	28,802	13,510	5,753	28,566	4,889	4,781	15,684	14,462
Desktop computer	134,263	1.0	8,266	13,492	43,400	5,825	15,392	22,822	2,078	2,338	6,024	2,657	1,200	4,865	667	740	2,444	2,053
Radio/FM	1,846,890	13.8	117,214	227,363	324,612	116,580	209,275	374,673	55,478	52,432	115,613	69,759	24,677	51,651	11,275	10,192	41,422	44,674
None	3,025,898	22.7	181,475	234,170	249,031	177,925	244,343	383,168	95,698	49,305	94,863	151,810	115,306	410,293	135,667	136,679	206,199	159,966
Urban																		
Both Sexes																		
Total population 6 years and older	15,068,752		921,191	1,428,298	4,381,262	607,362	1,313,319	2,900,907	225,879	236,452	612,376	532,706	203,613	892,250	159,168	174,571	278,219	201,179
Mobile phone (Smart)	12,067,726	80.1	748,107	1,120,925	3,861,939	454,881	1,060,401	2,447,402	170,940	182,960	486,704	363,903	117,877	534,188	91,946	93,271	188,419	143,863
Mobile phone (Non-smart)	4,587,437	30.4	274,450	492,399	1,109,987	233,034	470,213	799,103	71,220	85,825	198,047	183,742	80,331	315,702	51,996	62,678	94,744	63,966
Cordless telephone	24,096	0.2	1,205	1,597	11,922	556	1,637	3,157	111	317	1,009	424	98	1,011	90	118	476	368
Fixed telephone line	33,395	0.2	1,494	1,782	21,191	613	1,588	3,837	78	174	887	255	40	658	39	96	322	341
Tablet	346,801	2.3	17,584	29,695	170,954	9,004	24,496	57,460	2,043	2,713	10,387	4,473	1,578	7,671	754	848	3,598	3,543
Laptop computer	1,446,396	9.6	76,545	135,115	562,755	46,149	97,286	282,001	13,708	15,595	59,448	27,080	9,124	63,749	7,446	8,007	18,295	24,093
Desktop computer	272,938	1.8	15,119	25,976	102,293	7,815	26,805	50,173	2,402	4,396	11,933	5,131	1,617	9,885	875	1,335	3,288	3,895
Radio/FM	2,158,019	14.3	120,560	235,599	629,921	92,749	197,679	475,599	29,776	48,227	124,108	75,204	14,084	60,565	5,792	7,065	14,705	26,386
None	2,087,933	13.9	127,817	209,476	377,770	107,198	179,626	326,778	38,352	36,498	81,313	113,650	58,888	228,005	47,152	58,347	59,115	37,948
Males																		

ICT Device	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
Total population 6 years and older	7,290,511		455,572	685,893	2,136,842	283,367	624,110	1,397,362	111,173	114,916	293,616	258,354	100,539	437,182	78,538	83,786	132,627	96,634
Mobile phone (Smart)	6,047,240	82.9	382,125	557,037	1,926,702	223,029	518,938	1,210,383	87,969	91,904	240,997	185,145	63,308	291,305	49,283	49,228	96,038	73,849
Mobile phone (Non-smart)	2,082,358	28.6	128,311	220,657	509,317	101,514	208,992	355,697	33,048	39,436	89,266	85,985	38,450	145,927	24,427	29,726	42,704	28,901
Cordless telephone	14,088	0.2	749	989	6,891	318	910	1,822	72	195	534	229	65	601	61	70	347	235
Fixed telephone line	19,437	0.3	901	1,041	12,022	355	895	2,439	49	117	449	178	23	415	27	58	248	220
Tablet	198,773	2.7	10,193	17,285	94,876	5,340	13,860	33,438	1,399	1,630	6,055	2,793	1,062	5,060	552	590	2,334	2,306
Laptop computer	876,822	12.0	47,261	82,277	336,891	27,512	58,763	171,329	8,569	9,450	35,937	16,790	6,090	40,174	4,719	4,999	11,271	14,790
Desktop computer	164,322	2.3	9,126	15,895	60,848	4,591	14,383	32,173	1,504	2,564	6,948	3,257	1,068	5,871	637	880	2,069	2,508
Radio/FM	1,122,087	15.4	64,885	121,318	328,182	46,146	102,671	246,151	15,984	25,412	62,840	39,435	7,902	32,582	3,303	3,947	7,836	13,493
None	937,442	12.9	58,059	95,483	169,406	47,486	83,082	148,580	17,336	16,881	37,207	51,647	26,437	97,690	21,216	25,402	25,759	15,771
Females																		
Total population 6 years and older	7,778,241		465,619	742,405	2,244,420	323,995	689,209	1,503,545	114,706	121,536	318,760	274,352	103,074	455,068	80,630	90,785	145,592	104,545
Mobile phone (Smart)	6,020,486	77.4	365,982	563,888	1,935,237	231,852	541,463	1,237,019	82,971	91,056	245,707	178,758	54,569	242,883	42,663	44,043	92,381	70,014
Mobile phone (Non-smart)	2,505,079	32.2	146,139	271,742	600,670	131,520	261,221	443,406	38,172	46,389	108,781	97,757	41,881	169,775	27,569	32,952	52,040	35,065
Cordless telephone	10,008	0.1	456	608	5,031	238	727	1,335	39	122	475	195	33	410	29	48	129	133
Fixed telephone line	13,958	0.2	593	741	9,169	258	693	1,398	29	57	438	77	17	243	12	38	74	121
Tablet	148,028	1.9	7,391	12,410	76,078	3,664	10,636	24,022	644	1,083	4,332	1,680	516	2,611	202	258	1,264	1,237
Laptop computer	569,574	7.3	29,284	52,838	225,864	18,637	38,523	110,672	5,139	6,145	23,511	10,290	3,034	23,575	2,727	3,008	7,024	9,303
Desktop computer	108,616	1.4	5,993	10,081	41,445	3,224	12,422	18,000	898	1,832	4,985	1,874	549	4,014	238	455	1,219	1,387
Radio/FM	1,035,932	13.3	55,675	114,281	301,739	46,603	95,008	229,448	13,792	22,815	61,268	35,769	6,182	27,983	2,489	3,118	6,869	12,893
None	1,150,491	14.8	69,758	113,993	208,364	59,712	96,544	178,198	21,016	19,617	44,106	62,003	32,451	130,315	25,936	32,945	33,356	22,177
Rural																		
Both Sexes																		

ICT Device	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
Total population 6 years and older	11,142,120		843,392	1,023,884	384,987	826,156	1,213,265	1,757,069	523,289	244,256	423,677	469,842	413,238	936,262	362,247	348,146	819,322	553,088
Mobile phone (Smart)	6,072,750	54.5	530,060	663,168	275,019	506,049	780,776	1,177,511	306,218	147,027	257,284	213,009	190,816	262,198	100,250	112,119	348,627	202,619
Mobile phone (Non-smart)	4,212,495	37.8	311,706	449,301	128,202	362,155	515,104	645,964	186,614	102,350	162,873	177,208	164,666	300,799	97,648	109,924	311,641	186,340
Cordless telephone	7,810	0.1	1,045	679	649	359	960	953	329	142	554	256	107	509	364	203	419	282
Fixed telephone line	4,046	0.0	448	331	633	233	390	532	308	66	259	88	42	191	45	39	316	125
Tablet	57,759	0.5	4,665	7,791	7,238	4,986	8,192	10,900	1,723	949	2,353	1,123	1,405	1,225	281	365	3,124	1,439
Laptop computer	318,192	2.9	24,208	32,235	26,086	24,848	35,778	58,728	12,611	6,644	14,507	9,704	8,302	15,425	5,969	5,456	22,886	14,805
Desktop computer	67,991	0.6	6,055	8,557	4,822	5,990	7,949	13,858	2,938	1,426	2,908	2,223	1,631	2,176	926	720	3,407	2,405
Radio/FM	1,804,930	16.2	142,834	234,488	49,736	143,583	256,797	329,702	98,968	67,126	118,193	78,750	43,732	56,591	23,321	16,374	74,094	70,641
None	3,446,532	30.9	210,112	221,121	76,503	214,511	284,143	387,768	141,531	57,609	95,166	170,773	154,019	489,912	200,476	183,025	316,658	243,205
Males																		
Total population 6 years and older	5,565,425		440,342	498,161	191,526	392,345	609,346	884,475	274,092	127,772	214,581	243,046	211,155	461,001	183,380	169,689	395,233	269,281
Mobile phone (Smart)	3,276,193	58.9	295,991	345,149	143,456	259,511	412,874	621,871	171,946	81,392	138,174	119,678	107,400	158,534	59,314	64,196	184,617	112,090
Mobile phone (Non-smart)	2,108,169	37.9	162,711	208,572	60,738	165,062	253,627	317,168	98,702	53,713	81,799	94,424	86,103	166,618	55,229	59,236	148,262	96,205
Cordless telephone	4,553	0.1	607	345	350	213	568	549	195	78	298	157	70	316	284	132	231	160
Fixed telephone line	2,481	0.0	308	192	356	164	249	330	192	39	162	53	21	114	35	25	166	75
Tablet	36,162	0.6	2,980	4,441	4,151	3,108	5,083	6,893	1,186	649	1,507	796	935	902	199	277	1,949	1,106
Laptop computer	203,361	3.7	15,567	20,074	15,927	16,194	22,674	37,127	8,435	4,284	9,216	6,484	5,583	10,434	3,807	3,683	14,226	9,646
Desktop computer	42,344	0.8	3,782	5,146	2,867	3,389	4,979	9,036	1,758	920	1,869	1,440	980	1,325	497	435	2,182	1,739
Radio/FM	993,972	17.9	81,295	121,406	26,863	73,606	142,530	184,477	57,282	37,509	63,848	44,760	25,237	32,923	14,535	9,300	39,541	38,860
None	1,571,125	28.2	98,395	100,944	35,836	96,298	136,344	182,798	66,849	27,921	44,409	80,966	71,164	209,934	90,745	79,291	143,815	105,416
Females																		
Total population 6 years and older	5,576,695		403,050	525,723	193,461	433,811	603,919	872,594	249,197	116,484	209,096	226,796	202,083	475,261	178,867	178,457	424,089	283,807

ICT Device	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
Mobile phone (Smart)	2,796,557	50.1	234,069	318,019	131,563	246,538	367,902	555,640	134,272	65,635	119,110	93,331	83,416	103,664	40,936	47,923	164,010	90,529
Mobile phone (Non-smart)	2,104,326	37.7	148,995	240,729	67,464	197,093	261,477	328,796	87,912	48,637	81,074	82,784	78,563	134,181	42,419	50,688	163,379	90,135
Cordless telephone	3,257	0.1	438	334	299	146	392	404	134	64	256	99	37	193	80	71	188	122
Fixed telephone line	1,565	0.0	140	139	277	69	141	202	116	27	97	35	21	77	10	14	150	50
Tablet	21,597	0.4	1,685	3,350	3,087	1,878	3,109	4,007	537	300	846	327	470	323	82	88	1,175	333
Laptop computer	114,831	2.1	8,641	12,161	10,159	8,654	13,104	21,601	4,176	2,360	5,291	3,220	2,719	4,991	2,162	1,773	8,660	5,159
Desktop computer	25,647	0.5	2,273	3,411	1,955	2,601	2,970	4,822	1,180	506	1,039	783	651	851	429	285	1,225	666
Radio/FM	810,958	14.5	61,539	113,082	22,873	69,977	114,267	145,225	41,686	29,617	54,345	33,990	18,495	23,668	8,786	7,074	34,553	31,781
None	1,875,407	33.6	111,717	120,177	40,667	118,213	147,799	204,970	74,682	29,688	50,757	89,807	82,855	279,978	109,731	103,734	172,843	137,789

NOTE: The figures are from multiple responses and therefore add up to more than 100 percent.

TABLE 5.6: POPULATION 12 YEARS AND OLDER WHO USED ICT DEVICE IN THE 3 MONTHS PRECEDING CENSUS NIGHT (APRIL TO JUNE), BY SEX, TYPE OF LOCALITY AND REGION

ICT Device	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																		
Both Sexes																		
Total population 12 years and older	21,861,344		1,478,652	2,046,166	4,114,553	1,203,201	2,129,264	3,898,077	620,531	398,288	868,771	818,671	498,253	1,442,618	417,260	407,903	900,394	618,742
Mobile phone (Smart)	16,016,575	73.3	1,129,257	1,568,466	3,675,218	866,809	1,641,578	3,178,816	423,210	293,043	657,378	511,281	278,166	680,859	169,346	175,338	463,126	304,684
Mobile phone (Non-smart)	8,516,101	39.0	567,372	901,495	1,204,672	578,907	953,943	1,398,205	251,291	181,198	346,776	349,322	235,139	599,378	145,846	166,492	393,385	242,680
Cordless telephone	30,505	0.1	2,148	2,193	12,074	881	2,523	3,938	424	435	1,420	641	188	1,451	441	299	836	613
Fixed telephone line	36,262	0.2	1,879	2,038	21,196	810	1,931	4,264	382	227	1,060	326	78	810	75	122	612	452
Tablet	358,085	1.6	19,769	33,908	153,626	13,095	29,791	60,190	3,560	3,430	11,373	5,188	2,835	8,286	985	1,156	6,184	4,709
Laptop computer	1,729,334	7.9	98,743	164,112	573,497	70,173	130,620	334,277	25,982	21,839	72,452	36,213	17,241	78,368	13,336	13,352	40,682	38,447
Desktop computer	312,180	1.4	19,002	32,074	97,690	12,971	32,439	58,601	4,699	5,405	13,507	6,525	2,966	10,817	1,538	1,835	6,197	5,914
Radio/FM	3,599,539	16.5	238,281	417,031	634,169	214,329	416,558	740,416	114,758	101,855	215,209	136,461	51,152	105,936	26,609	20,357	79,823	86,595
None	3,503,499	16.0	212,891	266,169	275,650	200,440	286,960	425,220	113,354	56,143	109,627	177,733	132,699	459,718	169,749	160,614	260,454	196,078
Males																		
Total population 12 years and older	10,641,736		750,778	977,690	2,002,891	558,986	1,029,626	1,895,260	319,271	200,173	423,138	407,113	250,534	700,563	208,111	194,561	426,623	296,418
Mobile phone (Smart)	8,275,529	77.8	604,736	796,663	1,842,981	437,119	833,933	1,611,665	233,138	154,789	336,626	272,369	155,459	390,748	97,085	98,248	244,638	165,332
Mobile phone (Non-smart)	4,046,170	38.0	281,580	408,752	553,522	258,393	446,727	649,308	128,423	89,537	163,992	174,463	119,423	303,438	77,532	85,677	184,278	121,125
Cordless telephone	17,901	0.2	1,297	1,289	6,970	516	1,445	2,291	261	261	757	368	128	874	336	191	539	378
Fixed telephone line	21,321	0.2	1,179	1,193	12,047	504	1,120	2,719	238	154	565	225	43	512	54	78	400	290
Tablet	211,526	2.0	11,946	19,918	86,638	8,030	17,472	36,191	2,482	2,160	6,895	3,396	1,913	5,641	724	839	4,007	3,274
Laptop computer	1,061,534	10.0	61,797	100,608	344,832	43,261	80,181	204,925	16,821	13,522	44,351	22,951	11,556	50,187	8,488	8,616	25,235	24,203
Desktop computer	191,764	1.8	11,794	19,771	58,953	7,557	18,153	38,264	2,943	3,271	8,116	4,252	1,897	6,547	994	1,195	4,007	4,050
Radio/FM	1,929,323	18.1	133,288	215,417	332,372	108,521	225,645	397,331	66,008	55,903	112,730	75,206	29,582	59,679	16,471	11,593	42,626	46,951
None	1,447,119	13.6	91,074	109,684	112,982	80,494	124,890	178,783	49,297	24,763	46,457	76,907	55,952	175,515	71,568	63,089	108,727	76,937

ICT Device	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
Female																		
Total population 12 years and older	11,219,608		727,874	1,068,476	2,111,662	644,215	1,099,638	2,002,817	301,260	198,115	445,633	411,558	247,719	742,055	209,149	213,342	473,771	322,324
Mobile phone (Smart)	7,741,046	69.0	524,521	771,803	1,832,237	429,690	807,645	1,567,151	190,072	138,254	320,752	238,912	122,707	290,111	72,261	77,090	218,488	139,352
Mobile phone (Non-smart)	4,469,931	39.8	285,792	492,743	651,150	320,514	507,216	748,897	122,868	91,661	182,784	174,859	115,716	295,940	68,314	80,815	209,107	121,555
Cordless telephone	12,604	0.1	851	904	5,104	365	1,078	1,647	163	174	663	273	60	577	105	108	297	235
Fixed telephone line	14,941	0.1	700	845	9,149	306	811	1,545	144	73	495	101	35	298	21	44	212	162
Tablet	146,559	1.3	7,823	13,990	66,988	5,065	12,319	23,999	1,078	1,270	4,478	1,792	922	2,645	261	317	2,177	1,435
Laptop computer	667,800	6.0	36,946	63,504	228,665	26,912	50,439	129,352	9,161	8,317	28,101	13,262	5,685	28,181	4,848	4,736	15,447	14,244
Desktop computer	120,416	1.1	7,208	12,303	38,737	5,414	14,286	20,337	1,756	2,134	5,391	2,273	1,069	4,270	544	640	2,190	1,864
Radio/FM	1,670,216	14.9	104,993	201,614	301,797	105,808	190,913	343,085	48,750	45,952	102,479	61,255	21,570	46,257	10,138	8,764	37,197	39,644
None	2,056,380	18.3	121,817	156,485	162,668	119,946	162,070	246,437	64,057	31,380	63,170	100,826	76,747	284,203	98,181	97,525	151,727	119,141
Urban																		
Both Sexes																		
Total population 12 years and older	12,809,254		782,693	1,203,420	3,796,027	515,951	1,122,819	2,462,863	191,609	199,623	520,072	441,418	167,517	728,359	131,730	140,711	232,977	171,465
Mobile phone (Smart)	10,666,435	83.3	659,493	984,803	3,433,970	408,531	943,634	2,150,060	151,513	162,420	429,863	320,853	106,172	461,595	81,399	80,800	163,647	127,682
Mobile phone (Non-smart)	4,446,365	34.7	266,046	472,902	1,080,337	226,636	455,115	772,405	69,010	82,870	190,331	178,111	77,680	308,654	50,882	60,991	92,040	62,355
Cordless telephone	23,073	0.2	1,126	1,546	11,455	536	1,603	3,033	104	300	904	400	89	977	87	110	454	349
Fixed telephone line	32,387	0.3	1,446	1,739	20,578	587	1,556	3,742	77	165	810	247	38	638	36	86	313	329
Tablet	305,099	2.4	15,462	26,729	147,406	8,398	22,193	50,349	1,923	2,522	9,240	4,125	1,497	7,131	719	810	3,293	3,302
Laptop computer	1,416,195	11.1	74,946	132,572	548,103	45,614	95,434	276,729	13,506	15,290	58,174	26,610	9,023	63,102	7,396	7,946	17,999	23,751
Desktop computer	251,010	2.0	13,711	24,179	93,415	7,324	25,206	46,035	2,134	4,130	10,892	4,629	1,532	9,061	809	1,249	3,031	3,673
Radio/FM	1,989,596	15.5	111,452	212,455	588,791	84,967	183,380	441,023	27,083	43,604	111,451	67,435	12,694	55,849	5,436	6,342	13,579	24,055
None	1,283,917	10.0	80,160	128,528	229,557	66,135	110,828	193,615	24,630	22,037	50,286	68,951	36,065	139,900	30,734	37,748	39,304	25,439

ICT Device	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
Males																		
Total population 12 years and older	6,156,178		386,175	572,855	1,845,113	237,856	528,214	1,176,791	94,026	96,278	247,187	212,209	82,346	354,151	64,710	66,568	109,891	81,808
Mobile phone (Smart)	5,358,239	87.0	338,592	490,569	1,715,988	200,591	461,790	1,063,685	78,446	81,743	213,211	164,022	57,512	255,000	44,153	43,052	83,926	65,959
Mobile phone (Non-smart)	2,012,303	32.7	124,086	210,826	494,753	98,398	201,539	342,490	31,988	37,978	85,484	83,158	37,097	142,322	23,825	28,843	41,381	28,135
Cordless telephone	13,555	0.2	705	960	6,636	309	901	1,765	69	185	477	218	59	579	60	69	335	228
Fixed telephone line	18,934	0.3	881	1,022	11,698	346	881	2,392	48	115	407	176	22	407	25	55	243	216
Tablet	177,760	2.9	9,138	15,782	83,026	5,042	12,688	29,841	1,338	1,525	5,496	2,632	1,012	4,776	534	574	2,174	2,182
Laptop computer	860,854	14.0	46,439	80,902	329,254	27,221	57,813	168,432	8,459	9,282	35,261	16,526	6,030	39,842	4,698	4,962	11,120	14,613
Desktop computer	152,954	2.5	8,399	14,978	56,379	4,345	13,535	29,899	1,382	2,423	6,396	2,973	1,020	5,449	604	832	1,942	2,398
Radio/FM	1,037,092	16.8	60,278	109,516	307,711	42,292	95,510	228,619	14,618	23,085	56,360	35,486	7,186	30,212	3,104	3,545	7,257	12,313
None	521,270	8.5	33,400	53,234	93,226	26,469	46,994	78,911	10,302	9,357	20,961	28,504	14,865	52,570	12,805	14,810	15,489	9,373
Females																		
Total population 12 years and older	6,653,076		396,518	630,565	1,950,914	278,095	594,605	1,286,072	97,583	103,345	272,885	229,209	85,171	374,208	67,020	74,143	123,086	89,657
Mobile phone (Smart)	5,308,196	79.8	320,901	494,234	1,717,982	207,940	481,844	1,086,375	73,067	80,677	216,652	156,831	48,660	206,595	37,246	37,748	79,721	61,723
Mobile phone (Non-smart)	2,434,062	36.6	141,960	262,076	585,584	128,238	253,576	429,915	37,022	44,892	104,847	94,953	40,583	166,332	27,057	32,148	50,659	34,220
Cordless telephone	9,518	0.1	421	586	4,819	227	702	1,268	35	115	427	182	30	398	27	41	119	121
Fixed telephone line	13,453	0.2	565	717	8,880	241	675	1,350	29	50	403	71	16	231	11	31	70	113
Tablet	127,339	1.9	6,324	10,947	64,380	3,356	9,505	20,508	585	997	3,744	1,493	485	2,355	185	236	1,119	1,120
Laptop computer	555,341	8.3	28,507	51,670	218,849	18,393	37,621	108,297	5,047	6,008	22,913	10,084	2,993	23,260	2,698	2,984	6,879	9,138
Desktop computer	98,056	1.5	5,312	9,201	37,036	2,979	11,671	16,136	752	1,707	4,496	1,656	512	3,612	205	417	1,089	1,275
Radio/FM	952,504	14.3	51,174	102,939	281,080	42,675	87,870	212,404	12,465	20,519	55,091	31,949	5,508	25,637	2,332	2,797	6,322	11,742
None	762,647	11.5	46,760	75,294	136,331	39,666	63,834	114,704	14,328	12,680	29,325	40,447	21,200	87,330	17,929	22,938	23,815	16,066

ICT Device	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
Rural																		
Both Sexes																		
Total population 12 years and older	9,052,090		695,959	842,746	318,526	687,250	1,006,445	1,435,214	428,922	198,665	348,699	377,253	330,736	714,259	285,530	267,192	667,417	447,277
Mobile phone (Smart)	5,350,140	59.1	469,764	583,663	241,248	458,278	697,944	1,028,756	271,697	130,623	227,515	190,428	171,994	219,264	87,947	94,538	299,479	177,002
Mobile phone (Non-smart)	4,069,736	45.0	301,326	428,593	124,335	352,271	498,828	625,800	182,281	98,328	156,445	171,211	157,459	290,724	94,964	105,501	301,345	180,325
Cordless telephone	7,432	0.1	1,022	647	619	345	920	905	320	135	516	241	99	474	354	189	382	264
Fixed telephone line	3,875	0.0	433	299	618	223	375	522	305	62	250	79	40	172	39	36	299	123
Tablet	52,986	0.6	4,307	7,179	6,220	4,697	7,598	9,841	1,637	908	2,133	1,063	1,338	1,155	266	346	2,891	1,407
Laptop computer	313,139	3.5	23,797	31,540	25,394	24,559	35,186	57,548	12,476	6,549	14,278	9,603	8,218	15,266	5,940	5,406	22,683	14,696
Desktop computer	61,170	0.7	5,291	7,895	4,275	5,647	7,233	12,566	2,565	1,275	2,615	1,896	1,434	1,756	729	586	3,166	2,241
Radio/FM	1,609,943	17.8	126,829	204,576	45,378	129,362	233,178	299,393	87,675	58,251	103,758	69,026	38,458	50,087	21,173	14,015	66,244	62,540
None	2,219,582	24.5	132,731	137,641	46,093	134,305	176,132	231,605	88,724	34,106	59,341	108,782	96,634	319,818	139,015	122,866	221,150	170,639
Males																		
Total population 12 years and older	4,485,558		364,603	404,835	157,778	321,130	501,412	718,469	225,245	103,895	175,951	194,904	168,188	346,412	143,401	127,993	316,732	214,610
Mobile phone (Smart)	2,917,290	65.0	266,144	306,094	126,993	236,528	372,143	547,980	154,692	73,046	123,415	108,347	97,947	135,748	52,932	55,196	160,712	99,373
Mobile phone (Non-smart)	2,033,867	45.3	157,494	197,926	58,769	159,995	245,188	306,818	96,435	51,559	78,508	91,305	82,326	161,116	53,707	56,834	142,897	92,990
Cordless telephone	4,346	0.1	592	329	334	207	544	526	192	76	280	150	69	295	276	122	204	150
Fixed telephone line	2,387	0.1	298	171	349	158	239	327	190	39	158	49	21	105	29	23	157	74
Tablet	33,766	0.8	2,808	4,136	3,612	2,988	4,784	6,350	1,144	635	1,399	764	901	865	190	265	1,833	1,092
Laptop computer	200,680	4.5	15,358	19,706	15,578	16,040	22,368	36,493	8,362	4,240	9,090	6,425	5,526	10,345	3,790	3,654	14,115	9,590
Desktop computer	38,810	0.9	3,395	4,793	2,574	3,212	4,618	8,365	1,561	848	1,720	1,279	877	1,098	390	363	2,065	1,652
Radio/FM	892,231	19.9	73,010	105,901	24,661	66,229	130,135	168,712	51,390	32,818	56,370	39,720	22,396	29,467	13,367	8,048	35,369	34,638
None	925,849	20.6	57,674	56,450	19,756	54,025	77,896	99,872	38,995	15,406	25,496	48,403	41,087	122,945	58,763	48,279	93,238	67,564

ICT Device	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
Females																		
Total population 12 years and older	4,566,532		331,356	437,911	160,748	366,120	505,033	716,745	203,677	94,770	172,748	182,349	162,548	367,847	142,129	139,199	350,685	232,667
Mobile phone (Smart)	2,432,850	53.3	203,620	277,569	114,255	221,750	325,801	480,776	117,005	57,577	104,100	82,081	74,047	83,516	35,015	39,342	138,767	77,629
Mobile phone (Non-smart)	2,035,869	44.6	143,832	230,667	65,566	192,276	253,640	318,982	85,846	46,769	77,937	79,906	75,133	129,608	41,257	48,667	158,448	87,335
Cordless telephone	3,086	0.1	430	318	285	138	376	379	128	59	236	91	30	179	78	67	178	114
Fixed telephone line	1,488	0.0	135	128	269	65	136	195	115	23	92	30	19	67	10	13	142	49
Tablet	19,220	0.4	1,499	3,043	2,608	1,709	2,814	3,491	493	273	734	299	437	290	76	81	1,058	315
Laptop computer	112,459	2.5	8,439	11,834	9,816	8,519	12,818	21,055	4,114	2,309	5,188	3,178	2,692	4,921	2,150	1,752	8,568	5,106
Desktop computer	22,360	0.5	1,896	3,102	1,701	2,435	2,615	4,201	1,004	427	895	617	557	658	339	223	1,101	589
Radio/FM	717,712	15.7	53,819	98,675	20,717	63,133	103,043	130,681	36,285	25,433	47,388	29,306	16,062	20,620	7,806	5,967	30,875	27,902
None	1,293,733	28.3	75,057	81,191	26,337	80,280	98,236	131,733	49,729	18,700	33,845	60,379	55,547	196,873	80,252	74,587	127,912	103,075

NOTE: The figures are from multiple responses and therefore add up to more than 100 percent.

TABLE 5.7: POPULATION 6 YEARS AND OLDER WHO USED INTERNET IN THE 3 MONTHS PRECEDING CENSUS NIGHT (APRIL TO JUNE) BY SEX, DEVICE TYPE, TYPE OF LOCALITY AND REGION

Type of ICT Device	All Regions		Regions															
	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																		
Both Sexes																		
Total population 6 years and older	26,210,872		1,764,583	2,452,182	4,766,249	1,433,518	2,526,584	4,657,976	749,168	480,708	1,036,053	1,002,548	616,851	1,828,512	521,415	522,717	1,097,541	754,267
Mobile phone	17,879,794	68.2	1,258,724	1,758,340	4,105,968	948,700	1,816,383	3,576,163	467,791	323,906	730,543	564,249	302,222	779,821	185,912	200,918	523,537	336,617
Laptop	1,527,396	5.8	86,206	142,411	519,943	61,001	108,481	286,962	22,817	18,577	63,304	31,651	15,285	73,056	12,557	12,602	37,705	34,838
Desktop computer	194,435	0.7	11,184	18,902	71,497	7,102	20,846	31,092	2,281	3,324	6,737	3,614	1,443	6,481	649	1,150	4,432	3,701
Tablet	272,530	1.0	14,752	23,090	129,802	8,830	20,630	43,396	2,213	2,137	7,752	3,581	1,823	6,020	722	751	3,773	3,258
Digital television	867,299	3.3	63,226	81,632	254,935	22,484	67,156	184,644	19,484	17,650	38,751	28,405	7,664	34,856	5,477	7,606	16,487	16,842
Other devices	5,624	0.0	606	1,655	375	46	482	588	62	55	404	155	34	756	12	13	229	152
None	8,229,040	31.4	497,795	683,619	644,178	481,724	700,742	1,066,097	278,089	154,168	299,648	433,046	312,892	1,040,132	333,632	319,419	570,386	413,473
Males																		
Total population 6 years and older	12,855,936		895,914	1,184,054	2,328,368	675,712	1,233,456	2,281,837	385,265	242,688	508,197	501,400	311,694	898,183	261,918	253,475	527,860	365,915
Mobile phone	9,209,282	71.6	668,712	891,099	2,058,990	477,722	921,081	1,813,122	255,398	170,542	373,603	299,084	167,549	441,555	105,006	111,116	274,075	180,628
Laptop	929,204	7.2	53,428	86,748	310,213	37,265	65,760	174,016	14,591	11,288	38,481	19,805	10,206	46,465	7,883	8,098	23,250	21,707
Desktop computer	118,601	0.9	6,962	11,520	42,877	4,212	11,265	20,383	1,483	1,914	3,700	2,381	987	4,154	474	767	2,877	2,645
Tablet	159,817	1.2	8,820	13,579	72,180	5,561	12,204	25,949	1,568	1,406	4,761	2,373	1,303	4,147	528	564	2,593	2,281
Digital television	458,391	3.6	33,843	43,078	132,407	11,606	35,611	96,059	10,829	9,484	19,843	15,230	4,411	20,363	3,368	4,269	8,873	9,117
Other devices	2,841	0.0	312	844	202	22	230	274	34	37	191	83	24	373	10	11	112	82
None	3,600,454	28.0	223,522	288,375	262,259	196,618	308,149	461,802	128,344	70,947	132,085	199,863	143,275	452,693	155,931	141,325	252,093	183,173
Females																		
Total population 6 years and older	13,354,936		868,669	1,268,128	2,437,881	757,806	1,293,128	2,376,139	363,903	238,020	527,856	501,148	305,157	930,329	259,497	269,242	569,681	388,352

Type of ICT Device	All Regions		Regions															
	Number	Percent	Western	Central	Greater Accra	Volta	Eastern	Ashanti	Western North	Ahafo	Bono	Bono East	Oti	Northern	Savannah	North East	Upper East	Upper West
Mobile phone	8,670,512	64.9	590,012	867,241	2,046,978	470,978	895,302	1,763,041	212,393	153,364	356,940	265,165	134,673	338,266	80,906	89,802	249,462	155,989
Laptop	598,192	4.5	32,778	55,663	209,730	23,736	42,721	112,946	8,226	7,289	24,823	11,846	5,079	26,591	4,674	4,504	14,455	13,131
Desktop computer	75,834	0.6	4,222	7,382	28,620	2,890	9,581	10,709	798	1,410	3,037	1,233	456	2,327	175	383	1,555	1,056
Tablet	112,713	0.8	5,932	9,511	57,622	3,269	8,426	17,447	645	731	2,991	1,208	520	1,873	194	187	1,180	977
Digital television	408,908	3.1	29,383	38,554	122,528	10,878	31,545	88,585	8,655	8,166	18,908	13,175	3,253	14,493	2,109	3,337	7,614	7,725
Other devices	2,783	0.0	294	811	173	24	252	314	28	18	213	72	10	383	2	2	117	70
None	4,628,586	34.7	274,273	395,244	381,919	285,106	392,593	604,295	149,745	83,221	167,563	233,183	169,617	587,439	177,701	178,094	318,293	230,300
Urban																		
Both Sexes																		
Total population 6 years and older	15,068,752		921,191	1,428,298	4,381,262	607,362	1,313,319	2,900,907	225,879	236,452	612,376	532,706	203,613	892,250	159,168	174,571	278,219	201,179
Mobile phone	11,929,011	79.2	740,971	1,107,149	3,834,345	449,341	1,048,406	2,418,805	168,083	180,037	479,106	356,918	115,312	524,088	89,783	91,522	184,155	140,990
Laptop	1,255,367	8.3	65,751	116,655	497,002	40,143	79,476	239,725	11,711	12,851	51,055	22,991	7,996	58,348	6,802	7,401	16,199	21,261
Desktop computer	162,941	1.1	8,586	14,562	68,358	4,293	17,047	25,675	1,244	2,755	5,599	2,651	802	5,645	458	813	2,212	2,241
Tablet	237,762	1.6	11,938	18,814	124,717	5,940	15,785	36,829	1,211	1,587	6,304	2,862	1,050	5,158	543	520	2,198	2,306
Digital television	657,651	4.4	39,920	55,878	243,854	12,912	42,864	140,616	6,969	12,683	27,512	19,787	3,862	26,800	3,418	3,958	8,163	8,455
Other devices	3,526	0.0	378	1,118	345	12	386	324	40	10	275	64	7	366	0	3	184	14
None	3,080,709	20.4	176,187	315,803	532,274	156,325	259,534	472,142	56,905	54,737	129,940	173,139	87,549	363,555	68,630	82,172	92,857	58,960
Males																		
Total population 6 years and older	7,290,511		455,572	685,893	2,136,842	283,367	624,110	1,397,362	111,173	114,916	293,616	258,354	100,539	437,182	78,538	83,786	132,627	96,634
Mobile phone	5,994,065	82.2	379,252	551,477	1,917,065	220,979	514,273	1,200,507	86,846	90,808	238,074	182,347	62,176	286,743	48,252	48,411	94,206	72,649
Laptop	756,595	10.4	40,465	70,727	296,273	23,674	47,674	144,388	7,244	7,658	30,785	14,074	5,340	36,573	4,240	4,587	9,922	12,971
Desktop computer	98,271	1.3	5,326	8,876	41,013	2,579	8,857	16,685	781	1,539	2,948	1,724	567	3,565	346	530	1,435	1,500
Tablet	137,238	1.9	6,983	11,026	69,275	3,629	9,049	21,712	853	1,012	3,814	1,852	731	3,497	399	377	1,499	1,530
Digital television	343,533	4.7	21,048	29,293	126,443	6,838	22,407	72,332	3,715	6,676	13,811	10,411	2,184	15,405	2,001	2,232	4,322	4,415

Type of ICT Device	All Regions		Regions															
	Number	Percent	Western	Central	Greater Accra	Volta	Eastern	Ashanti	Western North	Ahafo	Bono	Bono East	Oti	Northern	Savannah	North East	Upper East	Upper West
Other devices	1,720	0.0	197	565	186	5	169	132	22	7	133	33	3	176	3	81	8	0
None	1,270,679	17.4	74,525	132,103	213,333	61,640	107,496	192,550	23,944	23,364	54,172	74,822	38,006	148,470	29,922	35,004	37,918	23,410
Females																		
Total population 6 years and older	7,778,241		465,619	742,405	2,244,420	323,995	689,209	1,503,545	114,706	121,536	318,760	274,352	103,074	455,068	80,630	90,785	145,592	104,545
Mobile phone	5,934,946	76.3	361,719	555,672	1,917,280	228,362	534,133	1,218,298	81,237	89,229	241,032	174,571	53,136	237,345	41,531	43,111	89,949	68,341
Laptop	498,772	6.4	25,286	45,928	200,729	16,469	31,802	95,337	4,467	5,193	20,270	8,917	2,656	21,775	2,562	2,814	6,277	8,290
Desktop computer	64,670	0.8	3,260	5,686	27,345	1,714	8,190	8,990	463	1,216	2,651	927	235	2,080	112	283	777	741
Tablet	100,524	1.3	4,955	7,788	55,442	2,311	6,736	15,117	358	575	2,490	1,010	319	1,661	144	143	699	776
Digital television	314,118	4.0	18,872	26,585	117,411	6,074	20,457	68,284	3,254	6,007	13,701	9,376	1,678	11,395	1,417	1,726	3,841	4,040
Other devices	1,806	0.0	181	553	159	7	217	192	18	3	142	31	4	190	103	6	0	0
None	1,810,030	23.3	101,662	183,700	318,941	94,685	152,038	279,592	32,961	31,373	75,768	98,317	49,543	215,085	38,708	47,168	54,939	35,550
Rural																		
Both Sexes																		
Total population 6 years and older	11,142,120		843,392	1,023,884	384,987	826,156	1,213,265	1,757,069	523,289	244,256	423,677	469,842	413,238	936,262	362,247	348,146	819,322	553,088
Mobile phone	5,950,783	53.4	517,753	651,191	271,623	499,359	767,977	1,157,358	299,708	143,869	251,437	207,331	186,910	255,733	96,129	109,396	339,382	195,627
Laptop	272,029	2.4	20,455	25,756	22,941	20,858	29,005	47,237	11,106	5,726	12,249	8,660	7,289	14,708	5,755	5,201	21,506	13,577
Desktop computer	31,494	0.3	2,598	4,340	3,139	2,809	3,799	5,417	1,037	569	1,138	963	641	836	191	337	2,220	1,460
Tablet	34,768	0.3	2,814	4,276	5,085	2,890	4,845	6,567	1,002	550	1,448	719	773	862	179	231	1,575	952
Digital television	209,648	1.9	23,306	25,754	11,081	9,572	24,292	44,028	12,515	4,967	11,239	8,618	3,802	8,056	2,059	3,648	8,324	8,387
Other devices	2,098	0.0	228	537	30	34	96	264	22	45	129	91	27	390	12	10	45	138
None	5,148,331	46.2	321,608	367,816	111,904	325,399	441,208	593,955	221,184	99,431	169,708	259,907	225,343	676,577	265,002	237,247	477,529	354,513
Males																		

Type of ICT Device	All Regions		Regions															
	Number	Percent	Western	Central	Greater Accra	Volta	Eastern	Ashanti	Western North	Ahafo	Bono	Bono East	Oti	Northern	Savannah	North East	Upper East	Upper West
Total population 6 years and older	5,565,425		440,342	498,161	191,526	392,345	609,346	884,475	274,092	127,772	214,581	243,046	211,155	461,001	183,380	169,689	395,233	269,281
Mobile phone	3,215,217	57.8	289,460	339,622	141,925	256,743	406,808	612,615	168,552	79,734	135,529	116,737	105,373	154,812	56,754	62,705	179,869	107,979
Laptop	172,609	3.1	12,963	16,021	13,940	13,591	18,086	29,628	7,347	3,630	7,696	5,731	4,866	9,892	3,643	3,511	13,328	8,736
Desktop computer	20,330	0.4	1,636	2,644	1,864	1,633	2,408	3,698	702	375	752	657	420	589	128	237	1,442	1,145
Tablet	22,579	0.4	1,837	2,553	2,905	1,932	3,155	4,237	715	394	947	521	572	650	129	187	1,094	751
Digital television	114,858	2.1	12,795	13,785	5,964	4,768	13,204	23,727	7,114	2,808	6,032	4,819	2,227	4,958	1,367	2,037	4,551	4,702
Other devices	1,121	0.0	115	279	16	17	61	142	12	30	58	50	21	197	10	8	31	74
None	2,329,775	41.9	148,997	156,272	48,926	134,978	200,653	269,252	104,400	47,583	77,913	125,041	105,269	304,223	126,009	106,321	214,175	159,763
Females																		
Total population 6 years and older	5,576,695		403,050	525,723	193,461	433,811	603,919	872,594	249,197	116,484	209,096	226,796	202,083	475,261	178,867	178,457	424,089	283,807
Mobile phone	2,735,566	49.1	228,293	311,569	129,698	242,616	361,169	544,743	131,156	64,135	115,908	90,594	81,537	100,921	39,375	46,691	159,513	87,648
Laptop	99,420	1.8	7,492	9,735	9,001	7,267	10,919	17,609	3,759	2,096	4,553	2,929	2,423	4,816	2,112	1,690	8,178	4,841
Desktop computer	11,164	0.2	962	1,696	1,275	1,176	1,391	1,719	335	194	386	306	221	247	63	100	778	315
Tablet	12,189	0.2	977	1,723	2,180	958	1,690	2,330	287	156	501	198	201	212	50	44	481	201
Digital television	94,790	1.7	10,511	11,969	5,117	4,804	11,088	20,301	5,401	2,159	5,207	3,799	1,575	3,098	692	1,611	3,773	3,685
Other devices	977	0.0	113	258	14	17	35	122	10	15	71	41	6	193	2	2	14	64
None	2,818,556	50.5	172,611	211,544	62,978	190,421	240,555	324,703	116,784	51,848	91,795	134,866	120,074	372,354	138,993	130,926	263,354	194,750

NOTE: The figures are from multiple responses and therefore add up to more than 100 percent.

TABLE 5.8: POPULATION 12 YEARS AND OLDER WHO USED INTERNET IN THE 3 MONTHS PRECEDING CENSUS NIGHT (APRIL TO JUNE) BY SEX, DEVICE TYPE, TYPE OF LOCALITY AND REGION

Type of ICT Device	All Regions		Regions															
	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																		
Both Sexes																		
Total population 12 years and older	21,861,344		1,478,652	2,046,166	4,114,553	1,203,201	2,129,264	3,898,077	620,531	398,288	868,771	818,671	498,253	1,442,618	417,260	407,903	900,394	618,742
Mobile phone	15,788,932	72.2	1,112,322	1,547,305	3,649,144	856,197	1,620,680	3,136,456	414,684	287,667	646,089	500,070	272,424	665,282	163,296	171,153	450,618	295,545
Laptop	1,506,355	6.9	84,989	140,834	509,290	60,627	107,185	283,732	22,638	18,344	62,557	31,370	15,215	72,571	12,502	12,533	37,385	34,583
Desktop computer	181,704	0.8	10,353	17,777	66,193	6,750	19,770	28,947	2,058	3,164	6,297	3,372	1,387	6,139	624	1,118	4,208	3,547
Tablet	241,585	1.1	13,053	21,141	111,709	8,395	18,856	38,453	2,114	2,022	7,001	3,351	1,781	5,636	694	728	3,546	3,105
Digital television	791,415	3.6	57,241	73,240	235,008	20,979	61,693	168,383	17,560	16,107	34,930	25,363	6,853	31,765	5,157	6,766	15,033	15,337
Other devices	4,739	0.0	465	1,388	352	45	414	496	60	54	326	134	33	657	10	12	183	110
None	5,995,664	27.4	360,366	491,339	454,696	344,626	501,051	750,345	203,300	108,520	218,239	314,649	224,485	770,329	252,327	234,840	446,793	319,759
Males																		
Total population 12 years and older	10,641,736		750,778	977,690	2,002,891	558,986	1,029,626	1,895,260	319,271	200,173	423,138	407,113	250,534	700,563	208,111	194,561	426,623	296,418
Mobile phone	8,178,948	76.9	596,660	787,999	1,834,389	433,138	825,349	1,595,948	229,063	152,443	332,206	267,399	152,678	382,974	93,622	96,097	238,580	160,403
Laptop	918,108	8.6	52,802	85,898	304,665	37,067	65,082	172,257	14,499	11,158	38,078	19,652	10,158	46,200	7,858	8,052	23,094	21,588
Desktop computer	112,007	1.1	6,525	10,933	40,215	4,015	10,725	19,219	1,364	1,827	3,466	2,253	958	3,979	457	743	2,759	2,569
Tablet	144,219	1.4	7,977	12,602	63,060	5,344	11,297	23,469	1,520	1,342	4,379	2,263	1,278	3,951	511	553	2,475	2,198
Digital television	420,262	3.9	30,889	38,850	122,469	10,865	32,852	87,838	9,854	8,681	17,926	13,676	3,998	18,778	3,205	3,836	8,168	8,377
Other devices	2,361	0.0	234	695	185	21	199	223	33	37	145	71	23	319	9	10	90	67
None	2,429,991	22.8	151,526	186,593	164,253	124,857	201,081	294,763	89,071	46,813	89,149	137,960	97,197	314,459	113,643	97,677	186,671	134,278
Females																		

Type of ICT Device	All Regions		Regions															
	Number	Percent	Western	Central	Greater Accra	Volta	Eastern	Ashanti	Western North	Ahafo	Bono	Bono East	Oti	Northern	Savannah	North East	Upper East	Upper West
Total population 12 years and older	11,219,608		727,874	1,068,476	2,111,662	644,215	1,099,638	2,002,817	301,260	198,115	445,633	411,558	247,719	742,055	209,149	213,342	473,771	322,324
Mobile phone	7,609,984	67.8	515,662	759,306	1,814,755	423,059	795,331	1,540,508	185,621	135,224	313,883	232,671	119,746	282,308	69,674	75,056	212,038	135,142
Laptop	588,247	5.2	32,187	54,936	204,625	23,560	42,103	111,475	8,139	7,186	24,479	11,718	5,057	26,371	4,644	4,481	14,291	12,995
Desktop computer	69,697	0.6	3,828	6,844	25,978	2,735	9,045	9,728	694	1,337	2,831	1,119	429	2,160	167	375	1,449	978
Tablet	97,366	0.9	5,076	8,539	48,649	3,051	7,559	14,984	594	680	2,622	1,088	503	1,685	183	175	1,071	907
Digital television	371,153	3.3	26,352	34,390	112,539	10,114	28,841	80,545	7,706	7,426	17,004	11,687	2,855	12,987	1,952	2,930	6,865	6,960
Other devices	2,378	0.0	231	693	167	24	215	273	27	17	181	63	10	338	1	2	93	43
None	3,565,673	31.8	208,840	304,746	290,443	219,769	299,970	455,582	114,229	61,707	129,090	176,689	127,288	455,870	138,684	137,163	260,122	185,481
Urban																		
Both Sexes																		
Total population 12 years and older	12,809,254		782,693	1,203,420	3,796,027	515,951	1,122,819	2,462,863	191,609	199,623	520,072	441,418	167,517	728,359	131,730	140,711	232,977	171,465
Mobile phone	10,546,845	82.3	653,341	973,463	3,410,770	403,822	933,587	2,125,368	149,025	159,826	423,629	314,701	103,889	452,142	79,348	79,152	159,744	125,038
Laptop	1,236,831	9.7	64,753	115,358	486,785	39,887	78,479	236,966	11,600	12,674	50,405	22,752	7,958	57,986	6,767	7,363	16,025	21,073
Desktop computer	152,348	1.2	7,979	13,672	63,393	4,079	16,225	23,928	1,102	2,620	5,242	2,510	774	5,370	438	789	2,093	2,134
Tablet	209,335	1.6	10,444	17,095	107,381	5,594	14,323	32,476	1,149	1,484	5,668	2,659	1,018	4,819	522	503	2,033	2,167
Digital television	603,600	4.7	36,465	50,480	225,083	12,002	39,516	128,931	6,427	11,636	24,899	17,840	3,452	24,702	3,260	3,586	7,477	7,844
Other devices	2,986	0.0	285	949	328	12	323	272	39	10	220	58	7	325	3	141	14	0
None	2,218,825	17.3	126,464	226,168	375,573	110,807	184,831	330,461	41,881	38,404	93,936	124,700	63,056	272,318	51,701	60,839	72,269	45,417
Males																		
Total population 12 years and older	6,156,178		386,175	572,855	1,845,113	237,856	528,214	1,176,791	94,026	96,278	247,187	212,209	82,346	354,151	64,710	66,568	109,891	81,808
Mobile phone	5,315,115	86.3	336,228	486,283	1,708,645	198,954	458,218	1,055,851	77,511	80,824	211,008	161,659	56,519	250,777	43,182	42,289	82,281	64,886
Laptop	746,826	12.1	39,947	70,016	290,947	23,539	47,157	142,894	7,189	7,553	30,429	13,946	5,314	36,380	4,227	4,563	9,842	12,883

Type of ICT Device	All Regions		Regions															
	Number	Percent	Western	Central	Greater Accra	Volta	Eastern	Ashanti	Western North	Ahafo	Bono	Bono East	Oti	Northern	Savannah	North East	Upper East	Upper West
Desktop computer	92,819	1.5	5,009	8,417	38,524	2,459	8,441	15,744	714	1,465	2,755	1,646	555	3,426	333	514	1,369	1,448
Tablet	122,912	2.0	6,241	10,157	60,550	3,451	8,307	19,533	820	953	3,485	1,759	712	3,323	387	371	1,410	1,453
Digital television	316,489	5.1	19,342	26,588	117,085	6,398	20,720	66,443	3,462	6,140	12,501	9,411	1,985	14,329	1,929	2,036	4,000	4,120
Other devices	1,425	0.0	145	472	174	5	141	105	22	7	94	30	3	155	3	61	8	0
None	823,454	13.4	48,752	85,105	132,665	38,346	68,174	118,166	16,228	14,856	35,234	49,720	25,558	101,776	21,205	23,986	27,227	16,456
Females																		
Total population 12 years and older	6,653,076		396,518	630,565	1,950,914	278,095	594,605	1,286,072	97,583	103,345	272,885	229,209	85,171	374,208	67,020	74,143	123,086	89,657
Mobile phone	5,231,730	78.6	317,113	487,180	1,702,125	204,868	475,369	1,069,517	71,514	79,002	212,621	153,042	47,370	201,365	36,166	36,863	77,463	60,152
Laptop	490,005	7.4	24,806	45,342	195,838	16,348	31,322	94,072	4,411	5,121	19,976	8,806	2,644	21,606	2,540	2,800	6,183	8,190
Desktop computer	59,529	0.9	2,970	5,255	24,869	1,620	7,784	8,184	388	1,155	2,487	864	219	1,944	105	275	724	686
Tablet	86,423	1.3	4,203	6,938	46,831	2,143	6,016	12,943	329	531	2,183	900	306	1,496	135	132	623	714
Digital television	287,111	4.3	17,123	23,892	107,998	5,604	18,796	62,488	2,965	5,496	12,398	8,429	1,467	10,373	1,331	1,550	3,477	3,724
Other devices	1,561	0.0	140	477	154	7	182	167	17	3	126	28	4	170	80	6	0	0
None	1,395,371	21.0	77,712	141,063	242,908	72,461	116,657	212,295	25,653	23,548	58,702	74,980	37,498	170,542	30,496	36,853	45,042	28,961
Rural																		
Both Sexes																		
Total population 12 years and older	9,052,090		695,959	842,746	318,526	687,250	1,006,445	1,435,214	428,922	198,665	348,699	377,253	330,736	714,259	285,530	267,192	667,417	447,277
Mobile phone	5,242,087	57.9	458,981	573,842	238,374	452,375	687,093	1,011,088	265,659	127,841	222,460	185,369	168,535	213,140	83,948	92,001	290,874	170,507
Laptop	269,524	3.0	20,236	25,476	22,505	20,740	28,706	46,766	11,038	5,670	12,152	8,618	7,257	14,585	5,735	5,170	21,360	13,510
Desktop computer	29,356	0.3	2,374	4,105	2,800	2,671	3,545	5,019	956	544	1,055	862	613	769	186	329	2,115	1,413
Tablet	32,250	0.4	2,609	4,046	4,328	2,801	4,533	5,977	965	538	1,333	692	763	817	172	225	1,513	938
Digital television	187,815	2.1	20,776	22,760	9,925	8,977	22,177	39,452	11,133	4,471	10,031	7,523	3,401	7,063	1,897	3,180	7,556	7,493
Other devices	1,753	0.0	180	439	24	33	91	224	21	44	106	76	26	332	10	9	42	96

Type of ICT Device	All Regions		Regions															
	Number	Percent	Western	Central	Greater Accra	Volta	Eastern	Ashanti	Western North	Ahafo	Bono	Bono East	Oti	Northern	Savannah	North East	Upper East	Upper West
None	3,776,839	41.7	233,902	265,171	79,123	233,819	316,220	419,884	161,419	70,116	124,303	189,949	161,429	498,011	200,626	174,001	374,524	274,342
Males																		
Total population 12 years and older	4,485,558		364,603	404,835	157,778	321,130	501,412	718,469	225,245	103,895	175,951	194,904	168,188	346,412	143,401	127,993	316,732	214,610
Mobile phone	2,863,833	63.8	260,432	301,716	125,744	234,184	367,131	540,097	151,552	71,619	121,198	105,740	96,159	132,197	50,440	53,808	156,299	95,517
Laptop	171,282	3.8	12,855	15,882	13,718	13,528	17,925	29,363	7,310	3,605	7,649	5,706	4,844	9,820	3,631	3,489	13,252	8,705
Desktop computer	19,188	0.4	1,516	2,516	1,691	1,556	2,284	3,475	650	362	711	607	403	553	124	229	1,390	1,121
Tablet	21,307	0.5	1,736	2,445	2,510	1,893	2,990	3,936	700	389	894	504	566	628	124	182	1,065	745
Digital television	103,773	2.3	11,547	12,262	5,384	4,467	12,132	21,395	6,392	2,541	5,425	4,265	2,013	4,449	1,276	1,800	4,168	4,257
Other devices	936	0.0	89	223	11	16	58	118	11	30	51	41	20	164	9	7	29	59
None	1,606,537	35.8	102,774	101,488	31,588	86,511	132,907	176,597	72,843	31,957	53,915	88,240	71,639	212,683	92,438	73,691	159,444	117,822
Females																		
Total population 12 years and older	4,566,532		331,356	437,911	160,748	366,120	505,033	716,745	203,677	94,770	172,748	182,349	162,548	367,847	142,129	139,199	350,685	232,667
Mobile phone	2,378,254	52.1	198,549	272,126	112,630	218,191	319,962	470,991	114,107	56,222	101,262	79,629	72,376	80,943	33,508	38,193	134,575	74,990
Laptop	98,242	2.2	7,381	9,594	8,787	7,212	10,781	17,403	3,728	2,065	4,503	2,912	2,413	4,765	2,104	1,681	8,108	4,805
Desktop computer	10,168	0.2	858	1,589	1,109	1,115	1,261	1,544	306	182	344	255	210	216	62	100	725	292
Tablet	10,943	0.2	873	1,601	1,818	908	1,543	2,041	265	149	439	188	197	189	48	43	448	193
Digital television	84,042	1.8	9,229	10,498	4,541	4,510	10,045	18,057	4,741	1,930	4,606	3,258	1,388	2,614	621	1,380	3,388	3,236
Other devices	817	0.0	91	216	13	17	33	106	10	14	55	35	6	168	1	2	13	37
None	2,170,302	47.5	131,128	163,683	47,535	147,308	183,313	243,287	88,576	38,159	70,388	101,709	89,790	285,328	108,188	100,310	215,080	156,520

NOTE: The figures are from multiple responses and therefore add up to more than 100 percent.

TABLE 5.9: POPULATION 6 YEARS AND OLDER WHO USED MOBILE PHONE FOR FINANCIAL TRANSACTION IN THE 3 MONTHS PRECEDING CENSUS NIGHT (APRIL TO JUNE) BY SEX, TYPE OF LOCALITY AND REGION

Type of financial transaction	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																		
Both Sexes																		
Total population 6 years and older	26,210,872	100.0	1,764,583	2,452,182	4,766,249	1,433,518	2,526,584	4,657,976	749,168	480,708	1,036,053	1,002,548	616,851	1,828,512	521,415	522,717	1,097,541	754,267
Used mobile phone for financial transaction	12,803,430	48.8	838,007	1,260,259	3,021,487	665,657	1,252,138	2,471,247	315,388	227,025	510,709	411,700	218,111	623,765	141,400	155,460	433,523	257,554
<i>Mobile money only</i>	11,764,404	44.9	763,184	1,184,688	2,704,925	622,526	1,169,244	2,276,432	286,980	205,162	465,740	380,618	205,086	577,738	130,865	146,406	408,816	235,994
<i>Other financial transactions only</i>	240,112	0.9	23,644	16,550	45,479	9,034	20,888	43,893	10,642	7,646	11,511	11,199	4,235	13,793	4,027	3,567	7,375	6,629
<i>Both mobile money and other financial transactions</i>	798,914	3.0	51,179	59,021	271,083	34,097	62,006	150,922	17,766	14,217	33,458	19,883	8,790	32,234	6,508	5,487	17,332	14,931
Did not use mobile phone for financial transaction	13,407,438	51.2	926,573	1,191,923	1,744,762	767,860	1,274,446	2,186,729	433,780	253,683	525,344	590,848	398,740	1,204,747	380,015	367,257	664,018	496,713
Males																		
Total population 6 years and older	12,855,936	100.0	895,914	1,184,054	2,328,368	675,712	1,233,456	2,281,837	385,265	242,688	508,197	501,400	311,694	898,183	261,918	253,475	527,860	365,915
Used mobile phone for financial transaction	6,501,142	50.6	444,027	619,962	1,513,920	319,518	616,537	1,231,681	170,884	117,708	256,184	214,514	119,358	349,113	80,351	85,593	220,372	141,420
<i>Mobile money only</i>	5,909,281	46.0	401,045	577,382	1,335,018	295,633	570,382	1,123,111	154,175	105,180	231,228	196,639	111,150	320,312	73,681	79,939	206,265	128,141
<i>Other financial transactions only</i>	129,899	1.0	12,813	8,606	24,212	4,742	10,983	23,199	6,015	4,164	6,042	6,190	2,504	8,079	2,445	2,081	4,036	3,788
<i>Both mobile money and other financial transactions</i>	461,962	3.6	30,169	33,974	154,690	19,143	35,172	85,371	10,694	8,364	18,914	11,685	5,704	20,722	4,225	3,573	10,071	9,491
Did not use mobile phone for financial transaction	6,354,794	49.4	451,887	564,092	814,448	356,194	616,919	1,050,156	214,381	124,980	252,013	286,886	192,336	549,070	181,567	167,882	307,488	224,495
Females																		
Total population 6 years and older	13,354,936	100.0	868,669	1,268,128	2,437,881	757,806	1,293,128	2,376,139	363,903	238,020	527,856	501,148	305,157	930,329	259,497	269,242	569,681	388,352
Used mobile phone for financial transaction	6,302,288	47.2	393,980	640,297	1,507,567	346,139	635,601	1,239,566	144,504	109,317	254,525	197,186	98,753	274,652	61,049	69,867	213,151	116,134
<i>Mobile money only</i>	5,855,123	43.8	362,139	607,306	1,369,907	326,893	598,862	1,153,321	132,805	99,982	234,512	183,979	93,936	257,426	57,184	66,467	202,551	107,853
<i>Other financial transactions only</i>	110,213	0.8	10,831	7,944	21,267	4,292	9,905	20,694	4,627	3,482	5,469	5,009	1,731	5,714	1,582	1,486	3,339	2,841
<i>Both mobile money and other financial transactions</i>	336,952	2.5	21,010	25,047	116,393	14,954	26,834	65,551	7,072	5,853	14,544	8,198	3,086	11,512	2,283	1,914	7,261	5,440
Did not use mobile phone for financial transaction	7,052,644	52.8	474,686	627,831	930,314	411,666	657,527	1,136,573	219,399	128,703	273,331	303,962	206,404	655,677	198,448	199,375	356,530	272,218
Urban																		

Type of financial transaction	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
Both Sexes																		
Total population 6 years and older	15,068,752	100.0	921,191	1,428,298	4,381,262	607,362	1,313,319	2,900,907	225,879	236,452	612,376	532,706	203,613	892,250	159,168	174,571	278,219	201,179
Used mobile phone for financial transaction	8,760,870	58.1	517,050	818,984	2,824,875	326,150	750,354	1,729,511	122,199	132,554	349,362	267,349	90,244	432,934	71,350	72,215	146,086	109,653
Mobile money only	7,976,840	52.9	469,344	764,940	2,524,645	300,575	695,701	1,579,203	110,417	119,113	315,336	246,528	84,447	398,256	66,151	67,850	136,119	98,215
Other financial transactions only	145,660	1.0	11,966	9,709	42,654	4,220	11,793	28,954	2,566	3,809	6,619	6,038	1,138	8,827	1,402	1,378	2,354	2,233
Both mobile money and other financial transactions	638,370	4.2	35,740	44,335	257,576	21,355	42,860	121,354	9,216	9,632	27,407	14,783	4,659	25,851	3,797	2,987	7,613	9,205
Did not use mobile phone for financial transaction	6,307,882	41.9	404,141	609,314	1,556,387	281,212	562,965	1,171,396	103,680	103,898	263,014	265,357	113,369	459,316	87,818	102,356	132,133	91,526
Males																		
Total population 6 years and older	7,290,511	100.0	455,572	685,893	2,136,842	283,367	624,110	1,397,362	111,173	114,916	293,616	258,354	100,539	437,182	78,538	83,786	132,627	96,634
Used mobile phone for financial transaction	4,351,627	59.7	264,184	401,066	1,411,448	154,840	358,936	847,145	61,963	65,545	170,363	133,372	47,809	230,742	37,745	37,278	72,907	56,284
Mobile money only	3,909,066	53.6	237,274	370,502	1,241,910	140,723	329,092	763,694	55,137	57,909	151,659	121,798	44,116	209,443	34,506	34,539	67,255	49,509
Other financial transactions only	76,839	1.1	6,212	5,035	22,655	2,232	5,952	15,096	1,398	2,018	3,387	3,152	644	5,000	807	780	1,247	1,224
Both mobile money and other financial transactions	365,722	5.0	20,698	25,529	146,883	11,885	23,892	68,355	5,428	5,618	15,317	8,422	3,049	16,299	2,432	1,959	4,405	5,551
Did not use mobile phone for financial transaction	2,938,884	40.3	191,388	284,827	725,394	128,527	265,174	550,217	49,210	49,371	123,253	124,982	52,730	206,440	40,793	46,508	59,720	40,350
Females																		
Total population 6 years and older	7,778,241	100.0	465,619	742,405	2,244,420	323,995	689,209	1,503,545	114,706	121,536	318,760	274,352	103,074	455,068	80,630	90,785	145,592	104,545
Used mobile phone for financial transaction	4,409,243	56.7	252,866	417,918	1,413,427	171,310	391,418	882,366	60,236	67,009	178,999	133,977	42,435	202,192	33,605	34,937	73,179	53,369
Mobile money only	4,067,774	52.3	232,070	394,438	1,282,735	159,852	366,609	815,509	55,280	61,204	163,677	124,730	40,331	188,813	31,645	33,311	68,864	48,706
Other financial transactions only	68,821	0.9	5,754	4,674	19,999	1,988	5,841	13,858	1,168	1,791	3,232	2,886	494	3,827	595	598	1,107	1,009
Both mobile money and other financial transactions	272,648	3.5	15,042	18,806	110,693	9,470	18,968	52,999	3,788	4,014	12,090	6,361	1,610	9,552	1,365	1,028	3,208	3,654
Did not use mobile phone for financial transaction	3,368,998	43.3	212,753	324,487	830,993	152,685	297,791	621,179	54,470	54,527	139,761	140,375	60,639	252,876	47,025	55,848	72,413	51,176
Rural																		
Both Sexes																		
Total population 6 years and older	11,142,120	100.0	843,392	1,023,884	384,987	826,156	1,213,265	1,757,069	523,289	244,256	423,677	469,842	413,238	936,262	362,247	348,146	819,322	553,088
Used mobile phone for financial transaction	4,042,560	36.3	320,957	441,275	196,612	339,507	501,784	741,736	193,189	94,471	161,347	144,351	127,867	190,831	70,050	83,245	287,437	147,901

Type of financial transaction	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
<i>Mobile money only</i>	3,787,564	34.0	293,840	419,748	180,280	321,951	473,543	697,229	176,563	86,049	150,404	134,090	120,639	179,482	64,714	78,556	272,697	137,779
<i>Other financial transactions only</i>	94,452	0.8	11,678	6,841	2,825	4,814	9,095	14,939	8,076	3,837	4,892	5,161	3,097	4,966	2,625	2,189	5,021	4,396
<i>Both mobile money and other financial transactions</i>	160,544	1.4	15,439	14,686	13,507	12,742	19,146	29,568	8,550	4,585	6,051	5,100	4,131	6,383	2,711	2,500	9,719	5,726
Did not use mobile phone for financial transaction	7,099,556	63.7	522,432	582,609	188,375	486,648	711,481	1,015,333	330,100	149,785	262,330	325,491	285,371	745,431	292,197	264,901	531,885	405,187
Males																		
Total population 6 years and older	5,565,425	100.0	440,342	498,161	191,526	392,345	609,346	884,475	274,092	127,772	214,581	243,046	211,155	461,001	183,380	169,689	395,233	269,281
Used mobile phone for financial transaction	2,149,515	38.6	179,843	218,896	102,472	164,678	257,601	384,536	108,921	52,163	85,821	81,142	71,549	118,371	42,606	48,315	147,465	85,136
<i>Mobile money only</i>	2,000,215	35.9	163,771	206,880	93,108	154,910	241,290	359,417	99,038	47,271	79,569	74,841	67,034	110,869	39,175	45,400	139,010	78,632
<i>Other financial transactions only</i>	53,060	1.0	6,601	3,571	1,557	2,510	5,031	8,103	4,617	2,146	2,655	3,038	1,860	3,079	1,638	1,301	2,789	2,564
<i>Both mobile money and other financial transactions</i>	96,240	1.7	9,471	8,445	7,807	7,258	11,280	17,016	5,266	2,746	3,597	3,263	2,655	4,423	1,793	1,614	5,666	3,940
Did not use mobile phone for financial transaction	3,415,910	61.4	260,499	279,265	89,054	227,667	351,745	499,939	165,171	75,609	128,760	161,904	139,606	342,630	140,774	121,374	247,768	184,145
Females																		
Total population 6 years and older	5,576,695	100.0	403,050	525,723	193,461	433,811	603,919	872,594	249,197	116,484	209,096	226,796	202,083	475,261	178,867	178,457	424,089	283,807
Used mobile phone for financial transaction	1,893,045	33.9	141,114	222,379	94,140	174,829	244,183	357,200	84,268	42,308	75,526	63,209	56,318	72,460	27,444	34,930	139,972	62,765
<i>Mobile money only</i>	1,787,349	32.1	130,069	212,868	87,172	167,041	232,253	337,812	77,525	38,778	70,835	59,249	53,605	68,613	25,539	33,156	133,687	59,147
<i>Other financial transactions only</i>	41,392	0.7	5,077	3,270	1,268	2,304	4,064	6,836	3,459	1,691	2,237	2,123	1,237	1,887	987	888	2,232	1,832
<i>Both mobile money and other financial transactions</i>	64,304	1.2	5,968	6,241	5,700	5,484	7,866	12,552	3,284	1,839	2,454	1,837	1,476	1,960	918	886	4,053	1,786
Did not use mobile phone for financial transaction	3,683,646	66.1	261,933	303,344	99,321	258,981	359,736	515,394	164,929	74,176	133,570	163,587	145,765	402,801	151,423	143,527	284,117	221,042

TABLE 5.10: POPULATION 12 YEARS AND OLDER WHO USED MOBILE PHONE FOR FINANCIAL TRANSACTION IN THE 3 MONTHS PRECEDING CENSUS NIGHT (APRIL TO JUNE) BY SEX, TYPE OF LOCALITY AND REGION

Type of financial transaction	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																		
Both Sexes																		
Total population 12 years and older	21,861,344	100.0	1,478,652	2,046,166	4,114,553	1,203,201	2,129,264	3,898,077	620,531	398,288	868,771	818,671	498,253	1,442,618	417,260	407,903	900,394	618,742
Used mobile phone for financial transaction	12,651,987	57.9	827,705	1,242,031	2,993,883	659,350	1,238,363	2,442,933	311,839	223,603	504,099	406,571	214,581	614,725	138,925	151,931	427,009	254,439
Mobile money only	11,621,412	53.2	753,528	1,167,198	2,678,745	616,404	1,156,078	2,249,679	283,776	202,081	459,530	375,931	201,782	569,156	128,642	143,125	402,689	233,068
Other financial transactions only	235,683	1.1	23,317	16,251	44,803	8,919	20,620	43,216	10,449	7,429	11,259	10,859	4,176	13,528	3,815	3,379	7,177	6,486
Both mobile money and other financial transactions	794,892	3.6	50,860	58,582	270,335	34,027	61,665	150,038	17,614	14,093	33,310	19,781	8,623	32,041	6,468	5,427	17,143	14,885
Did not use mobile phone for financial transaction	9,209,353	42.1	650,944	804,135	1,120,670	543,850	890,901	1,455,144	308,692	174,685	364,672	412,100	283,672	827,893	278,335	255,972	473,385	364,303
Males																		
Total population 12 years and older	10,641,736	100.0	750,778	977,690	2,002,891	558,986	1,029,626	1,895,260	319,271	200,173	423,138	407,113	250,534	700,563	208,111	194,561	426,623	296,418
Used mobile phone for financial transaction	6,424,987	60.4	438,905	610,772	1,500,453	316,443	609,654	1,217,668	169,104	115,954	252,925	211,893	117,551	344,223	79,001	83,679	217,013	139,749
Mobile money only	5,837,432	54.9	396,249	568,557	1,322,292	292,639	563,815	1,109,904	152,581	103,588	228,166	194,233	109,469	315,671	72,462	78,154	203,085	126,567
Other financial transactions only	127,640	1.2	12,637	8,454	23,855	4,685	10,858	22,850	5,915	4,063	5,908	6,021	2,470	7,941	2,338	1,987	3,942	3,716
Both mobile money and other financial transactions	459,915	4.3	30,019	33,761	154,306	19,119	34,981	84,914	10,608	8,303	18,851	11,639	5,612	20,611	4,201	3,538	9,986	9,466
Did not use mobile phone for financial transaction	4,216,749	39.6	311,873	366,918	502,438	242,543	419,972	677,592	150,167	84,219	170,213	195,220	132,983	356,340	129,110	110,882	209,610	156,669
Females																		
Total population 12 years and older	11,219,608	100.0	727,874	1,068,476	2,111,662	644,215	1,099,638	2,002,817	301,260	198,115	445,633	411,558	247,719	742,055	209,149	213,342	473,771	322,324
Used mobile phone for financial transaction	6,227,000	55.5	388,800	631,259	1,493,430	342,907	628,709	1,225,265	142,735	107,649	251,174	194,678	97,030	270,502	59,924	68,252	209,996	114,690
Mobile money only	5,783,980	51.6	357,279	598,641	1,356,453	323,765	592,263	1,139,775	131,195	98,493	231,364	181,698	92,313	253,485	56,180	64,971	199,604	106,501
Other financial transactions only	108,043	1.0	10,680	7,797	20,948	4,234	9,762	20,366	4,534	3,366	5,351	4,838	1,706	5,587	1,477	1,392	3,235	2,770
Both mobile money and other financial transactions	334,977	3.0	20,841	24,821	116,029	14,908	26,684	65,124	7,006	5,790	14,459	8,142	3,011	11,430	2,267	1,889	7,157	5,419
Did not use mobile phone for financial transaction	4,992,604	44.5	339,071	437,217	618,232	301,307	470,929	777,552	158,525	90,466	194,459	216,880	150,689	471,553	149,225	145,090	263,775	207,634
Urban																		

Type of financial transaction	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
Both Sexes																		
Total population 12 years and older	12,809,254	100.0	782,693	1,203,420	3,796,027	515,951	1,122,819	2,462,863	191,609	199,623	520,072	441,418	167,517	728,359	131,730	140,711	232,977	171,465
Used mobile phone for financial transaction	8,664,987	67.6	510,776	807,270	2,799,695	322,965	742,199	1,709,828	120,774	130,617	344,709	264,187	89,347	428,209	70,411	71,030	144,262	108,708
Mobile money only	7,886,009	61.6	463,346	753,623	2,500,828	297,474	687,918	1,560,695	109,073	117,378	310,985	243,573	83,588	393,719	65,324	66,722	134,442	97,321
Other financial transactions only	143,245	1.1	11,827	9,559	42,009	4,162	11,645	28,507	2,550	3,669	6,440	5,897	1,124	8,723	1,302	1,349	2,274	2,208
Both mobile money and other financial transactions	635,733	5.0	35,603	44,088	256,858	21,329	42,636	120,626	9,151	9,570	27,284	14,717	4,635	25,767	3,785	2,959	7,546	9,179
Did not use mobile phone for financial transaction	4,144,267	32.4	271,917	396,150	996,332	192,986	380,620	753,035	70,835	69,006	175,363	177,231	78,170	300,150	61,319	69,681	88,715	62,757
Males																		
Total population 12 years and older	6,156,178	143.0	386,175	572,855	1,845,113	237,856	528,214	1,176,791	94,026	96,278	247,187	212,209	82,346	354,151	64,710	66,568	109,891	81,808
Used mobile phone for financial transaction	4,304,221	69.9	261,085	395,221	1,399,172	153,334	354,948	837,414	61,277	64,594	168,090	131,806	47,355	228,232	37,251	36,641	71,981	55,820
Mobile money only	3,864,236	62.8	234,319	364,850	1,230,343	139,259	325,296	754,563	54,504	57,048	149,542	120,328	43,689	207,039	34,066	33,928	66,395	49,067
Other financial transactions only	75,608	1.2	6,132	4,964	22,312	2,199	5,888	14,867	1,387	1,954	3,284	3,086	636	4,947	759	767	1,212	1,214
Both mobile money and other financial transactions	364,377	5.9	20,634	25,407	146,517	11,876	23,764	67,984	5,386	5,592	15,264	8,392	3,030	16,246	2,426	1,946	4,374	5,539
Did not use mobile phone for financial transaction	1,851,957	30.1	125,090	177,634	445,941	84,522	173,266	339,377	32,749	31,684	79,097	80,403	34,991	125,919	27,459	29,927	37,910	25,988
Female																		
Total population 12 years and older	6,653,076	100.0	396,518	630,565	1,950,914	278,095	594,605	1,286,072	97,583	103,345	272,885	229,209	85,171	374,208	67,020	74,143	123,086	89,657
Used mobile phone for financial transaction	4,360,766	65.5	249,691	412,049	1,400,523	169,631	387,251	872,414	59,497	66,023	176,619	132,381	41,992	199,977	33,160	34,389	72,281	52,888
Mobile money only	4,021,773	60.4	229,027	388,773	1,270,485	158,215	362,622	806,132	54,569	60,330	161,443	123,245	39,899	186,680	31,258	32,794	68,047	48,254
Other financial transactions only	67,637	1.0	5,695	4,595	19,697	1,963	5,757	13,640	1,163	1,715	3,156	2,811	488	3,776	543	582	1,062	994
Both mobile money and other financial transactions	271,356	4.1	14,969	18,681	110,341	9,453	18,872	52,642	3,765	3,978	12,020	6,325	1,605	9,521	1,359	1,013	3,172	3,640
Did not use mobile phone for financial transaction	2,292,310	34.5	146,827	218,516	550,391	108,464	207,354	413,658	38,086	37,322	96,266	96,828	43,179	174,231	33,860	39,754	50,805	36,769
Rural																		
Both Sexes																		
Total population 12 years and older	9,052,090	100.0	695,959	842,746	318,526	687,250	1,006,445	1,435,214	428,922	198,665	348,699	377,253	330,736	714,259	285,530	267,192	667,417	447,277

Type of financial transaction	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
Used mobile phone for financial transaction	3,987,000	44.0	316,929	434,761	194,188	336,385	496,164	733,105	191,065	92,986	159,390	142,384	125,234	186,516	68,514	80,901	282,747	145,731
Mobile money only	3,735,403	41.3	290,182	413,575	177,917	318,930	468,160	688,984	174,703	84,703	148,545	132,358	118,194	175,437	63,318	76,403	268,247	135,747
Other financial transactions only	92,438	1.0	11,490	6,692	2,794	4,757	8,975	14,709	7,899	3,760	4,819	4,962	3,052	4,805	2,513	2,030	4,903	4,278
Both mobile money and other financial transactions	159,159	1.8	15,257	14,494	13,477	12,698	19,029	29,412	8,463	4,523	6,026	5,064	3,988	6,274	2,683	2,468	9,597	5,706
Did not use mobile phone for financial transaction	5,065,086	56.0	379,027	407,985	124,338	350,864	510,281	702,109	237,857	105,679	189,309	234,869	205,502	527,743	217,016	186,291	384,670	301,546
Males																		
Total population 12 years and older	4,485,558	100.0	364,603	404,835	157,778	321,130	501,412	718,469	225,245	103,895	175,951	194,904	168,188	346,412	143,401	127,993	316,732	214,610
Used mobile phone for financial transaction	2,120,766	47.3	177,820	215,551	101,281	163,109	254,706	380,254	107,827	51,360	84,835	80,087	70,196	115,991	41,750	47,038	145,032	83,929
Mobile money only	1,973,196	44.0	161,930	203,707	91,949	153,380	238,519	355,341	98,077	46,540	78,624	73,905	65,780	108,632	38,396	44,226	136,690	77,500
Other financial transactions only	52,032	1.2	6,505	3,490	1,543	2,486	4,970	7,983	4,528	2,109	2,624	2,935	1,834	2,994	1,579	1,220	2,730	2,502
Both mobile money and other financial transactions	95,538	2.1	9,385	8,354	7,789	7,243	11,217	16,930	5,222	2,711	3,587	3,247	2,582	4,365	1,775	1,592	5,612	3,927
Did not use mobile phone for financial transaction	2,364,792	52.7	186,783	189,284	56,497	158,021	246,706	338,215	117,418	52,535	91,116	114,817	97,992	230,421	101,651	80,955	171,700	130,681
Females																		
Total population 12 years and older	4,566,532	100.0	331,356	437,911	160,748	366,120	505,033	716,745	203,677	94,770	172,748	182,349	162,548	367,847	142,129	139,199	350,685	232,667
Used mobile phone for financial transaction	1,866,234	40.9	139,109	219,210	92,907	173,276	241,458	352,851	83,238	41,626	74,555	62,297	55,038	70,525	26,764	33,863	137,715	61,802
Mobile money only	1,762,207	38.6	128,252	209,868	85,968	165,550	229,641	333,643	76,626	38,163	69,921	58,453	52,414	66,805	24,922	32,177	131,557	58,247
Other financial transactions only	40,406	0.9	4,985	3,202	1,251	2,271	4,005	6,726	3,371	1,651	2,195	2,027	1,218	1,811	934	810	2,173	1,776
Both mobile money and other financial transactions	63,621	1.4	5,872	6,140	5,688	5,455	7,812	12,482	3,241	1,812	2,439	1,817	1,406	1,909	908	876	3,985	1,779
Did not use mobile phone for financial transaction	2,700,294	59.1	192,244	218,701	67,841	192,843	263,575	363,894	120,439	53,144	98,193	120,052	107,510	297,322	115,365	105,336	212,970	170,865

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