



Report

Independent Monitoring of Ghana 2021 Housing and Population Census

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Census Independent Monitors, Orientation on Independent Monitoring, La Palm Royal Beach Hotel, Accra



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Foreword

Since 1891, population censuses have been conducted in Ghana at approximately ten-year intervals. Each census, including those held after Ghana attained independence in 1957, was manually conducted using paper questionnaires and manual equipment. However, for the first time, Ghana in year 2021 leveraged on technological input to conduct a fully digitalised Population and Housing Census (PHC) using the Computer-Assisted Personal Interview (CAPI) method. The CAPI method employed the use of tablets and smartphones for data collection and analysis of information gathered in a more efficient manner than the erstwhile manual collection system. To maintain the integrity of the CAPI method, calls were made to integrate concerns for quality assurance of the data collected. These calls were in line with the UN Principles and Recommendations for Population and Housing Census and Handbook on Census Management which emphasise the role of monitoring and evaluation as being integral to the successful conduct of a census.

As part of ongoing efforts to support the Government of Ghana, the UNFPA Ghana Country Office stepped up to provide quality assurance for the census-gathering initiatives under the CAPI method by independently monitoring the 2021 PHC in an exercise known as Census Independent Monitoring (CIM). The purpose of the CIM was to observe and report on the training and data collection procedures vis-à-vis internationally recognized best practices, as well as, to document lessons learned.

The CIM was a ground-breaking response to the much-needed quality assurance element to make the CAPI method more robust in its approach to gathering data on Ghana's population. Modelled after election monitoring exercises conducted by independent parties from foreign countries, and international organizations, the CIM utilises the expertise and experiences of external actors to help assess the procedures and methods employed before, during and after the census.

The inclusion of international data gathering and census experts from other countries provided a degree of autonomy in cross-checking and verifying the data collected. This element of diversity also enabled Ghana to harness varying synergies and benefits from different skills and experiences that were lacking within the Ghanaian context. It also enhanced south-south exchanges for mutual sharing on ways to improving census gathering efforts.

This report chronicles weeks of observations and findings of the CIM team, including the challenges, lessons learned and best practices during the 2021 PHC. It showcases the innovative work of UNFPA, highlighting it as a worthy model for replication and investment in future census-gathering initiatives. It is hoped that this report will serve as a guiding document for the conduct of population censuses within and outside Ghana by way of the sharing of experiences and knowledge transfer from Ghana's first digital Population & Housing Census in 2021. It is UNFPA Ghana's offering to the world of census practitioners!

NIYI OJUOLAPE

Country Representative
UNFPA Ghana

Acknowledgements

REPORT ON INDEPENDENT MONITORING OF GHANA 2021 POPULATION AND HOUSING CENSUS

This report was developed under the coordination of Mr. Niyi Ojuolape, UNFPA Ghana Country Representative, Dr. Agnes Kayintakore, Deputy Representative, UNFPA Ghana and the Population and Development Unit.

The report was compiled and edited by Mr. David Yenkwa Kombat, Independent Monitoring Coordinator and peer-reviewed by Dr. Collins Opiyo, Chief Technical Advisor, Census, Mr. Eric Okrah, Head Population and Development Unit, Mr. Mutaru Goro Iddrisu, Programme Associate, P&D Unit, Ms. Efua Kwaambaa Turkson, Ms. Rachel Obidiah, Mr. Ayodele Ojo and Mr. Eze Uzochukwu (Programme Assistants) P&D Unit. Sincere appreciation to the Government Statistician, Prof. Sammuell Kobina Ananim and Team, Ghana Statistical Service (GSS) for supporting the conduct of the Independent Monitoring exercise of Ghana's 2021 Population and Housing Census.

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UNFPA should of necessity mainstream “Independent Monitoring” in all phases of census implementation, especially during data collection. National governments increasingly approve of and appreciate this especially as an additional layer of the overall census quality assurance strategy. Implemented properly, independent monitoring provides a candid assessment and real-time feedback on the process, thereby improving not only the quality of implementation but also the overall credibility of the products thereof. Against this backdrop the Government of Ghana (through GSS) requested the United Nations to undertake the independent monitoring of the Listings and Enumeration activities as an integral part of the 5-tier quality assurance strategy for Ghana 2021 PHC {the others being use of CAPI validation, DDQMT, field monitors and enumeration dashboards}. We have credible evidence that independent monitoring significantly improved the Census outcomes.

- Collins Opiyo, UNFPA Chief Technical Adviser, Ghana 2021 PHC

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Acronyms and abbreviations

CAPI	Computer Assisted Personal Interview
COVID-19	Coronal Virus Diseases of 2019
CTA	UNFPA Chief Technical Advisor, Census
DCIC	District Census Implementation Committee
DCO	District Census Officer
DDQM	District Data Quality Monitor
DDQMT	District Data Quality Management Team
DFS	District Field Supervisor
DIT	District IT Officer
EA	Enumeration Area
GPS	Global Positioning System
GS	Government Statistician
GSS	Ghana Statistical Service
HND	Higher National Diploma
HQ	Head Quarters
ICT	Information and Communications Technology
IM	Independent Monitor
MDGs	Millennium Development Goals
MCD	Municipal Chief Director
MCE	Municipal Chief Executive
NSO	National Statistical Office
P&D	Population and Development
PES	Post Enumeration Survey
PPEs	Personal Protective Equipments
RCIC	Regional Census Implementation Committee
RFS	Regional Field Supervisor
RS	Regional Statistician
SA	Supervision Area
SD	Card Secure Digital Card
SDGs	Sustainable Development Goals
TPFC	Technical Planning and Facilitation Committee
UN	United Nations
UNECA	United Nations Economic Commission for Africa
UNFPA	United Nations Population Fund
UNFPA CO	UNFPA Country Office
WCARO	UNFPA West and Central African Regional Office



Executive summary

REPORT ON INDEPENDENT MONITORING OF GHANA 2021 POPULATION AND HOUSING CENSUS

Ghana conducted its sixth post-independence population census between 27th June and 18th July 2021. The census enumeration was originally planned to end on 11th July 2021. However, several challenges experienced during the enumeration in some urban and peri-urban areas, necessitated an extension of the exercise until 18th July 2021. The countrywide extension of the enumeration was to enable Ghana Statistical Service to finalize enumeration in areas that were not completed by the initial end date (11th July 2021).

To ensure independent assessment of the census, an independent monitoring team consisting census experts from National Statistical Offices in Africa, UNFPA staff from the Ghana Country Office, UNFPA COs in Africa, the HQ and staff from UNECA was assembled to monitor the 2021 PHC of Ghana. The monitoring team was coordinated by a consultant engaged by UNFPA and supported by 28 international monitors and 17 national monitors.

Interviews in 216 Enumeration Areas (EAs) in thirty-two (32) districts were observed in addition to interviewing the enumerators and supervisors who were involved in the enumeration. Senior District Census Officials and District Data Quality Management Teams (DDQMTs) were also interviewed to gather information on the adequacy of census materials (tablets, raincoats, power banks, etc.), support from Regional/HQ, means of transport for supervision, support from District Census Implementation Committees, availability of reserve field personnel and other related matters.

The main purpose of the independent census monitoring was to observe the census enumeration process as well as the quality of the census instruments (questionnaire and manuals), in order to provide an objective assessment and build confidence in the results of the census.

Two-day training and one-day orientation were organised for the International Monitors on the Ghana 2021 PHC Questionnaire and the seven independent monitoring tools after which they were deployed in teams for the monitoring. During the monitoring, daily virtual debriefing meetings were organised in the evenings for each team to present their observations on the field. Issues that required the immediate attention of the Ghana Statistical Service (GSS) were compiled and submitted for immediate action.

Information obtained by the monitors indicates that all the field personnel and the District Quality Management Teams had received training and found the training adequate to enable them to undertake their assigned tasks. Field personnel were also deemed to possess the required/relevant educational qualifications for the assignment. The majority of the field personnel had university degrees or Higher National Diploma in relevant fields. It was also gathered that the majority of the field personnel were recruited from the district in which they were working. This was found to be very appropriate as it provided the enumerators with the opportunity to ask the census questions in the local languages where necessary.

Publicity and public education on the census were generally low in most districts. Few publicity materials were observed and discussions on local radio stations and Community Information Centres were poor.

Assessment by the monitors on office accommodation and rooms for the storage of census materials at the District Census Offices indicated that the majority of DCOs had sufficient storage space for census materials and the premises were sufficiently secure. There was office accommodation for census officials.

With regards to the availability of reserve enumerators, about a third of the districts monitored did not have reserve enumerators at the time of the visit. Either the reserve enumerators had all been deployed or they did not have them at all. More than half of the districts also

indicated they did not have reserve tablets for enumerators or reserve enumerators if it becomes necessary.

More than two-thirds of the districts indicated they did not have official means of transport for field supervision and had to rely either on their vehicles/motorbikes or public transport. In all the districts monitored, the District Census Implementation Committees were said to be actively involved in mobilising resources such as office and storage space, vehicles and also assisting in the supervision of field work.

The IMs gathered that the electric power supply for charging census equipment (power banks, laptops and tablets) was generally good in most districts and was the main source of charging the tablets aside from power banks.

The monitors observed that enumerators were easily identifiable during the enumeration through their reflective jackets and bags with census logos. Most enumerators indicated that they felt safe in their assigned EAs.

The assessment of the monitors by the district shows that the quality of enumeration was generally good. However, some enumerators had difficulties in completing the economic activity and fertility sections of the questionnaire and had to be supported by supervisors. The DDQMTs and the field personnel reported prompt responses from the Regional/ and or HQ, on matters or challenges that required urgent attention.

All enumerators observed had interactive EA maps and hard copy maps. Although most enumerators were able to identify their EA boundaries easily, some enumerators had problems establishing the boundaries of their EAs. While most EAs in the rural communities were of reasonable sizes, some EAs in the urban localities were too large to be handled by an enumerator. It was noted that the presence of cartographic teams in each of the districts during enumeration could have helped to resolve EA and administrative boundary issues promptly.

The IMs observed that the chalking and listing of structures were competently executed except in a few places where rains have washed off the markings. It was observed by monitors that, enumerators were professional and polite during the enumeration of the households.

In terms of administering the questionnaire, the enumerators were able to refer correctly to the Census Night of 27th June 2021 as the reference date for the census. The interviews were well-organised and the majority of respondents were very cooperative. Some respondents however complained about the length of the questionnaire. All the District Census Officers reported being in frequent contact with the field officers and supervisors. This was also observed by the monitors during their visits to the District Census Offices where they met field officers who had come to collect census supplies. More than 75 percent of the DDQMTs indicated that they received a prompt response on issues reported to the Regional/ and or HQ. Enumerators reported that they were in close contact with their supervisors. It was observed that the majority of the enumerators did not check the questionnaire before leaving the household to ensure completeness.

Even though the enumeration was successfully conducted, the monitors noted a few challenges. One such challenge was that one of the three tablets (Bio-Rugged) used for the enumeration was problematic. The Bio-Rugged was generally slow and frequently freezing. The lack of robust publicity and public education on the census made some households uninterested in the exercise.

Almost all enumerators interviewed indicated they were able to synch data daily to their supervisors and the server despite the initial challenge encountered. Quality control measures put in place by GSS were very effective in optimizing the credibility/quality of the census data. Aside from the Field Supervisors, there were built-in skip rules and backend checks in the CAPI system used for the data collection. Additionally, the administrative

coordination from the national to the district level as well the institution of national and independent monitors was to ensure completeness and data quality.

Despite the challenges experienced during the enumeration such as low publicity, extremely large enumeration areas, un-mapped areas particularly in the Greater Accra Region, tablet malfunctioning, data synching and related issues and boundary disputes, the exercise was generally successful. The Independent Monitoring team found the census to have been conducted in line with international standards and procedures. However, there is a possibility of an undercount in regions with large cities such as the Greater Accra and Ashanti regions due to large EAs in urban and peri-urban areas and lack of cooperation from respondents probably due to their busy schedules.

The monitors found some best practices by GSS and the Government of Ghana (GoG) in the implementation of the 2021 PHC that should be considered by countries, particularly countries in Africa that are yet to conduct their census for the 2021 round. These include:

- *Decentralization of the census operations from national through the regions to the district level was pivotal in ensuring the success of the census. The four-member District Data Quality Management Teams (DDQMTs) played an important role in the census enumeration.*
- *Setting up of National, Regional and District level census committees was very useful in the implementation of the census. For instance, the Minister of Finance chairing the National Census Steering Committee ensured that funds were made available to GSS as and when required for the successful implementation of the exercise.*
- *The District Census Implementation Committees (DCICs) helped mobilise resources for the census at the local level to complement resources from the HQ. The Committees also assisted significantly in resolving boundary disputes where they occurred.*
- *The use of tablets for such a large-scale data collection programme is highly beneficial in capturing, storing, retrieving and analysing data with ease and timeliness. Its associated benefits is recommendable and should be emulated by other African countries that are yet to conduct their censuses.*
- *The strict adherence to the UN recommendations on the 2020 round of PHCs in all the census processes cannot be overlooked and should serve as a guide for other African countries. Expansion of the questionnaire to provide data that will help address national data needs is worthy of emulation.*
- *The deployment of zonal coordinators and national monitors was found to be very useful in ensuring completeness and data quality.*
- *The use of interactive area maps for accurate identification of enumeration and supervision areas and the use of a Global Positioning System (GPS) to capture the location of structures are some of the best practices that were identified.*
- *The use of self-learning, live-virtual and in-person training to conduct various levels of census training given the exigencies of COVID-19 was deemed very innovative.*
- *The use of advanced data quality assurance procedures, including the use of a real-time enumeration tracking dashboard and dynamic data quality management at the national and district levels was seen as a veritable approach to improve data quality.*
- *The establishment of an online bureau for the recruitment of census personnel and the development of a citizen's virtual platform and online interfaces to facilitate real-time engagement with stakeholders and the public is also worthy of commendation.*
- *Recruitment of field personnel from the locality district in which they reside/and or preferred localities helped to avoid unnecessary resistance from respondents and was also beneficial to the field personnel as they spent less time and money to move from their homes to the EAs.*
- *The use of an enumeration tracking dashboard and field operations and logistics trackers was found to be very useful in monitoring census activities.*
- *The provision for a nationwide extension of the enumeration period to allow for pockets of unenumerated areas to be enumerated was an informed decision and the appropriate action.*

The Independent Monitors identified good practices during the IM exercise. The exercise was seen as a novel and rewarding approach for censuses in Africa. The good practices included:

- *UNFPA encouraging participating agencies/countries to sponsor their delegates/nominees.*
- *The use of live-virtual and in-person training and orientation of the IMs help to reduce the cost of training and also provided an opportunity for the participants who are not able to join physically to benefit from the training.*
- *The daily debriefing meetings by the Independent Monitors provided the opportunity to share their daily findings and challenges which were communicated immediately to the implementing agency (Ghana Statistical Service) for immediate action.*
- *The engagement of a consultant to coordinate activities of the independent monitoring was found to be very beneficial.*
- *UNFPA collaboration with other development partners on logistics helped in mobilizing the needed resources for such an extensive undertaking.*

The monitoring team had recommendations based on the findings.

- *For the efficient supervision of field work, arrangements should be made to provide every district with a functional vehicle with fuel to enhance supervision. Where possible, local authorities and committees should be approached to assist in this regard.*

- *Post enumeration cartographic work should be immediately done especially in the urban areas to update the EAs maps. Too large or too small EAs does not help in the assignment of tasks to field personnel and complete in coverage within a given time.*
- *Cartographers should be posted to the districts during enumeration to address challenges with EAs and in resolving boundary disputes.*
- *Enumeration should be carried out in a relatively stable month preferably when learning institutions are closed and the weather is conducive (not during the raining season).*
- *The National Census Steering Committee should lobby the Government of Ghana to declare a public holiday for the first day of the enumeration as this will ensure most people are at home for enumeration and will also serve as publicity, especially regarding the Census Night.*
- *Advocacy, education and sensitization of the public regarding the census should be detailed, robustly planned and clinically executed to ensure the full cooperation of the general public.*
- *Samples of tablets and other equipment for the census to be procured should be adequately tested to avoid malfunctioning and slowing down during data collection.*
- *It is also recommended that GSS should undertake telecommunication network coverage mapping to ensure that appropriate sim cards are purchased and distributed accordingly.*



Enumeration exercise ongoing



1.0

Introduction

REPORT ON INDEPENDENT MONITORING
OF GHANA 2021 POPULATION AND HOUSING CENSUS

Background

The 2021 Population and Housing Census (PHC) of the Republic of Ghana is the 6th post-independence Population Census and the 3rd PHC to be conducted in the country. The decennial population censuses recommended by the United Nations, together with the intercensal national household sample surveys conducted by the GSS are the major sources of demographic and socio-economic data for planning and monitoring development programmes in Ghana.

The last PHC of Ghana was conducted in 2010 and provided the country with data for effective socio-economic planning and governance, monitoring and evaluation of development policies and programmes including the Millennium Development Goals (MDGs), the Sustainable Development Goals (SDGs) and other development agendas. The 2021 PHC is thus integral in ensuring the maintenance of critically needed time series of demographic, housing and socio-economic bench-mark data at the national, regional, district and locality levels.

The 2021 PHC was initially planned to be conducted in 2020 to meet the ten-year periodicity demand as recommended by the United Nations. However, due to the COVID-19 pandemic, it was postponed to 2021. The Census is being implemented per the United Nations Principles and Recommendations for the 2020 Round of PHCs which emphasizes the use of technology to improve data quality, procedural integrity and timeliness.

Justification and Preparation for the Independent Monitoring

Management and quality control measures are critical to the success and integrity of any organized enumeration programme. They play a central role in the implementation of a census programme in any country. A well-designed data quality management system is an essential element in the overall census programme and should involve all activities (data collection including developing and testing of instruments, data processing and evaluation as well as dissemination of results) during planning and implementation of a Population and Housing Census. GSS places a high priority on the outcomes of the census and therefore, in close collaboration with relevant stakeholders, GSS has put in place several quality-assurance measures to ensure the success of the Census.

These measures mainly revolved around the use of technology to ensure operational efficiency and real-time activity and enumeration tracking, which includes the use of interactive maps for complete coverage; inclusion of basic data edit specs in the CAPI application to improve data quality at collection points; synchronisation of data directly from the field to the central servers in near real-time, using the internet to aid continuous data quality monitoring by enumeration areas (EAs) and administrative units; and the use of the dashboard for enumeration tracking at the EA level.

Several layers of supervision and monitoring mechanisms were put in place to ensure data quality. Data quality management was implemented at five levels: National, Regional, District, Supervision Area (SA) and the Enumeration Area (EA) level (GSS, 2021 PHC, Field Officers Manual pages 256-257).

The United Nations has increasingly encouraged countries to undertake independent monitoring of census programmes to obtain an objective view of

the quality of implementation of the entire census programme or specific component processes or activities. Therefore, besides the afore-mentioned data quality assurance measures that were put in place by GSS and UNFPA, the lead UN agency in Ghana with a primary interest in data for development issues in collaboration with other development partners (national and International), constituted a team of international experts in censuses, monitoring and evaluation and particularly data collection to be part of the independent monitoring of the Ghana 2021 PHC.

The independent monitors (IMs) were drawn from both international and national institutions with proven expertise in large scale data collection particularly, PHC implementation. For the Ghana 2021 PHC, the IMs were drawn mainly from National Statistical Offices in Africa, staff of UNFPA across various country offices in Africa, the UNFPA Ghana Country Office, the Regional Office and Head Quarters. In addition, a team from UNECA participated in the monitoring.

Due to limited resources, UNFPA Ghana Country Office sent letters to UNFPA Country Offices (COs) in Africa requesting them to liaise with National Statistical Offices in their respective countries to nominate and sponsor up to four (4) census experts to participate in the monitoring of the 2021 PHC of Ghana. The Country Office requested that experts from National Statistical Offices (NSOs) were to be officers leading census processes in their various countries. For UNFPA CO, nominated officers were to be persons managing the Population and Development Unit and/or Monitoring and Evaluation programmes. The response from the UNFPA COs was positive and the names of nominees were sent to the UNFPA Ghana CO for the IM exercise.

A Technical Planning and Facilitation Committee (TPFC) led by Dr. Collins Opiyo, Chief Technical Advisor for the Ghana 2021PHC and Mr. Eric Okrah, Head of Population and Development Unit of UNFPA Ghana Country Office was constituted to plan the independent monitoring. The Committee was supported by Mr. Niyi Ojuolape, UNFPA Ghana Country Representative. A consultant was hired by UNFPA Ghana Country Office to coordinate the activities of the independent monitoring and report. The Committee was made up of officers from the UNFPA Ghana CO, P&D and Operations Units, experts from UNFPA HQ, WCARO, Togo and the IM Coordinator.

The TPFC met daily for a minimum of two hours to discuss and plan for the monitoring. Outputs from the meetings included; a programme for the training and orientation of the IMs, development of materials for facilitation and orientation of the IMs, development of an information Pack and other documents on the independent monitoring, technical support to the IM Coordinator to prepare and finalise the monitoring tools.

The Committee requested GSS through UNFPA to provide a representative sample of EAs and maps for the selected EAs, provisioned tablets for data collection and personnel to facilitate the training of the IMs. GSS also supported the team with raincoats, Field Officer's Manuals and questionnaires.

Members of the Operation Unit, who were part of the TPFC had the responsibility of assisting the IMs with visas on arrival, guidance on accommodation, provision of logistics (reflective jackets, COVID- 19 PPEs, car rentals, sim cards, servicing of orientation and training programmes, and other relevant items).

The team comprised 28 International Monitors from 12 African countries, one each from UNFPA HQ and WCARO, and 17 national monitors (see Appendix 3).





Census enumerator collecting data in Kumasi

2.0

Objectives and methodology

REPORT ON INDEPENDENT MONITORING
OF GHANA 2021 POPULATION AND HOUSING CENSUS

Objective

The main objective of the independent monitoring exercise was to observe and report on field operations and activities vis-a-vis international standards and best practices. Expectedly, lessons learned were to be documented to facilitate knowledge sharing and transfer with other countries. Also, the monitoring exercise was to provide an independent, objective and impartial assessment of the conduct of the Ghana's 2021 PHC.

The specific objectives were to:

- *Assess the quality of the training documents;*
- *Assess the appropriateness and quality of the enumeration methods, procedures and instruments used;*
- *Observe and document overall field practices, enumeration procedures and operations, with emphasis on risks/challenges;*
- *Observe/assess the adequacy of field logistics;*
- *Provide regular feedback to GSS during chalking and listing of structures, and enumeration;*
- *Document lessons learned and best practices for building capacity and improving implementation of future censuses and other large scale statistical activities; and*
- *Provide a comprehensive report to underscore the credibility and transparency of the census process.*

Methodology

Sample Design

The sample design considered the 16 administrative regions of Ghana and the 272 statistical districts which were reclassified into six statistical zones.

The design also took into account urban and rural EAs, the three EA types-Type 1: One locality making up one EA, Type 2: One locality comprising two or more EAs and Type 3: Several localities making up one EA. The design also took into consideration EAs/Districts/Regions with disputed boundaries. Scores of difficulties (include difficult EAs) hard to count areas (gated communities, Island communities, etc.).

Initially, the goal was to monitor all the 560 sampled EAs representing approximately one percent of the total number of EAs (51,179) in Ghana. However, due to security concerns and logistical constraints, some of the EAs were dropped and eventually, 263 EAs were monitored.

Details of the districts covered are provided in Annex 7.

Monitoring Tools

Each team of Independent Monitors was provided with a tablet containing the following tools/forms to observe/or collect data from the field:

- *Field Officers' Manual provided by GSS*
- *Monitoring Guide*
- *District Census Office Observation Form (Form 2)*
- *Chalking and Listing Observation Form (Form 3)*
- *Enumeration Observation (Form 4)*
- *Data Quality Checks and Transmission (Form 5)*
- *Daily Observation Log Sheet (Form 6)*
- *Observation contact List (Form 7)*

To ensure confidentiality, each monitor signed the Rules and Regulations governing the independent monitoring exercise and took the Oath of Secrecy.

Training and Orientation of IMs

Training of IMs was held virtually from Wednesday, 17th to Thursday, 18th June 2021 at UNFPA Ghana Conference Room. The training was attended by both the national and international IMs. Following the training, a hybrid orientation meeting was held for the monitors at the La Palm Royal Hotel on Friday, 25th June 2021. Monitors who could not join the orientation physically were able to participate through a virtual medium. The orientation served as a refresher programme for the IMs to effectively monitor the Ghana 2021 PHC.

The training and orientation covered the following areas:

- *Overview of the Ghana 2021 Population and Housing Census process*
- *Census monitoring methodology*
- *Guidelines/instructions for Independent Monitors*
- *Observation Tools*
- *Reporting Tools (format, outline, template)*
- *Conduct and behaviour of Independent Monitors (DOs and DONTs)*
- *Security and safety*
- *Confidentiality (Oath of Secrecy)*

The Monitors were to observe/assess the following:

- *District Census Office in terms of storage and security of census materials such as tablets, laptops, power banks, etc.;*
- *Mechanisms to ensure data quality;*
- *Mechanisms to ensure fast and efficient data transmission;*
- *Quality of personnel supervising the census fieldwork;*
- *Chalking and Listing of Structures;*
- *Household interviews to compare the conduct against international best practices;*
- *Profile of the Enumerators, Supervisors and DDQMTs;*
- *Provide frequent feedback to the GSS for the necessary actions;*
- *Document all the observations and comments to obtain lessons learnt and best practices in the census.*

Fieldwork

On Saturday, 26th June 2021, the IMs had the final preparatory meeting on independent monitoring, at the UNFPA Ghana CO. Preparations included a presentation on field operations and modalities, finalization of team formation and distribution of maps and tools to teams. Field monitoring commenced on Sunday, 27th June 2021.

A total of 13 teams were constituted and deployed to 10 out of the 16 administrative regions of Ghana. Each team comprises of three members and was assigned a vehicle and a driver. For operational efficiency and the independence of the teams, each team was made up of two international monitors (Anglophone and Francophone) and one national monitor (Ghana) with good knowledge of the areas assigned. It was also necessary that the national monitor speaks at least one of the local languages of the communities. Monitors who arrived in the latter days were deployed to join the existing teams in the Greater Accra, Eastern and Central regions.

The teams were also provided with contact telephone numbers of District Census Officers (DCOs) and were requested to visit the DCO as the first point of contact in the district. The teams were also requested to pay courtesy calls to the administrative and political heads (Metropolitan, Municipal and District Chief Executives) of the districts visited. Each team was given a tablet containing the monitoring tools. The tablets had SD cards, mobile data and cartographic maps for the EAs.

Debriefing on Field Observations

Daily virtual debriefing meetings were organised between 8.00 pm and 9.30 pm for the teams to present their observations on the field. Issues that required the immediate attention of GSS were compiled and submitted to them for immediate action. In addition, the monitoring teams submitted daily reports to the IM Coordinator at the end of each day.

Following the end of the monitoring exercise on Friday, 11th July 2021, a virtual meeting was organized on 15th July 2021 where the teams presented their observations and reports from the field for discussions and input. Reports were revised accordingly based on the comments and inputs from the discussions of the presentations. Revised reports by teams were presented to the IM Coordinator to draft the overall report.





Enumerators embarking on data collection exercise



3.0

Findings and discussion

REPORT ON INDEPENDENT MONITORING
OF GHANA 2021 POPULATION AND HOUSING CENSUS

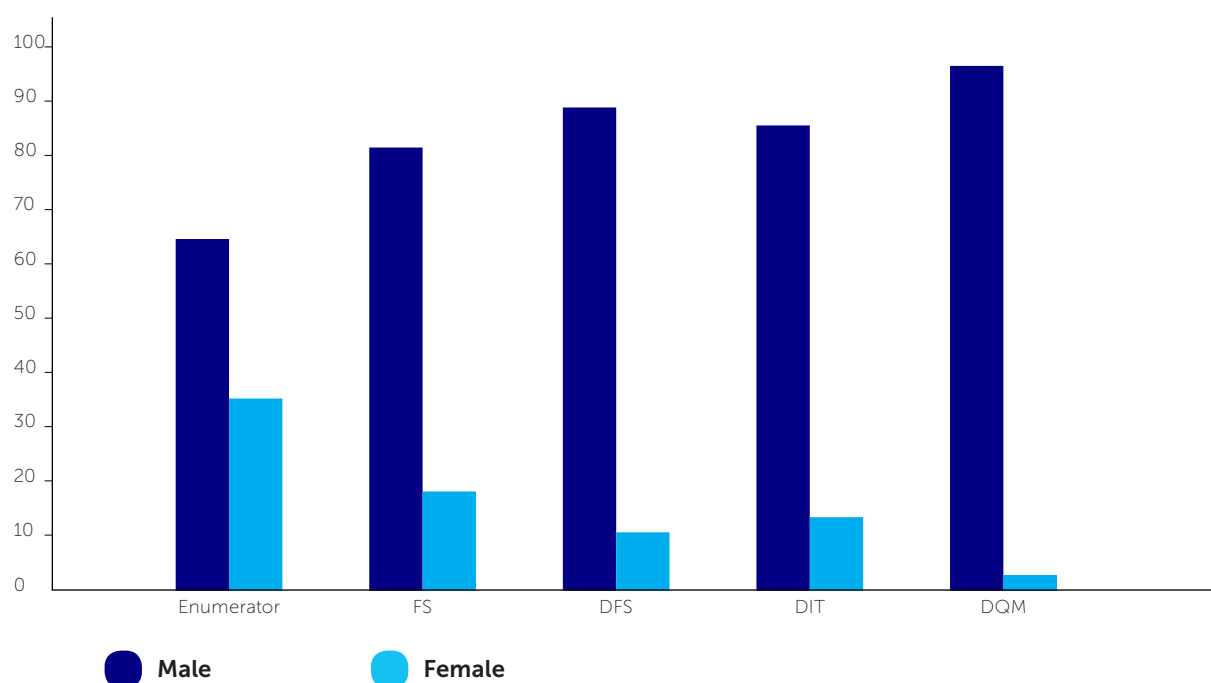
The independent monitors observed enumeration in 32 districts in 11 days. During the monitoring, 263 enumerators were interviewed (174 males and 89 females).

Profile of Field Personnel and District Data Quality Management Team (DDQMT)

Sex of Field Personnel and DDQMT

The majority of the field personnel (enumerators and supervisors) and the DDQMT observed were males. As Figure 1 indicates, about 6 out of 10 Enumerators were males. There were 80 percent more males among the contingents of Field Supervisors, District Field Supervisors and DITs compared to females. Only a few females (2.8%) were DQMs.

Figure 1: **Sex of Field Personnel and DDQMTs**



Educational Level of Field Personnel and DDQMT

From the findings, the field personnel and the DDQMTs were adequately qualified for their responsibilities. The majority of enumerators and field supervisors had university degrees. Approximately, 52 percent of enumerators were undergraduate degree holders, those with Diploma/HND constituted 32.4 per cent and enumerators who held Master's degrees were 3 per cent.

For Field Supervisors, almost 70 percent had undergraduate degrees and few (1.2%) had secondary level education. DFS with a Master's degree indicated 48.7 per cent and 5.4 per cent each reported for PhD and secondary level education. About 80 per cent of DITs and DQMs had undergraduate degrees, 16.6 percent and 8.3 per cent of DIT and DQM had Masters respectively, while 2.8 percent of DIT and DQM had secondary level education.

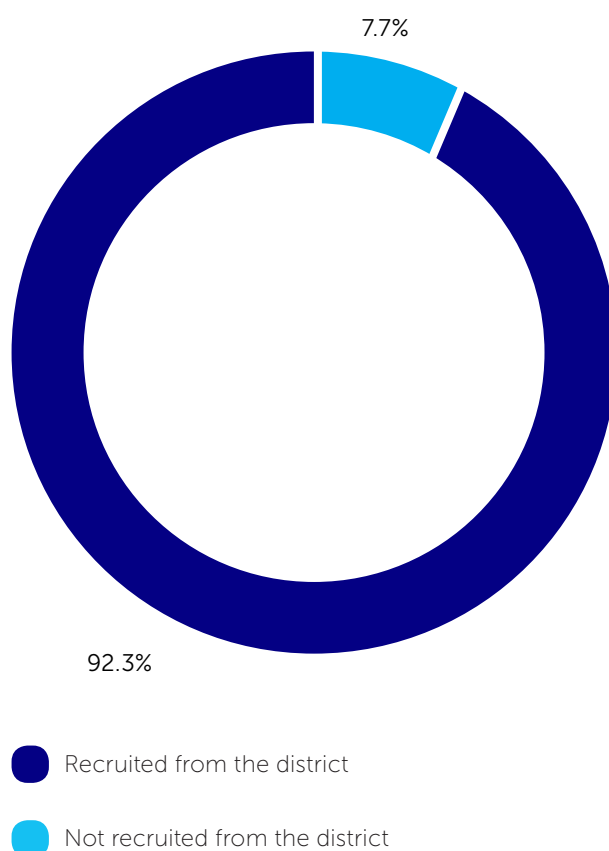
Table 1: **Level of Education of Field Personnel and DDQMTs**

FIELD PERSONNEL	SEC %	DIPLOMA/HND %	FIRST DEGREE %	MASTERS %	PHD %
Enumerator	13.0	32.4	51.9	2.8	0.0
FS	13.0	4.9	69.5	24.4	0.0
DFS	8.1	5.4	32.4	48.7	5.4
DIT	2.8	8.3	80.6	8.3	0.0
DQM	2.8	0	80.6	16.6	0.0

Recruitment of Field Personnel

The success of a PHC is significantly dependent on the commitment and quality of field personnel. In addition to having a good knowledge of the localities, familiarity with the residents also plays an important role in obtaining credible information from respondents and ensuring total coverage of localities. From Figure 2, approximately 92 per cent of the field personnel were recruited from the districts they were engaged.

Figure 2: **Recruitment of Field Personnel**



Publicity and Public Education

As a country-wide undertaking with huge consequences for national development, PHC requires the collaboration of households, institutions and individuals. Census publicity aims to increase census awareness which is key to achieving a high level of cooperation from households. The success or failure of the Census depends on the cooperation and assistance of the general public. Census publicity is therefore critical in informing and sensitising people about the census. Furthermore, census publicity ensured that the authorities are updated with new, timely and relevant information about the public response to census plans and activities. The IMs, therefore, observed the extent of publicity, public education and advocacy on the census in the areas visited as well as the materials that were used for publicity and education.

Generally, publicity and public education on the census was low in most parts of the districts monitored despite the large quantities of publicity and education materials such as posters, flyers, brochures that were received by most districts. Publicity materials were visible in most District Census Offices (see Figure 3). However, besides the 'Census Night' activities, which were well-celebrated especially in the district capitals (See Figure 4), not much advocacy, publicity and education were done in the districts during the census. Census Night celebrations included; bonfires, floats, brass band processions, cultural dancing and drumming, towing of church bells and honking by emergency service vehicles (Ambulances and Fire Service).

Figure 3: **Census publicity in the West Akim District, Eastern Region**

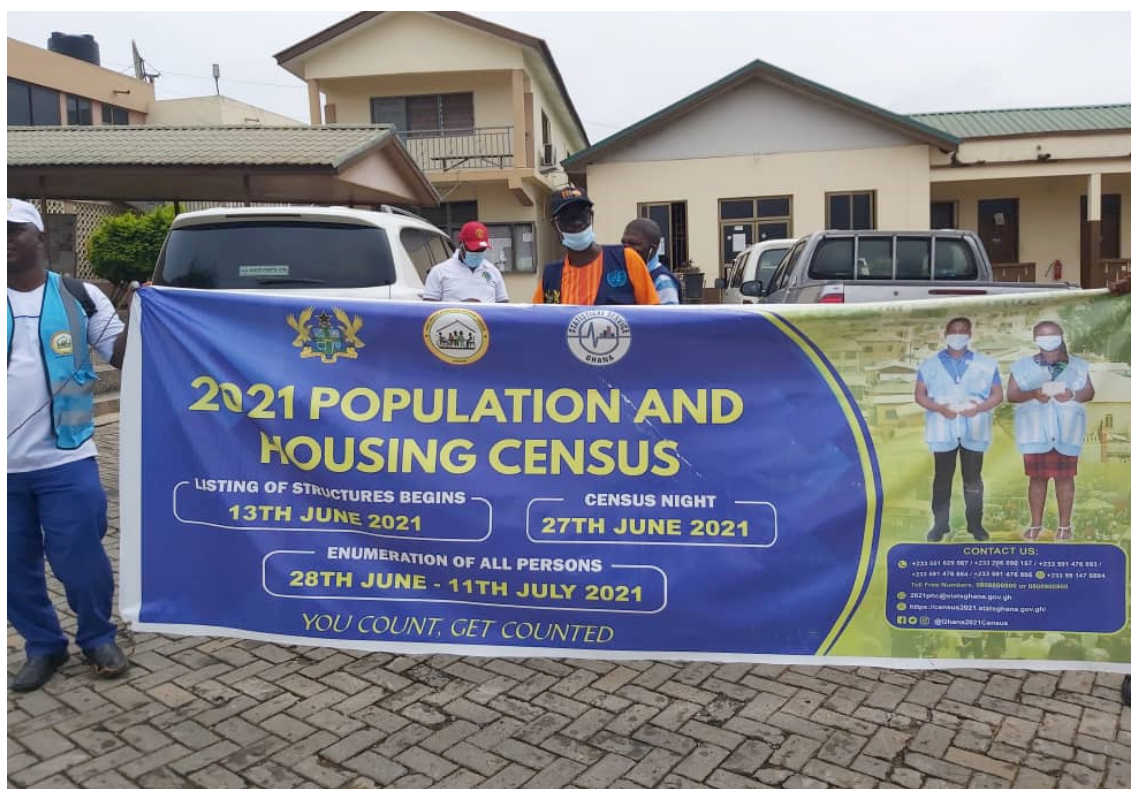
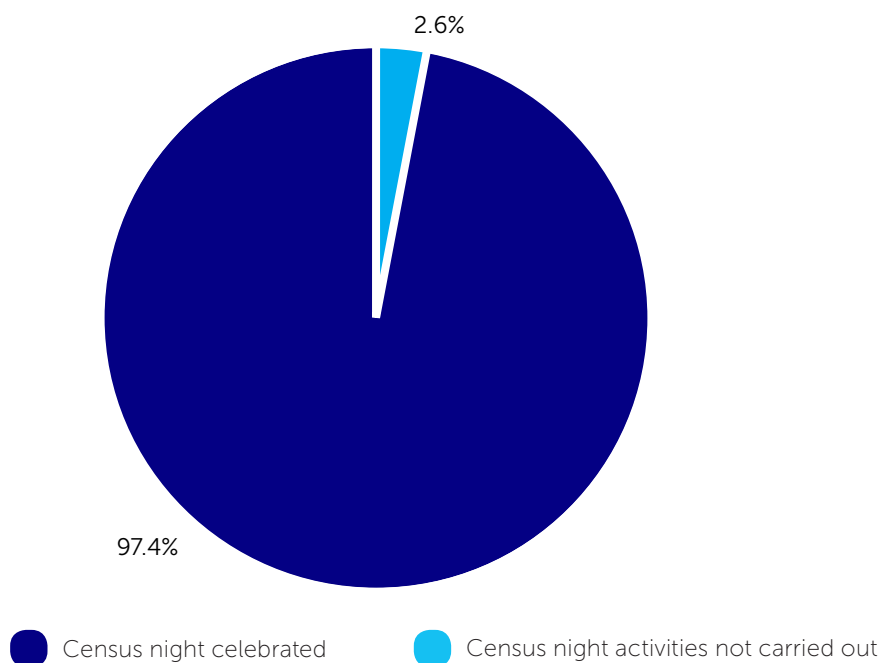


Figure 4: **Celebration of Census Night in the Districts**



Except for areas around the District Census Offices where publicity materials were visibly seen, publicity materials were not visible in other parts of the districts. It was observed in some areas that respondents misinterpreted the census as another national exercise for the distribution/provision of relief items to households. Some households did not know the difference between the chalking/ listing exercise and the main enumeration and wondered why they were visited twice in a short time for the same exercise. Enumerators spent time explaining to households the difference between the two activities (chalking/listing and enumeration) before respondents agreed to be enumerated.

Publicity on local radios was not frequent and issues on the census were hardly heard even though the district census officials (DDQMT) informed IMs that they frequently visit local radio stations about talk on the census. The DDQMT informed the IMs that the airing of the census jingle, as well as TV adverts, were ongoing on some of the radio stations. In most of the localities, the Community Information Centers were used to create awareness of the census. It was observed that some of the vehicles used by census officials also had census stickers and public address systems. However, due to limited funds, Census Offices were not able to fuel these vehicles and keep them running to maximize publicity. Rather, some of the vehicles were seen packed in the District Offices. Several DDQMTs reported that inadequate funding impeded the extent of census sensitization activities in the districts. In some cases, the DDQMTs had to depend on the goodwill of their social networks to get jiggles played on Community Information Centers.

Further, it was indicated that the logistics and census materials received were inadequate for the exercise and contributed to the low publicity of the census in the communities. Low sensitisation, advocacy and publicity on the census contributed to the poor reception of enumerators by households. Also, some field personnel were not wearing the census reflective jackets provided which could have also served as publicity material.

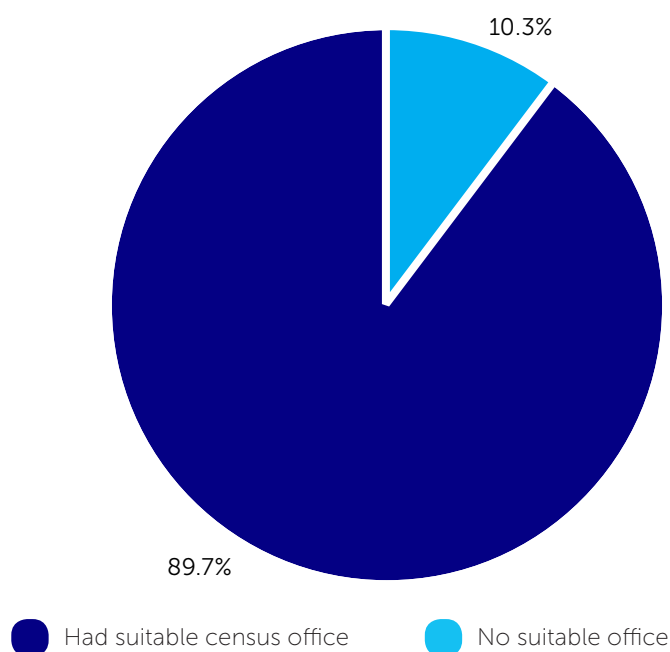
Some communities, however, took a keen interest in the census enumeration and collaborated with census officials to encourage households to cooperate with the enumerators for a successful enumeration. For instance, the youth in some localities in the Nkoranza North District came together to form the 'Complete Coverage Champions', a group that encouraged households to get involved in the census exercise. This initiative was very useful as households cooperated with enumerators on the exercise.

District Census Offices

Office and Storage Rooms

Overall, the majority of the districts visited had at least one room allocated for census work (see Figure 5). For districts that had rooms for census activities, the rooms included storage rooms, which were well-secured with functional locks on the doors. In districts where there were no rooms allocated for census activities, census materials were kept elsewhere for safekeeping. The Electoral Commission, and the Metropolitan/Municipal and District Assemblies also assisted the District Census Offices in the storage of census materials. In the Tamale South Municipal Census Office, census materials were kept at the warehouse of the Electoral Commission.

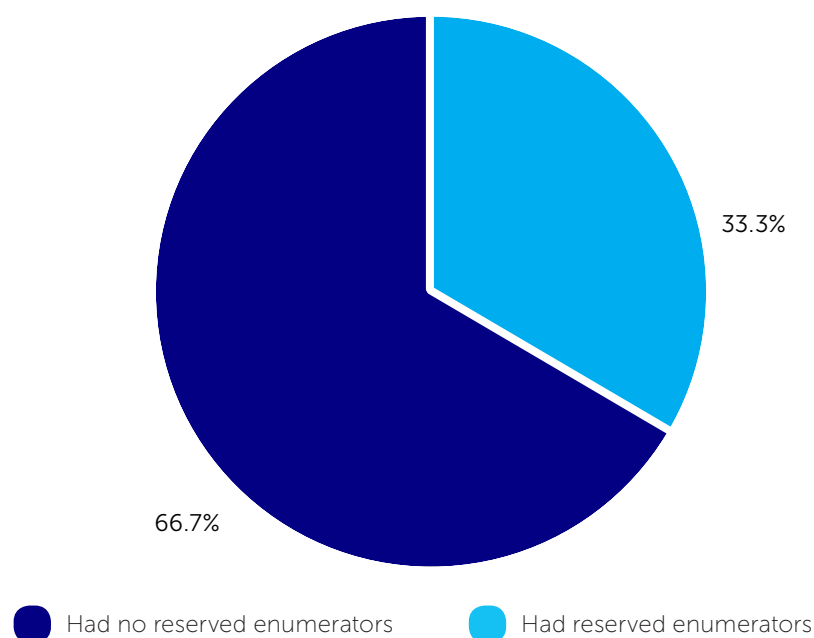
Figure 5: **Availability of Suitable Room for Census Activities**



“Reserve” Enumerators

In most large-scale data collection exercises such as a PHC, provision is usually made for reserve field personnel during the training of enumerators. It was observed that 33.3 percent (see Figure 6) of districts did not have enough enumerators for emergencies at the time of visit as all reserved enumerators had been deployed for enumeration. Districts that had reserve enumerators at the time of the visit indicated that GSS HQ had issued a directive that no district should deploy reserve enumerators without clearance from HQ.

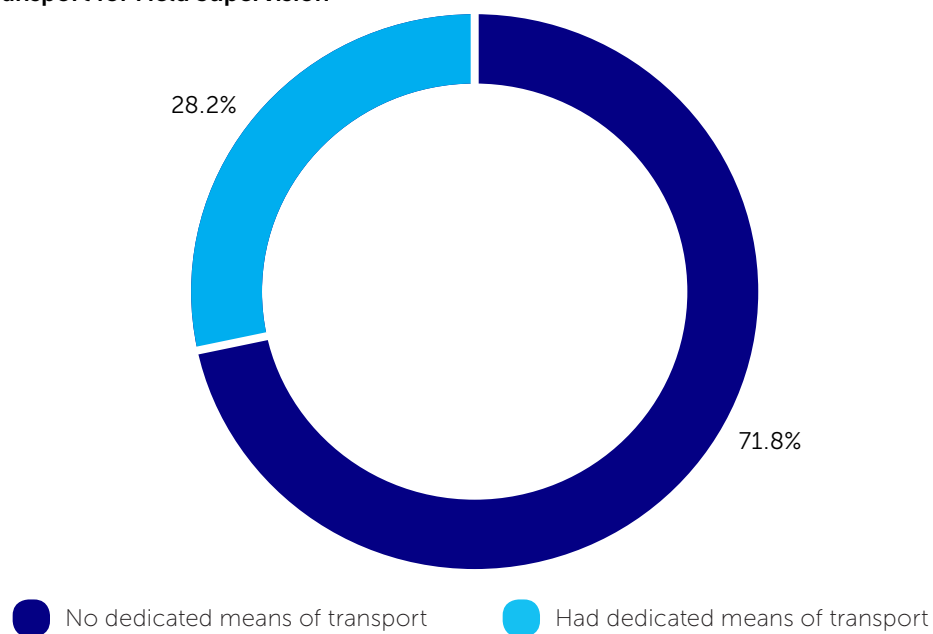
Figure 6: **Availability of reserve Enumerators**



Transportation for Supervision

Regarding means of transport for supervision in the districts, the majority (71.6%) of District Census Offices indicated that they did have official vehicles for census activities (see Figure 7). Some districts that had vehicles, complained of lack and/or inadequate funds for fuel. Others indicated that the Assemblies released the vehicle to them as and when they had urgent calls from the field. Since such vehicles were not specifically assigned for census work, there were occasions when the census officials needed the vehicle but it had been assigned to other duties by the Assemblies. In the Anloga, Ekumfi and Twifo Ati Morkwa districts the DDQMTs indicated that they had no official vehicles for census work and had to depend on their vehicles and motorbikes fueled by themselves or rely on public transportation using their funds.

Figure 7: **Transport for Field Supervision**



IMs preparing to board ferry from Afram Plains – Eastern Region to Kpandu Torkor

Support from District Census Implementation Committee (DCIC)

As part of stakeholder involvement to ensure the success of the census, GSS in collaboration with the Ministry of Local Government and Rural Development (MLGRD) formed Regional and District Census Implementation Committees (RCICs and DCICs). In most districts, the DCICs were very enthusiastic about the exercise and supported the work of the DDQMT.



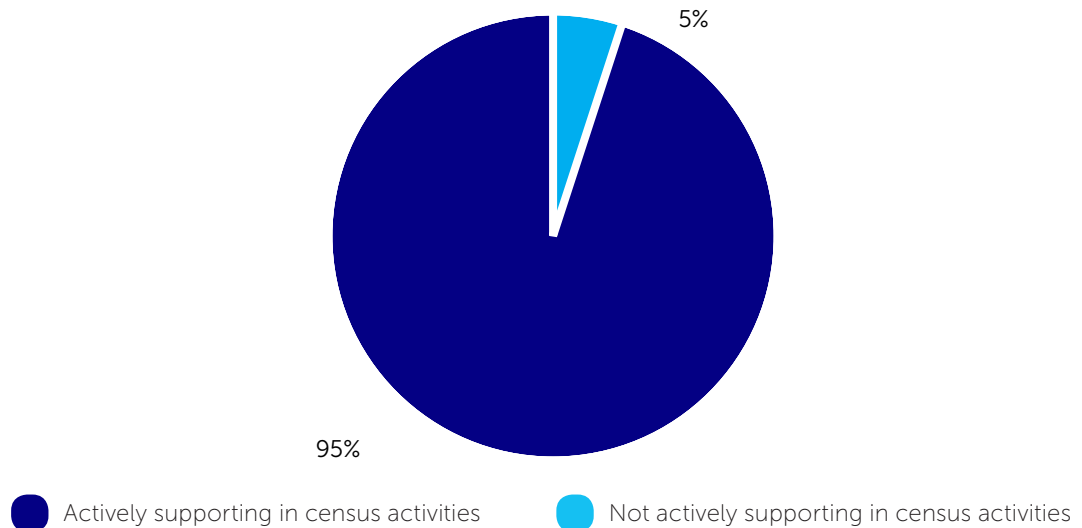
IMs with the Municipal Chief Executive and other Senior Officials of the Efutu Municipal Assembly at Winneba, Central Region



IMs and Census officers at Asuogyaman District Assembly, Eastern Region

The majority of districts (95%) reported that the DCIC were supportive in the area of publicity, provision of storage spaces for census materials and vehicles for supervision among other things (see Figure 8).

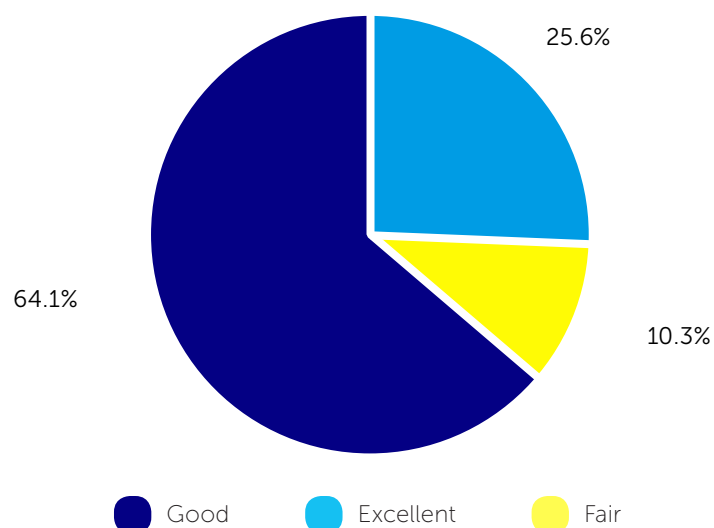
Figure 8: **Support from District Census Implementation Committee**



Electric Power Supply in the Districts

The Ghana 2021 PHC was a fully digital census and therefore, the tablets and power banks that were used for data collection and management needed to be charged regularly. Regular electric power supply in the districts was essential for the effective conduct of the census fieldwork. Over 60 percent (see Figure 9) of the districts indicated that the electric power supply was excellent, while slightly more than 10 percent of the districts reported that the electric power supply was fair in the district.

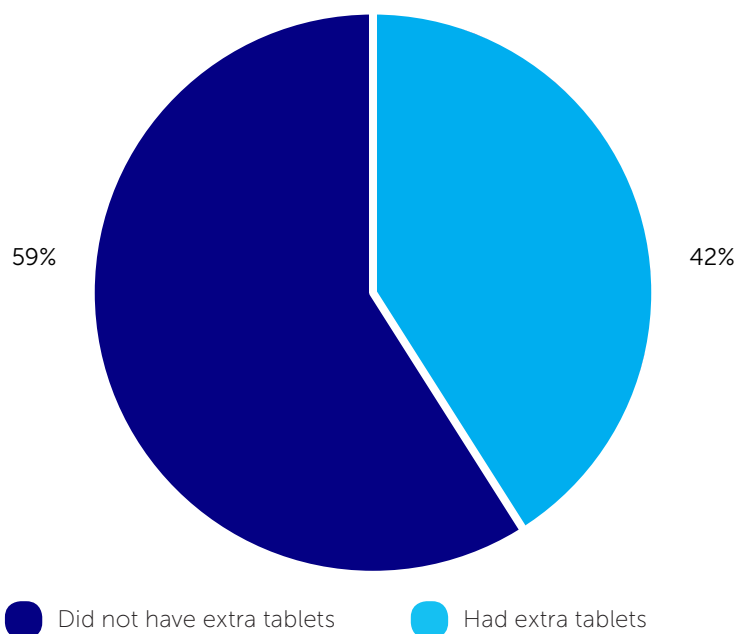
Figure 9: **Electric Power Supply in the District**



Census Materials

The team observed that all enumerators and supervisors had functional tablets and Field Officers' manuals for the enumeration. However, in some districts, there was limited or no reserve tablets for reserved enumerators or replacement of malfunctioning tablets (Figure 10).

Figure 10: **Availability of Reserve Tablets in the District**



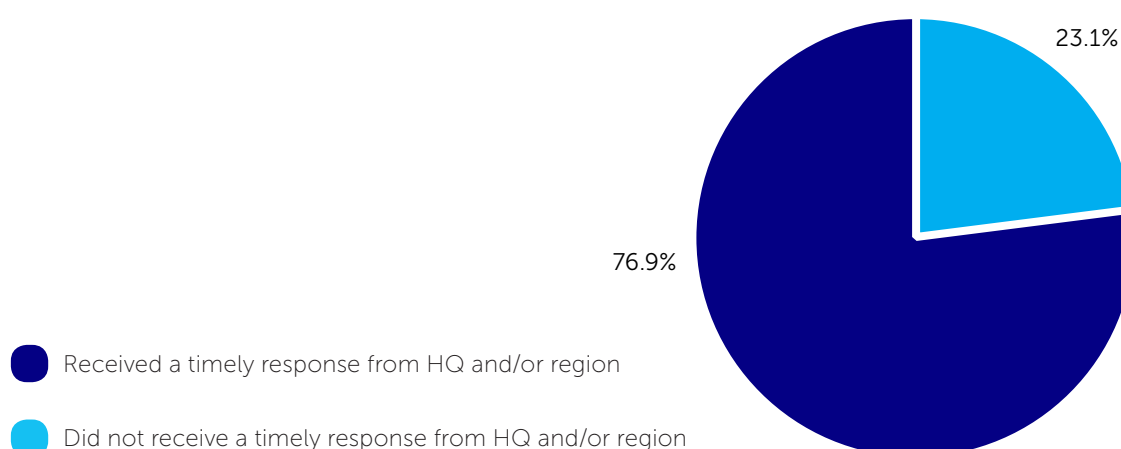
The DDQMT in some districts reported of inadequate supply of power banks, raincoats and Wellington boots. This was corroborated by field personnel. Some census officials did not receive reflective jackets, Wellington boots, touch lights and raincoats for fieldwork.

For districts that were assigned the Bio-rugged tablets, most supervisors and enumerators complained about its slowness and continuous breakdowns. Lack of/or insufficient funds to fuel vehicles of the DDQMTs for field supervision and to purchase data for synching was also a challenge for most districts.

Response from HQ/ and or Regional Office on urgent matters

PHC is a time-bound activity and therefore, prompt response on related issues reported is critical for its success. Generally, issues reported to the HQ and/ or Regional Office received the needed action in good time. About 77 percent of requests made by the District Census Offices to the Head Office and or Regional Offices received prompt action (see Figure 11).

Figure 11: **Response from HQ/ and or Regional Office on urgent matters**

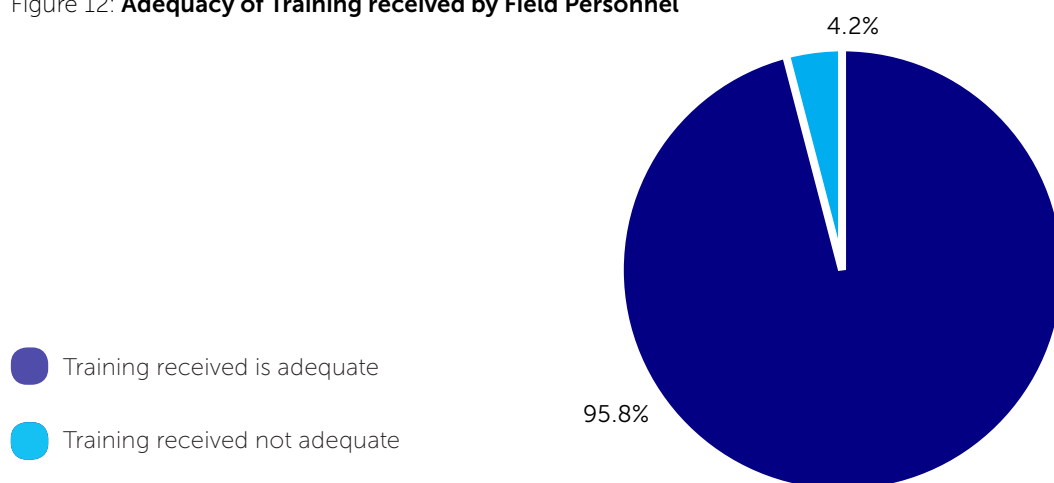


Enumerator and Supervisor Training

Information received from the field personnel (enumerator and supervisor) indicated that the training received from GSS prepared them adequately for the enumeration exercise. About 96 percent (see Figure 12) of the enumerators reported that the training was adequate for the enumeration. However, they mentioned that the time allotted for field practice was insufficient in providing them with the opportunity to administer the questionnaire using the tablet to many households. Further, they mentioned that while they had a working knowledge of the instruments and equipment, they were not fully acquainted with them. In this regard, some of the enumerators recommended that in subsequent training, more time should be allotted for field practice.

Concerning the challenges during training, enumerators in some of the districts reported that their training centres did not have adequate tables and the rooms had poor ventilation and lighting. Issues relating to protests by trainees in some centers due to poor remuneration and poor quality of food were also reported.

Figure 12: **Adequacy of Training received by Field Personnel**



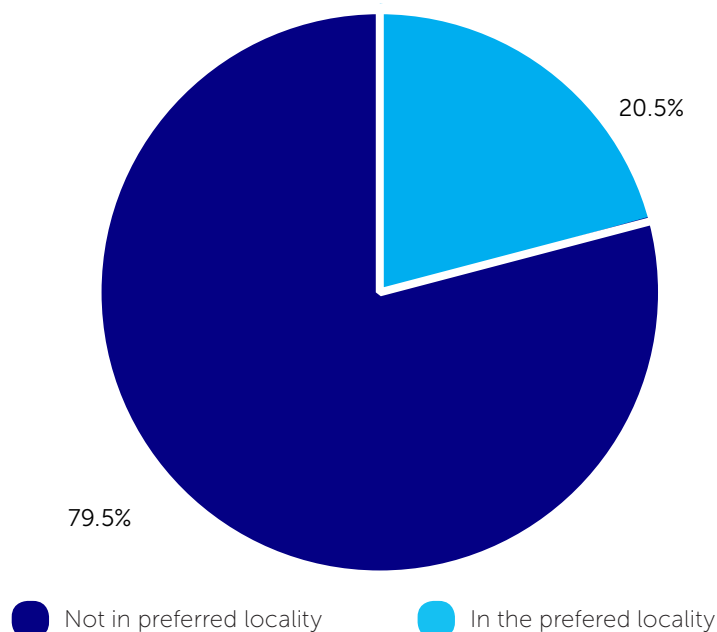
Deployment of Field Personnel

Field personnel usually would prefer working in areas of their own choice. Apart from the fact that they know the area and possibly the households, it is also economical in terms of expenses on transportation. IMs, therefore, solicited information from the field personnel as to whether they were posted to their preferred localities to carry out the enumeration. Almost 8 out of 10 districts (79.5%) of the field personnel reported being deployed to work in their preferred localities (Figure 13).



Deployment of enumerators and supervisors in Okaikei South Municipal, Greater Accra Region

Figure 13: **Preference for Locality by Enumerators**



Enumeration Area Maps

The IMs did not receive any major issues with the quality of maps. It was gathered that the interactive maps assisted enumerators in identifying EA boundaries. Enumerators confirmed that they were working within their boundaries by showing selected features on the map to the IMs. The issue of extremely large EAs was however reported by enumerators in some districts, especially in the urban and semi-urban areas as well as in some type three (3) EAs.

The rapid urbanization with extensions in the peripheral parts, especially Accra and Kumasi posed a challenge for the enumerators in those areas. However, it was noted that enumeration for such areas could not be completed within the 14 days enumeration period. In the Kpone Katamanso municipality, for example, the District Census Officer reported that an enumerator in the Municipality had listed about 3,000 structures.

The DDQMTs and Field Supervisors for some districts also reported administrative and traditional boundary disputes that were negatively affecting enumeration. The DCICs played key roles in the resolution of the disputes that ensured the smooth conduct of the census in some districts. In other districts, enumeration was halted due to boundary disputes.

Chalking and Structure Listing

Most of the structures in the districts had been chalked and it was visible. In a few cases, the chalking had been washed off by the rains or deliberately wiped off by structure owners, children and the actions of residents. In some instances, chalking was done in hidden places making it difficult to identify the structures listed. Due to these challenges, enumerator had to re-chalk such structures for easy identification.

Some enumerators complained of challenges in the chalking of some structures as the owners were not cooperating. Field supervisors and opinion leaders had to intervene before the chalking and listing could be done.

In the Adaklu district, the EA and SA codes on the physical maps varied from the corresponding codes in the CAPI application and field personnel were instructed to use the codes in the CAPI application. Of the EAs observed in Adaklu district only one EA was wrongly chalked (the enumerator wrote 043 instead of 044).

Enumeration and the Questionnaire

Generally, interviews were conducted in a well-organized manner in most of the enumeration areas visited. Enumerators were able to correctly refer to the Census Night of 27th June 2021 as the reference point for the census and most of them established a good rapport with the respondents and members of the household. This may be attributed to the educational background of most enumerators (tertiary level of education), the training received and having majority of them working in their preferred localities. A majority of enumerators also followed correctly the sequence of the questions.

Most households were willing to be interviewed and residents in most districts were enthusiastic about the census, even in urban areas where respondents would have to be convinced or pleaded with to make time to be enumerated. Similarly, in the rural areas, some residents enquired when their households would be listed and enumerated.



Photos of enumerators interviewing households

However, some households did not cooperate with enumerators, particularly in the urban areas they did not want to make time to be enumerated. According to the enumerators, even when call-back cards are issued, few households called back to book appointments for enumeration. Some households complained about length of the questionnaire, others even refused to continue with the interview. Some of the respondents were hostile to the enumerators and this affected the flow of the enumeration. These challenges were resolved either by the field supervisor or DCO or both. Field Supervisors and in some instances community leaders had to convince these respondents to get enumerated.

The attention of the Independent Monitors was drawn to the issue of some foreign nationals in some parts of the Greater Accra and Ashanti regions who initially refused to be enumerated. It took the intervention of the DCICs and senior census officials before they agreed to be enumerated.

The use of historical events to establish the ages of respondents who did not know their ages was essential to obtaining accurate information on age. GSS, therefore, provided a list of historical events in Ghana in the Field Officer's Manual. However, it was observed that majority of enumerators did not refer to the list in establishing the age of household members who had challenges providing their date of birth or age. Some respondents were so helpful, as they made efforts to reach household members who were not present to get information on their date of birth/age.

Despite the quality of training received by the enumerators, some of them had challenges mostly with the concept of economic activity and fertility and its related questions. In some cases, the Field Supervisor had to interrupt the interview session to provide further clarity to some of the questions on economic activity for the understanding of both the enumerator and respondents and also to ensure the flow of the interview. The IMs observed that responses to some questions on economic activity may be not be reliable in some mining areas in the Eastern Region due to the ban on Galamsey.¹

Heavy rains and flooding impacted negatively the enumeration in some districts and affected the end date of the exercise. The enumeration also coincided with the farming and fishing season in most parts of the districts causing delays and challenges in those areas.

The team observed that in the farming communities, households leave for their farms early in the morning and return late in the evening. The women usually returned earlier but because of household chores (cooking the evening meal) they had very little time for the enumerators, hence delaying the enumeration.

The duration of enumeration of a household depended on the size of the household, availability and attention of the respondent, the number of female members 12 years or older, and the understanding of the questionnaire and concepts by the enumerator especially on age, disability, fertility and economic activity. It was generally observed that the time spent to interview a household ranged from 40 minutes to one and half hours.

Tablets and Synchronization of Data

Three types of tablets were used for the enumeration; Samsung, Huawei and Bio-Rugged. Aside from the slowness of the Samsung and Huawei tablets, they were said to be much better in terms of functionality than the Bio-Rugged tablets. In addition to being slow, the Bio-Rugged tablets were found to be freezing frequently, had problems with rebooting, Bluetooth syncing and related configuration. Most of the tablets especially the Bio-Rugged did not come with solar panels, only the cables.

In terms of data syncing, the majority (94.0%) of enumerators were able to synch daily as depicted in Table 2.

Table 2: **Tablets and Synchronisation of Data**

DAILY SYNCING OF DATA		CHALLENGES IN SYNCING DATA		SUFFICIENT POWER SUPPLY BACK-UP		PROMPT RESPONSE FROM DIT		DIFFICULTY IN USING TABLET	
Synched daily	Did not synch daily	Did not have challenges	Had challenges	Had sufficient power supply back-up	Did not have sufficient power supply back-up	Had prompt response	Did not get a prompt response	Had difficulty	Did not have difficulty
94.0%	6.0%	75.5%	24.5%	38.4%	61.6%	70.4%	29.6%	34.7%	65.3%



Photo of enumerators cross-checking data for accuracy

'Refers to illegal mining activities in Ghana.

The challenges in data syncing differed from localities. While it was a challenge in rural localities particularly in type three EAs where internet connectivity was unstable, it was not an issue in urban localities. In some instances, enumerators and field supervisors use personal hotspots to sync the data. MTN was generally more accessible than the other networks, (i.e Vodafone and Airtel/Tigo).

In some districts, there was confusion on whether enumerators should sync data to the server directly or through the field supervisor. IMs were informed by some enumerators that they were asked to sync to the supervisor during training, but there was a directive during the enumeration period requesting them to sync to both the server and the supervisor. The conflicting instructions were later resolved and enumerators synced the data daily to their supervisors using Bluetooth and to the server via the internet. Where it was not possible to sync data daily due to bad weather (rain), syncing was done the next day.

Some of the enumerators had challenges getting mobile data to sync information collected from the field. This was compounded by poor communication between GSS HQ and the field personnel. Some of the enumerators had mobile data but did not know how to activate it to sync data to the server.

Also, about 62 percent of the enumerators had no sufficient power supply back-up for their tablets, while more than 75 percent of the enumerators reported that they promptly received IT support when needed.

Quality Control

Ensuring the quality of the Ghana 2021 PHC was an integral part of the census project. Various mechanisms were put in place to ensure the quality of the census data. The following quality assurance measures aimed at ensuring the timely production of quality data was observed in the field.

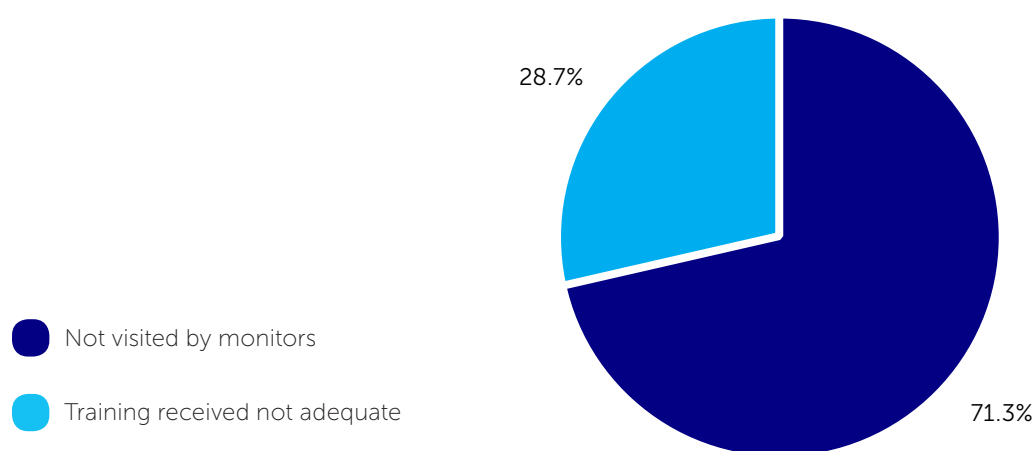
- *Built-in skip rules and backend checks in the CAPI system used for the data collection;*
- *Administrative coordination from national to district level; and*
- *Institution of national and independent monitors*

According to Macoumba Thiam, Census Chief Technical Advisor, UNFPA Togo,

“What impressed me the most in this Ghana 2021 PHC is the multiple-layer and comprehensive quality assurance mechanisms put in place, including the District Data Quality Management Teams (DDQMTs), the National Monitoring Teams and the Independent Monitoring Team. If widely adopted, these good practices will improve the quality of PHC data in the continent.”

Most enumerators reported that they had received frequent visits from their Field Supervisors and 7 in 10 enumerators indicated they had received visits from senior census officials including monitors from the HQ/ or Regional Office. See Figure 14.

Figure 14: **Visits by National Monitors**



Enumerators who received visits from national monitors found it to be very beneficial in terms of fixing problems with the tablets, correcting errors in the data, explaining to them certain concepts they did not well understand and also as a way of motivation.

DDQMT were regularly in contact with the Regional Office and HQs to refer to issues, seek clearance to implement solutions to issues and receive updates on the CAPI applications among others. However, in some districts, the supervision was seen not to be adequately facilitated because of the lack and inadequate means of transport for the DDQMT. Some of the districts had vehicles with no fuel and in other districts, the vehicles needed to be repaired before they could be used. Consequently, data quality control was being done remotely. In some districts, DDQMTs were often seen doing census administrative activities.



Field supervisor (middle) monitoring the enumerators

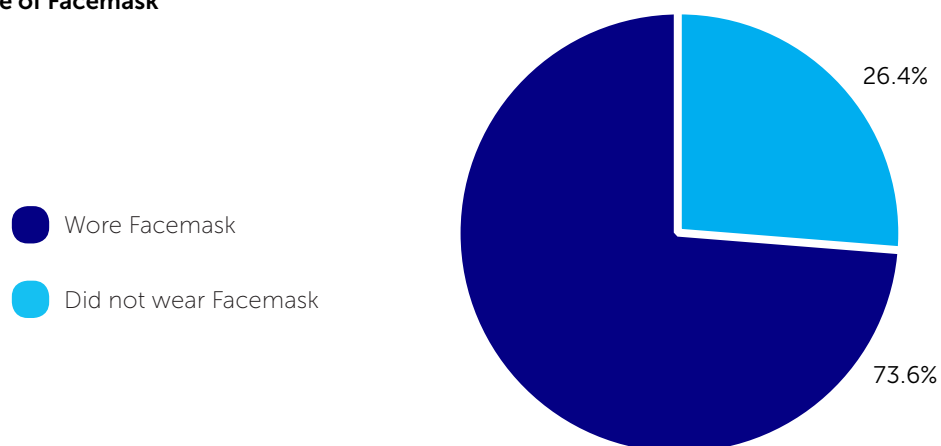
Generally, IMs indicated that Field Supervisors observed full interviews for all their enumerators most of the time, however, due to the number of EAs some field supervisors were not able to observe full interviews of some enumerators as they needed to attend to enumeration in other EAs. Enumerators and supervisors met daily to discuss the progress of work during which the Field Supervisor addressed issues that could not be handled by the enumerator. Errors were checked by the DQM and communicated to the Field Supervisors, who worked with the Enumerator to correct the errors. However, some of the Field Supervisors were unable to calculate the error rates of the enumerators.

Observation of COVID 19 Protocols

Although PPEs were provided to the field personnel, 74 percent did not wear the facemask during interviews (Figure 15). Some of the enumerators did not adhere to the recommended (2m) distance during interviews.

Despite the challenges experienced during the enumeration such as low publicity, extremely large enumeration areas, un-mapped areas particularly in the Greater Accra Region, tablet malfunctioning, data synching and related issues and boundary disputes, the exercise was generally successful. The nationwide extension of the enumeration period up to 31st July 2021 to enable pockets of un-enumerated areas to be enumerated was an appropriate action. The supervision/monitoring and other structures were put in place to ensure data quality worked to perfection during the period of the monitoring by IMs.

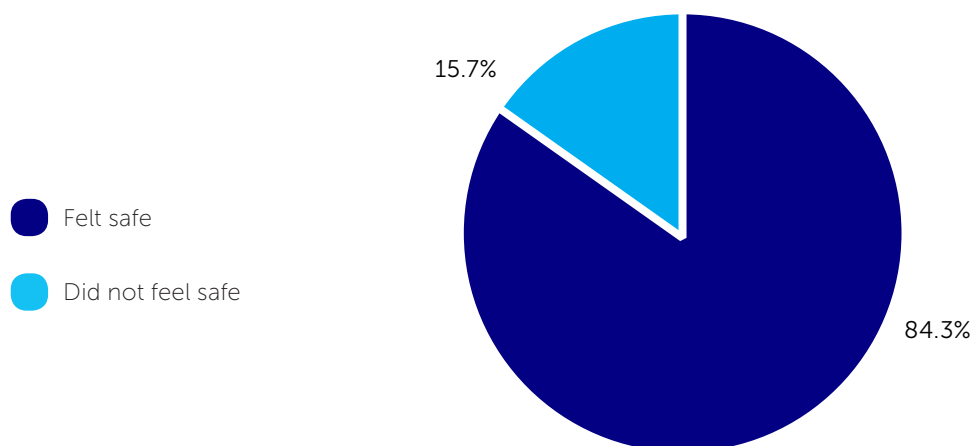
Figure 15: **Use of Facemask**



Security and Safety of Field Personnel

Most field personnel indicated they did not have any security concerns in their areas of work. About 84 percent of field personnel reported that they felt safe and were not worried about security threats. It was observed that field personnel who had safety and security challenges were working in developing areas/localities (new sites), where structures were sparsely located eg. Besakrom in the Central Region or densely forest areas eg. Kukuom in the Ahafo Region See Figure 16.

Figure 16: **Safety concerns of Field Personnel**





Enumerators and IMs observing social distancing and wearing facemasks during an interview

4.0

Best practices and lessons learned

REPORT ON INDEPENDENT MONITORING
OF GHANA 2021 POPULATION AND HOUSING CENSUS

Best practices

The process of monitoring the census started with a desk review of relevant documents from the GSS, field observations, IM interviews with field personnel and DDQMTs.

It was noted that several innovative measures were introduced by GSS in the 2021 PHC. These include the following:

- *Use of interactive enumeration area (EA) maps for accurate identification of enumeration and supervision areas;*
- *Use of Global Positioning System (GPS) to capture the location of all structures;*
- *Advanced data quality assurance procedures, including use of real-time enumeration tracking dashboard and dynamic data quality management at the national, regional and district levels;*
- *The use of CAPI to ensure efficient and quality data collection and management;*
- *The introduction of a four-member District Data Quality Management Team (DDQMT) comprising of the District Census Officer (DCO), District Field Supervisor (DFS), District IT officer (DIT), and District Data Quality Monitor (DDQM) to improve coverage and quality of data at the enumeration area.*

- *Expansion of the questionnaire to include comprehensive information on key economic growth and development sectors such as ICT, housing and living conditions, sanitation, and difficulty in performing activities (such as seeing, hearing, and walking) to support additional data demands for the implementation of national and global development goals;*
- *The use of ancillary geo-spatial data layers (satellite imagery, building footprints, hard-to-count indices) to validate and enhance the usefulness of the Census mapping products (including use of interactive maps);*
- *The establishment of an online bureau for census personnel recruitment with about 170,000 applicants, training and certification of 108 Master Trainers;*
- *The use of self-learning, live-virtual and in-person training to conduct various levels of training for the census;*
- *Distribution of census training and field materials including PPEs to the training centres was done ahead of time and some times instances with Police Escorts;*
- *Development of a citizen's virtual platform and other online interfaces to facilitate real-time engagement with stakeholders and the public;*
- *Decentralization of the census operations from national through the regions to the district level worked well to ensure the success of the census. The four-member District Data Quality Management Teams (DDQMTs) played a very important role in the census enumeration;*
- *The DCICs and RCICs were supportive in mobilizing resources at the local level to complement what was brought from the GSS HQ. The Committees also assisted greatly in publicity and in the resolution of boundary disputes where they occurred;*
- *The use of tablets for such a large-scale data collection programme with its associated benefits is recommendable and should be emulated by other African countries that are yet to conduct their censuses;*
- *The strict adherence to the UN recommendations on the 2020 round of PHCs in all the census processes cannot be overlooked and should serve as a guide for other African countries. Expansion of the questionnaire to include comprehensive information on key areas such as housing and living conditions, sanitation, and difficulty in performing activities such as seeing, hearing, and walking; to address national data needs is worthy of emulation;*

- *The deployment of zonal coordinators and national monitors also allowed GSS to obtain prompt information from the field for redress;*
- *The setting up of a ‘Situation Room’ at the GSS HQ, made up of heads of the various units within the Census Secretariat to monitor the field data collection to make informed and quick decisions and take prompt actions was useful. The ‘Situation Room’ also allowed managers of the Census to interact with the general public as well as validate the information from the field;*
- *The use of interactive area maps for accurate identification of enumeration and supervision areas and the use of a Global Positioning System (GPS) to capture the location of structures are some of the best practices that were identified;*
- *The use of self-learning, live-virtual and in-person training to conduct various levels of census training especially in this COVID-19 period was seen as very innovative. The use of advanced data quality assurance procedures, including the use of a real-time enumeration tracking dashboard and dynamic data quality management at the national and district levels was seen as another step to improve on data quality;*
- *The establishment of an online bureau for the recruitment of census personnel with about 170,000 applicants, training and certification of 108 Master Trainers and development of a citizen’s virtual platform and online interfaces to facilitate real-time engagement with stakeholders and the public is also worthy of commendation;*
- *Recruitment of field personnel from the locality/district in which they reside/and or preferred localities helped to avoid unnecessary resistance from respondents and was also beneficial to the field personnel as they spent less time and money to move from their homes to the EAs;*
- *Achieving complete coverage and workload management strategies (use of geospatial resources, hard-to-count indices);*
- *Use of an army of National Monitors (standing in for GSS/Census management);*
- *Use of Enumeration tracking dashboard;*
- *Use of field operations and logistics trackers;*
- *Daily debriefing meetings; and*
- *Call Center.*

The use of independent monitors to observe the census and the innovative ways adopted by the UNFPA to conduct the exercise is worthy of emulation by other countries. Some of the innovative ways adopted by UNFPA and the IMs included:

- *Encouraging participating agencies/countries to sponsor their delegates/nominees;*
- *The use of live-virtual and in-person training and orientation of the IMs helped to reduce; the cost of training and also provided the opportunity for participants who were not able to join physically to benefit from the training;*
- *Daily debriefing meetings provided the IM team with the opportunity to share their daily findings and challenges which were communicated immediately to GSS for the appropriate actions;*
- *Composition of IM Teams to include one Anglophone and francophone and a Ghanaian who speaks at least one of the local languages of the area;*
- *Formation of a technical planning committee to plan and guide the conduct of the IM of the Ghana 2021 PHC;*
- *A consultant to coordinate activities of the IM;*
- *Collaboration with other Development Partners on logistics; and*
- *Collaboration with the implementation agency, i.e. GSS for the independent monitoring.*

Lessons Learnt

The following lessons were learnt from desk reviews and IM monitoring exercise:

1. *Successful census taking is possible in the era of covid-19 pandemic. GSS formulated and implemented a Business Continuity Plan (BCP) to keep the Census alive during the pandemic – when many countries either postponed or cancelled their censuses altogether.*
2. *Successful implementation of census communication Strategy with limited resources is possible. GSS was able to leverage public and stakeholders' resources at all levels and well as use Census field personnel to deliver reasonably effective campaigns with a limited budget (roundabouts 1% of Census budget).*
3. *South-South Cooperation works. UNFPA mobilized participation and support using south-south cooperation arrangements to cost-share expenses related to the implementation of independent monitoring (IM) programme. The response from countries was overwhelming, even amidst a raging epidemic, while countries were willing to fund their participants. The success was resounding.*
4. *Strengthened partnership and collaboration between GSS and UNFPA was instrumental to the success of the IM programme. GSS support not only helped to offset implementation costs but also facilitated seamless feedback and other communication flow in addition to facilitating and guaranteeing the work of IMs in the regions and districts.*
5. *In a situation where there is a time lag between completion of census mapping and enumeration in large urban areas, there is the need to strategize on a methodology for achieving completeness of the enumeration by engaging and training more enumerators in such areas. Even though there were reserve trained enumerators in some districts who were deployed in EAs that were found to be large, the decision was not taken earlier after the listing exercise. This could have averted the situation where enumerators had to be brought in from other regions to help complete the enumeration in the Greater Accra Region with its associated cost.*

6. *Even though the questionnaire was designed to collect as much information as possible to satisfy the data needs of key stakeholders, its size could have been minimised to enable for less time during interviews. In the urban areas, some respondents were not prepared to spend more than one hour for an interview particularly so in this COVID-19 period.*
7. *The involvement of community leaders and the youth in publicizing the census, as was witnessed in the Nkoranza North District was useful in ensuring that households in the communities were aware of the census. This would have been particularly beneficial in remote areas with low public education and publicity on the census.*
8. *The timing of a census was important in its successful execution. The 2021 PHC of Ghana coincided with the raining and farming season and this affected enumeration in some areas due to flooding, lack of cooperation by respondents (farmers) and the fact that the Enumerator had to wait until the rain subsided before he/she could continue with the enumeration.*
9. *There is a need for intensive public education and publicity on the difference between the pre-enumeration chalking and listing of structures and the actual/main enumeration in a census.*
10. *Google form is not an efficient tool to administer IM questionnaires since internet connectivity may adversely affect the exercise.*
11. *Countries that are yet to conduct a census should investigate why some corrections effected by field personnel and resynched to the server do not reflect in the error reports generated by DQMs.*
12. *Estimating populations or using several structures to update /re delineate the previous census EA maps is not an efficient way of creating reasonable-size EAs.*

English Language Dictation

- ① Sun-rise
- ② ground
- ③ Village
- ④ Kubbish

⑦

⑧

⑨

Keep





Independent monitor with field personnel

5.0

Conclusions and recommendations

REPORT ON INDEPENDENT MONITORING
OF GHANA 2021 POPULATION AND HOUSING CENSUS

Conclusion

The team observed that the Census was implemented per UN recommendations as contained in the Principles and Recommendations for PHCs for the 2020 round. All recommended core topics were included in the questionnaire and dully tested before implementation. Some non-core topics were included to address national data needs and also the SDGs.

Recruitment and training of census personnel were well done and the training involved practical sessions even though some enumerators felt the time allotted for the practical sessions were not adequate. Recruitment of census field personnel was advertised in the popular daily newspapers and online. An online application portal was used to receive applications after which shortlisted applicants were interviewed in the district of choice. In addition to educational qualification, the familiarity of the district chosen and the ability to speak at least one local language of the people in the district were the main criteria for selection.

The use of technology to ensure the quality of the census data and the timely release of results was found to have worked perfectly well except for some challenges (extremely large EAs, unmapped areas, difficulties in synching data and lack of cooperation from respondents) which delayed the completion of enumeration in some areas particularly in the Greater Accra Region.

Issues that were observed and which were likely to affect the enumeration were communicated daily to the GSS through a Liaison Officer from GSS and the CTA who in turned updated the Census Management Team. Some of the issues included low publicity, lack of reserve tablets in the districts, insufficient funds for the DDQMT to buy fuel and mobile data, lack of means of transport for supervision, extremely large EAs, insufficient power banks, boundary disputes, absence of reserve Enumerators.

Overall, the IMs indicated that the census enumeration was generally successful despite the aforementioned challenges. Sample the following quotes from some of the key IM programme participants:

“As regional Advisor on Policy and Data in West and Central Africa, I really appreciated the Independent Monitoring and Observation exercise organized for the Census in Ghana and I would like to congratulate Ghana Statistical Service and the UNFPA country office for this experience. What impressed me the most in this Experience is the South-South Cooperation that was valued through the participation of census experts from several countries on the continent which will absolutely contribute to the quality of the data. I plan to work in the coming years to promote this experience in the region so that it is systematized in all censuses”

- Edouard Talnan, Regional Advisor for Policy and Population Data, UNFPA WCARO, Senegal

.....

“Being part of the international independent monitoring team gave me the opportunity to observe the 2021 Ghana Census as it was implemented on the field. I would like to acknowledge the transparency of the GSS who accepted this international independent monitoring, made available all the census technical documents and supported us to observe whatever we wanted to verify. I was also impressed by the massive use of ICT and GIS to monitor and control the quality of Data almost in real-time”

- Mathias KUEPIE, Technical specialist. Coordinator of GRID3 (Georeferenced Infrastructure and Demographic Data For Development) project for the West and Central Africa Region

.....

“ The Ghana 2021 Population and Housing Census was unique in many ways starting with the pomp and splendour that accompanied the launch during the census night. This publicity permitted the citizenry to own the process, the buy-in of objectives and results of the census. Thanks to the leadership of GSS and its board. Ghana is a country worthy emulating”

- Oliver Chinganya, Director, African Centre for Statistics, United Nations Economic Commission for Africa (UNECA), Addis Ababa, Ethiopia

The Ghana Census of 2021 was one of the most successful censuses conducted under the challenging conditions of the COVID-19 pandemic. The Ghana Statistical Services amply demonstrated the benefits of harnessing technology in census operations. The Census was conducted in a record time, and this included dissemination of official results. The United Nations Economic Commission for Africa is honoured to have been a technical partner in the digitalization process of 2021 Ghana Population and Housing Census as we supported the provisioning of tablets, deployment of the dashboards to monitor progress during fieldwork and operational tracking system.

- William Muhwava, Chief, Demographic and Social Statistics, African Center for Statistics, United Nations Economic Commission for Africa (ECA), Addis Ababa, Ethiopia

Recommendations

The success of Ghana's 2021 PHC encouraged the fear of other African countries planning to conduct census during the COVID-19 pandemic period. From the observations and findings of the IMs exercise during the census, the following recommendations were made for future censuses and other data collection exercises.

GSS on PHC Implementation

- *Post enumeration cartographic work should be promptly done to update the national sampling frame/EAs maps. Too large or too small EAs does not help in the assignment of tasks to field personnel to complete coverage within a given time;*
- *Cartographers should be posted to the districts during enumeration to address challenges with EAs and in resolving boundary disputes;*
- *Enumeration should be undertaken in a relatively stable month preferably when learning institutions are closed and the weather is conducive (not raining season);*
- *During recruitment, efforts should be made to recruit people who would have full time for the census and not take the census as a part-time job;*

- *Caution should be taken when using an online application platform to recruit field personnel since areas without internet coverage may have no applicants;*
- *The Census Steering Committee should lobby the Government of Ghana to declare a public holiday for the first day of the enumeration as this will ensure most people are at home for enumeration and will also serve as publicity, especially regarding the Census Night;*
- *Arrangements should be made to provide every district with a functional vehicle with fuel to enhance supervision. Where possible local authorities and committees should be approached to assist in this regard;*
- *Samples of tablets and other equipment for the census to be procured should be adequately tested to avoid malfunctioning and slowing down during data collection;*
- *There is a need for reserve tablets in the districts to replace malfunctioning tablets;*
- *Bags for field personnel should be fitted with solar chargers;*
- *Undertake telecommunication network coverage mapping to ensure that appropriate sim cards are purchased and distributed accordingly; and*
- *Advocacy, publicity and education should be planned and well-executed to ensure the cooperation*

UNFPA on PHC Independent Monitoring

- *Independent monitoring of a PHC should be adequately planned to avoid challenges associated with delay in mobilizing resources and execution of all activities of the census including chalking and listing structures; and the*
- *Involve local consultants with expertise/experience in census taking and the monitoring.*

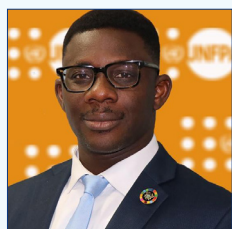




IM observing the enumerator interview households

Appendix

Appendix A1: Technical Planning and Facilitation Committee



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UNFPA Country Representative



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MR ERIC OKRAH
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MR. DAVID YENUKWA KOMBAT
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MS. DAISY GAYE
*Head of Operations,
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MR. JONATHAN NUSETOR
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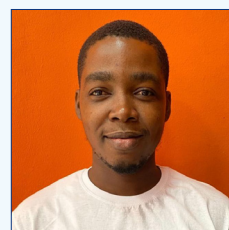
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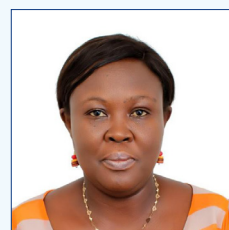
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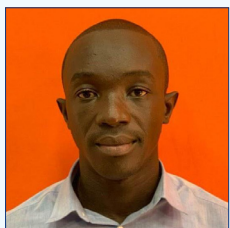
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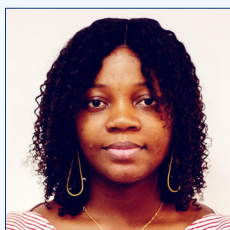
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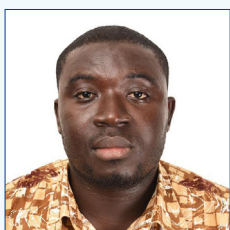
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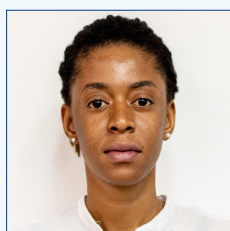
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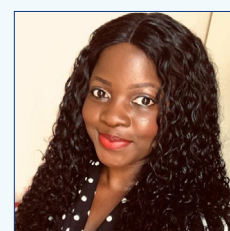
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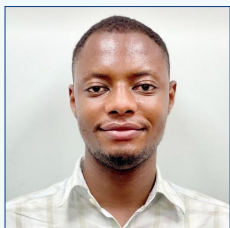
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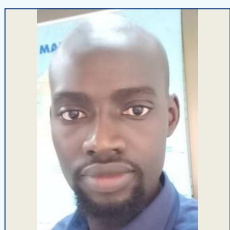
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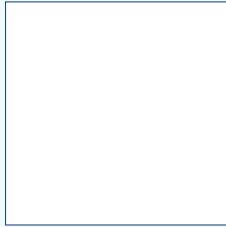
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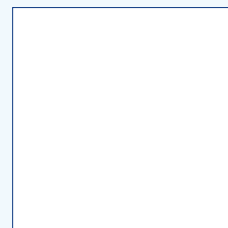


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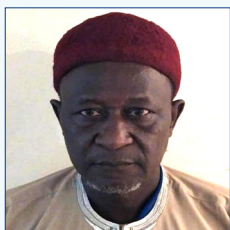
National Statistical Service



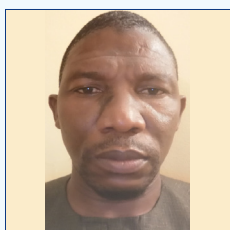
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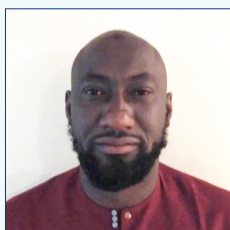
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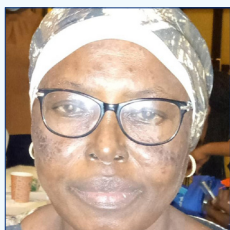
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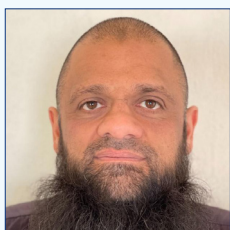
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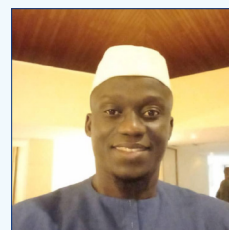
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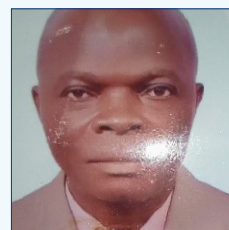
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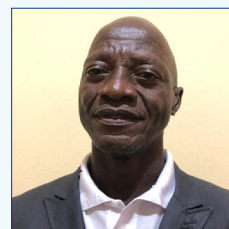
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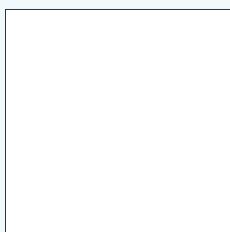
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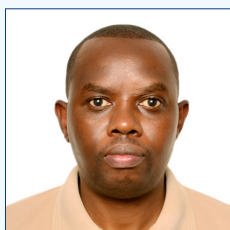
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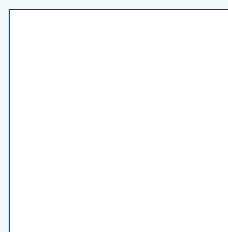
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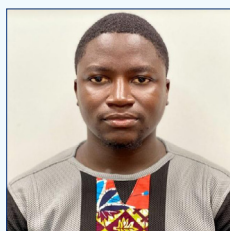
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Enumerators on the field

Appendix A3: Programme for Training of Monitors

INDEPENDENT MONITORING OF GHANA 2021 PHC

17-18 JUNE 2021 | UNFPA CONFERENCE ROOM | ACCRA

Moderator: Collins Opiyo | Chief Technical Adviser (CTA)

TIME	ACTIVITY	RESPONSIBILITY	SESSION FACILITATOR
DAY 1 17 JUNE 2021			
8.30am –9.00am	Registration	Efua Turkson, UNFPA	Efua Turkson
9.00am-9.20am	Opening prayer Introductions Climate setting, welfare Announcements Security Briefing	Efua Turkson, UNFPA Eric Okrah, UNFPA	Collins Opiyo UNDSS
9.20am-9.35am	Opening remarks	Niyi Ojuolape , UNFPA Country Representative Edouard Talnan , Policy Adviser, Demographic Dividend, WCARO Prof. Samuel K. Annim , Government Statistician and Chief Census Officer, Ghana Statistical Service	Collins Opiyo
9.35am-10.45 m	Overview of Ghana 2021 PHC Geospatial Dimensions: Census Maps, scores of difficulties Enumeration Methodology, Listing and Enumeration, Instruments and Procedures Q&A	Ghana Statistical Service	Edouard Talnan
10.45am-11.00am	Coffee Break	UNFPA, Ghana	Mutaru Goro
11.00am-12.00pm	Overview of Ghana 2021 PHC Recruitment and Training Data Capture and Transfer Q&A	Ghana Statistical Service	Edouard Talnan

12.00pm-1.30pm	Overview of Ghana 2021 PHC DDQMT: Data Quality Assurance, IT Support, Field Operations, Supervision and Monitoring Q&A	Ghana Statistical Service	Edouard Talnan
1.30pm-2.30pm	Lunch Break		
2.30pm-3.30pm	Overview of Ghana 2021 PHC Finance and Logistics PEA Q&A	Ghana Statistical Service	Eric Okrah
3.30pm-4pm	Coffee Break	UNFPA, Ghana	Eric Okrah
4.00pm-5.00pm	Overview of Ghana 2021 PHC Administration, Management and Coordination (Secretariat) Monitoring and Evaluation Q&A	Ghana Statistical Service	Eric Okrah
5.00pm-5.30pm	Closing and Prayer	Efua Turkson, UNFPA	Eric Okrah
DAY 2 18 JUNE 2021			
8.00am-8.30am	Registration		
8.30am-8.40am	Opening Prayer Announcements		
8.40am-9.35am	Overview of Ghana 2021 PHC Independent Monitoring <ul style="list-style-type: none"> • Rationale • Objectives • Concept 	Collins Opiyo, CTA	Mathias
9.35 am-10.30 am	Monitoring Methodology Sample design, tools and procedures	David Kombat	Mathias
	Q&A		

10.30am-10.45am	Coffee break	UNFPA, Ghana	
10.45am-1.30pm	Monitoring Methodology Sample design Instruments, tools and procedures Q&A	David Kombat Edouard Talnan Collins Opiyo Eric Okra Togo CTA	Mathias
1.30pm-2.30pm	Lunch Break	UNFPA, Ghana	
2.30pm-3.30pm	Fieldwork organization <ul style="list-style-type: none"> • Formation of teams, • Oath-taking • Accreditation • Travel • Logistics • Management and coordination Q&A	Mutaru Goro Micheal Bekoe Daisy Gaye David Kombat Collins Opiyo, CTA	Togo CTA
3.30pm-4.30pm	Next Steps: Timeframe /Work Plan Q&A	Collins Opiyo, CTA Mathias/Edouard Niyi Ojuolape, UNFPA Rep	Togo CTA
4.30pm	Closing prayers Beverage & Departure	Mutaru Goro	

Please contact us for further information: Dr. Collins Opiyo via (opiyo@unfpa.org and +233-055-991-4691) and Mr. Eric Okrah (okrah@unfpa.org and +233-545-515-989)

Appendix 4A: Orientation of Independent Monitors

PROGRAMME FOR PHASE 2 [IN-PERSON] TRAINING AND ORIENTATION OF INDEPENDENT MONITORS

25TH JUNE 2021 | LA PALM HOTEL | ACCRA

Moderator: Mathias Kuepie | UNFPA, HQ

TIME	ACTIVITY	RESPONSIBILITY	SESSION FACILITATOR
DAY 1 17 JUNE 2021			
8.00am–8.30am	Registration	Rachel Obidiah	Efua Turkson
8.30am–9.00am	Opening prayer Introductions Housekeeping Security Briefing	Efua Turkson	Eric Okrah UNDSS
9.00am–9.15am	Opening remarks	Niyi Ojuolape , UNFPA Country Representative Edouard Talnan , Policy Adviser, Demographic Dividend, WCARO Collins Opiyo , UNFPA Chief Technical Adviser, Ghana 2021 PHC	Eric Okrah
9.15am–9.30am	Phase 1 (Virtual) training of CIM: Highlights	Mathias Kuepie	Eric Okrah
9.30am–9.45am	Coffee Break	UNFPA, Ghana	Efua Turkson
9.45pm–1.45pm	Methodology Tools Q&A	David Kombat	Edouard Talnan
1.45pm–2.15pm	Lunch Break		
2.15pm–3.45pm	Tools Q&A	David Kombat	Edouard Talnan
3.45pm–4.00pm	Coffee Break	UNFPA, Ghana	Efua Turkson

4.00pm-4:45pm	Fieldwork organization <ul style="list-style-type: none"> • Formation of teams, • Oath-taking • Accreditation • Travel • Logistics • Timeframe /Work Plan • Management and coordination Q&A	David Kombat Mutaru Iddrisu Efua Turkson Micheal Beckoe Daisy Gaye	Macoumba Thiam
4:45pm-5.00pm	Closing remarks Closing prayer	Collins Opiyo, CTA Mathias Kuepie Niyi Ojuolape, UNFPA Rep Mutaru Iddrisu	Macoumba Thiam

Rapporteurs: Raf Adams, UNFPA Ghana

Ayodele Ojo, UNFPA Ghana

Martha Hans Bello, UNFPA Ghana

IT Support: Emmanuel Adare

Nana Oduro Nketiah

GIS Support: Justin Okoo

Please contact us for further information: Mr. Eric Okrah (okrah@unfpa.org and +233-545-515-989) and Ms. Efua Turkson (turkson@unfpa.org and +233506843406)

Appendix 5B: Monitoring Tools

Form 1: Rules of Engagement for Independent/Peer Monitors/Observers

I _____ as an Independent Monitor/Observer for the 2021 Ghana Population and Housing Census (PHC), do undertake to abide by the following Rules of Engagement in the course of my assignment:

- *I will conduct the monitoring/observation according to the terms of reference and the procedures and methods set and explained during the training;*
- *I will not speak to the press during or about this assignment as Independent Monitor/Observer;*
- *I will at all times be mindful that my assignment is only to monitor/observe the Ghana 2021 PHC data collection process;*
- *I will not interfere with the data collection exercise in any way or at any time;*
- *I will not accept any money or gifts from any person or group in relation to this assignment;*
- *I will remain strictly neutral and objective at all times while performing my assignment as Independent Monitor/Observer;*
- *I will not discuss political, religious or cultural issues, or allow myself to be involved in controversial arguments;*
- *I will strictly respect and uphold the confidentiality of all aspects of the Census process;*
- *I will report, as directed, only to the Team leader or Coordinator;*
- *I will be civil/courteous/polite at all times to the local population and to all Census Staff; and;*
- *I will observe all COVID-19 preventive measures during the whole duration of the mission.*

Signature: ----- Date: -----

P.s. To be administered together with the “Oath of Office and Secrecy”

Form 2: DISTRICT Census Office Observation

Observation Team	
Names of the Monitor(s)/Observer(s)	
Date of visit	
Region	
District	
GPS coordinates of District Census Office block	
Physical address of District Census Office block (i.e. Street name, no., area name etc.)	

NO.	ITEMS	1=YES 0= NOW 9=N/A	COMMENTS	SOURCE OF INFORMATION
1	Does the district have a suitable Census Office (at least a room dedicated for census activities, furnished, equipment, accessible)?			
2	Are publicity/advocacy material visible around the District Census Office?		If Yes, state the type of advocacy/publicity materials (posters, flyers, stickers, banners, etc.)W	
3	Number of publicity/ advocacy materials (posters, flyers, stickers, banners, etc.) received	Poster Flyers Stickers Brochures	Please specify, by type and numbers	
4	Are publicity/advocacy messages broadcasted in the District?		Please specify, by type and numbers	
5	Were / are the census equipment (tablets and accessories, power banks, solar panels, laptops, etc.) securely kept in a locked / guarded office/room/safe?		Question may assess the situation with respect to equipment already distributed, reserves and returned equipment at end of fieldwork)	
6	Are there reserve Census officials ready to be deployed in any event?		Please specify number of reserve enumerators and supervisors	

7	How many vehicles and motorbikes are available and fuelled for census operations in the District		Please specify by the means of transportation	
8	Does the IT Supervisor(DIT) have a dedicated means of transportation?		Please specify	
9	Does every SA/EA and every personnel assigned have a functional tablet?			
10	Are there extra census mobile devices and other equipment to be distributed in case of shortages, malfunctions, losses, or damages?		Please indicate number of reserve tablets	
11	Are there concerns around tablets malfunctions or unreliability?		please briefly explain	
12	Were there specific arrangements in place to avail supporting infrastructure for digital enumeration (e.g. power supply or back up, internet connection)?		Please specify	
13	Were there arrangements for adequate security for census personnel as/when needed?		please briefly explain	
14	Are all field officers (enumerators and supervisors) recruited from within the District?			
15	Are all enumerators deployed in their localities of residence or preferred localities?		Please indicate how many enumerators out of the total are affected	
16	Were there challenges experienced during training of personnel?		Please specify	

17	Was time allocated for field practice during training adequate?		Please briefly explain	
18	Are there COVID-19 PPEs in the Census Office			
19	What activities were carried out as part of the Census Night celebrations in the District		Please specify	
20	Are Census officials in the District observing COVID-19 protocols			
21	Was training of field personnel disrupted at any centre?		Please briefly explain	
22	Are there any acts or major activities that might disrupt census activities in any part of the district, including boundary disputes?		Please briefly explain	
23	Were there arrangements for adequate security for census personnel as/when needed?		Please briefly explain	
24	Is there responsive and timely communication from HQ and/ or Region of crucial info?		Please briefly explain	
25	Is weather (rainfall) impeding work rate or output?		Please briefly explain	
26	How would you rate telecommunication coverage in the District (excellent, good, fair, poor)?		Please briefly explain	

27	How would you rate data synching challenges, if any) None, negligible, frequent)?		Please briefly explain	
28	How would you rate electric power supply in the District (Excellent, good, fair, poor)?		Please briefly explain	
29	Does Field Supervisor conduct re-interviews as instructed?		Please briefly explain	
30	Does DQM provide daily error reports for each EA?			
31	Are there any other specific concerns or occurrence that potential impede successful census taking in the District?		Please briefly explain	
32	General comments		Please briefly describe your overall assessment	

Note: Questionnaire to be administered once in every District selected, either during Listing or Enumeration.

GHANA 2021 POPULATION AND HOUSING CENSUS

Form 3: Chalking and Listing of Structures (EA observation)

Observation Team	
Names of the Monitor(s)/Observer(s)	
Region	
District	
SA Number	
Enumeration Area Name and code	
Date of observation	

NO.	ITEMS	1=YES , 0= NO , 9=N/A	COMMENTS
1	Does Enumerator have the interactive EA map on the Tablet?		
2	Did/Does the enumerator canvass the EA and plan his/her work before commencing chalking/Listing?		
3	Did/Does the Enumerator introduce himself/herself properly to household members especially the household heads the purpose of his/her visit?		
4	Did/Does Enumerator explain the purpose of his/her visit and seek respondent's consent?		
5	Does Enumerator assure the respondent of confidentiality?		
6	Did/Does the respondent give consent for the interview?		
7	Did/Does Enumerator have multi-coloured chalks?		
9	Did / Does the Enumerator chalk properly (readable, visible and secured from possible erasure by rainfall or children) ?		

10	Did/Does enumerator chalk, list and sync data for the first 10 structures?		
11	Did/Does the Enumerator use systematic method of/listing (serpentine)?		
12	Did/Does Enumerator only chalk/ List eligible structures?		
12	Did/Does the Enumerator correctly identify the type of structure?		
13	Did/Does the Enumerator correctly identify the use of the structure?		
14	Did/Does Enumerator skip/miss any structure(s)?		
15	Did/Does enumerator duplicate any structure(s)		
16	Did/Does the Enumerator inform the residents not to delete/erase the chalking?		
17	Were/Are publicity/advocacy materials visible in the EA?		
18	Did/Does Enumerator alert the respondents that he/she will return to enumerate them?		
19	Were/Are there instances whereby the Enumerator proceeded with chalking and listing in the absence of the head or another responsible member?		Please state the frequency of occurrence
20	Were any vacant EAs found during house numbering and household listing?		
21	Was / Is there boundary or any disputes that can adversely affect Listing in the EA?		

22	Was/Is EA selected for re-interview?		
23	Was/Is chalking and listing of structures completed in the selected EA?		
24	Has Enumerator been visited by the Supervisor?		Please state number of times
25	Has Supervisor accompanied Enumerator to observe or monitor his/her work?		
26	Has the Supervisor held discussions with the Enumerator, in person or via call, about his/her work?		
27	Has the Enumerator sought the Supervisor's help in relation to his/her work?		
28	Has the Enumerator received and responded to error reports from DDQMT?		Please state number of times, errors
29	How many structures we listed by the Enumerator the previous day?		
30	Has the Enumerator experienced any tablet malfunction or challenges?		
31	Did/Does the Enumerator sync data daily to Supervisor?		
32	Did/Does Enumerator sync data daily to server?		
33	Did/Does Enumerator back-up data frequently/daily on SD card?		
34	Does the Enumerator wear appropriate clothing and footwear?		
35	Does the Enumerator wear Census uniform and ID visibly?		

Form 4: Enumeration Observation

Team No.	
Name of Monitor(s)/Observer(s)	
Date of visit	
Region	
District	
Enumeration Area name	
Enumeration Area code	

NO.	ITEMS	1=YES , 0= NO , 9=N/A	COMMENTS
COMPLETE SECTION BY OBSERVATION FOR EACH HOUSEHOLD INTERVIEW OBSERVED:			
1	What is the sex of the Enumerator?		
2	Is the Enumerator wearing census ID?		
3	Is the Enumerator wearing census vest/jacket?		
4	Is the Enumerator carrying a census bag?		
5	Was the selected household listed?		<i>If no how does the Enumerator deal with the situation i.e. what corrective measures did she/he apply?</i>
6	Does the Enumerator explain the purpose of his/her visit and seek respondent's consent before commencing the interview?		
7	Does the Enumerator assure the respondent of confidentiality?		
8	Does the Enumerator establish rapport with and settle down the respondent before starting the interview?		
9	Does the household or respondent give consent for the interview?		

10	Is the Enumerator following the correct sequence to determine the accurate household list i.e. proper household identification, listing of members, starting with head and nuclear family and working down to non-relatives, including members temporarily absent?		<i>Refer to Household Roster on page 147 (subsection 15.2.7) of Enumerator's manual for more details.WW</i>
11	Does the Enumerator clearly understand and explain well the basic concepts and definitions e.g. household, household head, usual member?		<i>Chapter 5, Section 5.3 subsection 5.3.1-5.3.6 (pages20-24) of the Enumerator's manual explains basic concepts and definitions. You can tell if the enumerator has clearly understood them by the way he explains the questions to the respondent, or whether the respondent has difficulty understanding the questions.</i>
12	Does the Enumerator refer or relate the questions to the Census Night?		<i>The Census Night is 27th June 2021. Enumerators should continuously make reference to the Census night to understand the true status of household and individual attributes. This is especially important for interviewing of the household population starting from 28th June 2021.</i>
13	Does the Enumerator read out the questions as written?		<i>Please refer to the questionnaire for the exact wording of the questions.</i>
14	Did the respondent refuse to answer some specific questions?		
15	If Yes in 14, what did the Enumerator do?		<i>Briefly explain</i>
16	Does the Enumerator stick to the official translation and not using his/her own words?		
17	Is a translator used during the interview?		
18	Is the Enumerator polite and generally well behaved/ composed during the interview?		
19	Does the Enumerator refer to the manual as/when needed?		

20	Does the Enumerator use call-back cards when there is no suitable/qualified respondent available?		<i>If target household is not available please make a note and accompany the Enumerator to the next household. Enter N/A if not observed</i>
21	Does Enumerator spend enough time to elicit proper responses to core questions (e.g. AGE)?		<i>Please refer to detailed info on age reckoning (Enumerator's manual page 156, Po2), and indicate whether Enumerator uses historical calendar of events (page298-302) where necessary.</i>
22	Does the Enumerator ask questions for the following fields/ variables in the right manner, including duration of interview (.....)?		
22.1	(determination of) STATUS A		<i>Usual household members present on Census Night</i>
22.2	(determination of) STATUS B		<i>Visitors present on Census Night</i>
22.3	(determination of) STATUS C		<i>Usual household members absent on Census Night</i>
22.4	(determination of) Emigrants		<i>Please refer to Enumerator's manual, section 15.2.10 (page 152-155)</i>
22.5	ETHNICITY		<i>Please refer to Enumerator's manual (page 158, Po4)</i>
22.6	RELIGION		
22.7	CHILDREN EVER BORN		<i>Please refer to Enumerator's manual (page 217-, P20). Observe the introduction to the module, whether enumerator follows the recommended sequence of questioning, acknowledges the sensitivities around the questions and eliciting info directly from respondent.</i>
22.8	DIFFICULTY IN PERFORMING ACTIVITIES		<i>Please refer to Enumerator's manual (page 207-210)</i>
22.9	ECONOMIC ACTIVITIES		<i>Please refer to Enumerator's manual, section 24 (pages 165-207)</i>
22.10	HOUSEHOLD DEATHS		<i>Please refer to Enumerator's manual, section 16.7 (pages 219-221)</i>
22.11	OWNERSHIP OF ASSETS		<i>Please refer to Enumerator's manual pages 239-255)</i>
22.12	TYPE OF MARRIAGE		<i>Please refer to Enumerator's manual page 161, P10.</i>
23	What's the duration of entire household interview (in minutes)?		<i>Please specify duration of interview in minutes</i>

24	Did Enumerator wear Facemask during the interview?		
25	Did the Enumerator observe physical distancing (at least 2m from the respondent) during the interview?		
COMPLETE BY INTERVIEWING THE ENUMERATOR AT THE END OF THE HOUSEHOLD INTERVIEW (COMPLETE SECTION FOR EACH ENUMERATOR OBSERVED):			
26	What is the Enumerator's highest level of education?		<i>Please specify using code list provided on page 64-65 of Enumerator's manual</i>
27	What is the total number of household members enumerated?		<i>Please provide household size here; distinguish between de facto (census day) and de jure (usual) populations.</i>
28	Did the Enumerator encounter vacant households or absentee members?		<i>Refers to current interview. Does he/she use call-back cards? Please ask Enumerator to explain his/her plan for making call-backs (refers to overall Enumerator's plan for handling call-backs)</i>
29	Does Enumerator experience any difficulties using the tablet (malfunction, freeze, etc.)?		<i>Please refer to the interview(s) observed, or any others done by the Enumerator interviewed</i>
30	Does Enumerator promptly receive IT support whenever needed?		<i>Please specify the nature of support</i>
31	Does Enumerator have sufficient power supply back-up for the tablet?		<i>How many hours does enumerator work per day, on average?</i>
32	Is there any security threat or safety concerns to the Enumerator?		
33	Is security provided if/when needed?		<i>If no, how does the enumerator cope when needed?</i>
34	Has there been any security incident that scared off respondents in Enumerator's EA?		<i>If yes, briefly describe the incident, whether it has been reported by the enumerator, and to whom?</i>
35	Would you say the training and instructions you (enumerator) received prepared you adequately for the assignment?		<i>If no please specify areas of inadequacy or challenges experienced by enumerator</i>
36	How many times has the Field Supervisor (FS) visited you?		<i>Indicate number of times since listing</i>

37	Would you say the supervisor's visit was of benefit to you in relation to the enumeration?		<i>How do you mean? Please state benefits</i>
38	Apart from the FS, has any other senior Census official or monitor visited you?		<i>If yes please specify title and purpose of visit and action taken, if any</i>
39	Would you say the visit by the senior census official/monitor was of benefit to you in relation to the enumeration?		<i>Briefly explain</i>
40	Has Enumerator experienced Tablet or CAPI related challenges?		<i>If yes, please explain, including frequency of occurrence</i>
41	Has Enumerator experienced any challenges syncing data?		<i>If yes, briefly explain</i>
42	Does Enumerator sync data daily?		<i>If no, briefly explain</i>
43	Has Enumerator experienced any enumeration related challenges that the FS couldn't resolve?		<i>If yes, briefly explain</i>
44	General comments		

GHANA 2021 POPULATION AND HOUSING CENSUS

Form 5 A: Data Quality Assurance and Transmission [for DDQMT]

Observation Team No.	
Name of the Monitor(s)/Observer(s)	
Date of visit	
Region	
District	
Supervision Area (SA) ID	
Name District Census Officer	
Name of District Field Supervisor (DFS)	
Name of District Data Quality Monitor (DQM)	
Name of District IT Support (DIT)	

NO.	ITEMS	1=YES , 0= NO , 9=N/A	COMMENTS
DISTRICT FIELD SUPERVISOR (DFS)			
1	What's the sex of the District Field supervisor (DFS)?		<i>Specify sex</i>
2	What is the highest level of education of the DFS?		
3	How many EAs are in the District?		
4	How many Enumerators are deployed in the District?		
5	Do Field Supervisors observe at least one full interview for every Enumerator in their SAs?		
6	Do Enumerators clearly understand basic concepts and definitions, and generally feel confident about their duties and responsibilities?		<i>If not, please specify concerns and challenges</i>
7	Do Field Supervisors meet and review each Enumerator's completed questionnaires daily?		<i>If yes, please explain process</i>
8	Do the Field Supervisors frequently find errors in data collected by enumerators in their SAs?		<i>Please specify nature of errors. Question refers to reports of all Enumerators under supervisor.</i>

9	Do Field Supervisors conduct re-interviews?		<i>If yes, please indicate number of re-interviewed hhs</i>
10	Has any Enumerator in the District been laid off for underperformance or misconduct?		<i>Please explain, quantify</i>
11	Do Enumerators experience any difficulties using the tablet (malfunction, freeze, etc.) in the District?		<i>Please specify how many enumerators under the supervisor's jurisdiction have had challenges using their tablets.</i>
12	Has the Field Supervisor experienced tablet malfunction?		
13	Have you experienced any boundary related disputes in the District?		<i>If yes, please specify, and whether this has interfered with enumeration, and in what way(s). What is being done to resolve the disputes?</i>
14	Have you referred any issues to the Regional Field Supervisor (RFS) that he/she could not resolve?		<i>Please explain and quantify</i>
15	Would you say the training and information you received are adequate to support your tasks accomplishment?		<i>If no please specify areas of concern or challenges</i>
16	What's the highest error rate registered during the re-interviews for any EA in the District?		<i>Error rate=incorrect responses / total responses *100 Calculate and state error rate based on re-interviews for the specified EA.</i>
17	What's the highest error rate registered during the re-interviews for the District?		<i>Error rate=incorrect responses / total responses *100 Calculate and state error rate based on re-interviews for the specified EA.</i>
18	Any other challenges/concerns		
19	General comments		
QUESTIONS FOR DISTRICT IT SUPPORT (DIT)			
20	What's the Sex of the DIT?		<i>Specify sex</i>
21	What is the highest level of education of the DIT?		
22	Does the District have adequate tablets for the Census?		

23	Is there at least one functional tablet assigned to every EA in the District?		
24	Do Enumerators have sufficient power supply or back-up for the tablet?		
25	Has the DIT handled any device related malfunctions?		<i>If Yes – please explain, quantify</i>
26	Would you classify the telecommunication network coverage in District as...? 1. Excellent 2. Good 3. Fair 4. Poor		<i>Please explain</i>
27	Has any Supervisor or Enumerator experience difficulties synching data in the District?		<i>Please explain, quantify</i>
29	Do Enumerators promptly receive DIT support whenever needed?		<i>Please specify the nature of support. Indicate to total requests and number supported</i>
30	Would the DIT Supervisor categorise device related malfunctions as either negligible/ minimal, or non-negligible/ significant?		<i>Specify and explain Indicate total no. of tablets reported to have malfunctioned.</i>
31	Would DIT say the training and information he/she received are adequate to support his/her task completion needs?		<i>If no please specify areas of concern or challenges</i>
32	Does DIT have a reliable transportation means or plan in case of need?		
33	Does the DIT get adequate support from the RIT?		
34	How frequently (Daily, not daily, never) does the DIT speak with, contact or get contacted by RIT?		
35	How frequently (Daily, not daily, never) does DIT refer issues to RIT?		
36	How often (once, more than once, never) has DIT referred issues to RIT that were never resolved?		

37	Other challenges / concerns		<i>Please specify</i>
38	General comments		
QUESTIONS FOR DISTRICT DATA MONITOR (DQM)			
39	What's the Sex of the DQM?		
40	What is the highest level of education of the DQM?		
41	Does the DQM have functional adequate laptop?		
42	Would DQM say the training and information he/she received are adequate to support his/her task completion needs?		<i>If no please specify areas of concern or challenges</i>
43	Does DQM have adequate internet data to perform his/her functions effectively?		
44	Does DQM send out error reports to each FS daily?		
45	Do DFS / FSs rectify all errors daily?		
46	Any other challenges		
47	General comments		

GHANA 2021 POPULATION AND HOUSING CENSUS

Form 5 B: Data Quality Assurance [for Field Supervisor (FS)]

Observation Team No.	
Name of the Monitor(s)/Observer(s)	
Date of visit	
Region	
District	
Supervision Area (SA) ID	
Name of Field Supervisor (FS)	

NO.	ITEMS	1=YES , 0= NO , 9=N/A	COMMENTS
QUESTIONS FOR FIELD SUPERVISOR (FS)			
1	What's the sex of the Field supervisor?		<i>Specify sex</i>
2	What is the highest level of education of the Field Supervisor?		
3	How many EAs are in your SA?		
4	How many Enumerators are deployed in your SA?		
5	Are there Enumerators in your SA assigned to Type 3 EAs?		<i>Please specify How many EAs are Type 3?</i>
6	What's the average duration (in minutes) for a household interview in your SA?		<i>Average duration (minutes) = total duration of completed hh interviews for all enumerators in minutes / total no. of households</i>
7	Have you observed at least one full interview for every Enumerator in your SA?		
8	Do Enumerators clearly understand basic concepts and definitions, and generally feel confident about their duties and responsibilities?		<i>If not, please specify concerns and challenges</i>
9	Do you meet and review each Enumerator's completed questionnaires daily?		<i>If yes, please explain process</i>

10	Do you frequently find errors in data collected by enumerators in your SA?		<i>Please specify nature of errors. Question refers to reports of all Enumerators under supervisor.</i>
11	Have you conducted any re-interviews?		<i>If yes, please indicate number of re-interviewed hhs</i>
12	Have you found any missed households or household members during re-interview, in the EAs monitored?		<i>Please specify. Members omission rate = (missed members / identified members during re-interview) * 100 Household omission rate = (missed households / identified households during re-interview)*100</i>
13	Have you observed any duplications (or over-coverage) of households members in the SA?		<i>Please specify. Calculate over-coverage rate = [erroneous inclusions + duplications] / correctly enumerated * 100</i>
14	What is the overall error rate you found for the EAs monitored?		<i>Error rate=incorrect responses / total responses *100 Calculate and state error rate based on re-interviews for the specified EA.</i>
15	Has any Enumerator failed to submit his/her work to you as expected in any given day?		<i>If yes, please explain why?</i>
16	Would you say the training and information you received are adequate to support your tasks accomplishment?		<i>Please explain, quantify</i>
17	Have you found/noted in variation/errors in the reports for the following variables during re-interview [...]?		<i>Provide overall comments here</i>
17.1	AGE		<i>Please elaborate. Indicate age reported by Enumerators versus observed by supervisor. Indicate total no. of cases AGE is misreported by a margin of 2 years.</i>
17.2	SEX		<i>Indicate reported by enumerators versus observed by supervisor.</i>
17.3	CEB (Children ever Born alive)		<i>Indicate no. reported by Enumerators versus observed by supervisor.</i>
17.4	DIFFICULTY IN PERFORMING ACTIVITIES		<i>Please elaborate</i>

17.5	NUMBER OF HOUSEHOLD DEATHS		<i>Indicate no. reported by enumerators versus observed by supervisor.</i>
17.6	ECONOMIC ACTIVITY STATUS (during 7 days preceding Census Night)		<i>Does enumerator make reference to 7 days period, usual occupation, usual industry, ensure age threshold is observed i.e. 5+ years (tendency to leave out children)?</i>
18	Do Enumerators experience any difficulties using the tablet (malfunction, freeze, etc.) in your SA		<i>Please specify how many enumerators under the supervisor's jurisdiction have had challenges using their tablets.</i>
19	Has any Enumerator reported tablet damage or loss in your SA?		<i>If Yes, specify number of tablets damaged or lost</i>
20	Have you experienced tablet malfunction (with the tablet you use)?		
21	Are you able to get help/ replacement promptly in the event that your tablet or that of your enumerator's tablet malfunctions?		<i>Please explain the process of tablet replacement. Specify no. of tablets replaced thus far, if any</i>
22	Have you failed to transfer completed/cleared data to the server on any given day?		<i>If yes, please explain why and quantify?</i>
23	Do you receive adequate/prompt support from IT supervisor if/ when needed?		<i>Specify nature of support received so far, including for enumerators under supervisor</i>
24	Has DIT managed to resolve all device related malfunctions or challenges brought to his/her attention?		
25	Has any Enumerator lost significant work time (> 2 hrs) due to device related malfunctions or challenges?		
26	Have you experienced any boundary related disputes in his/ her SA?		<i>If yes, please specify, and whether this has interfered with enumeration, and in what way(s). What is being done to resolve the disputes?</i>
27	Are there any unresolved refusals by respondents?		<i>If Yes, ask and specify the number of households that have completely refused to take part in the interview, if any?</i>

28	Do you receive adequate support and facilitation in general from the District Field Supervisor?		<i>Indicate no. reported by enumerators versus observed by supervisor.</i>
29	Have you referred any issues to the District Field Supervisor (DFS) that he/she could not resolve?		<i>Does enumerator make reference to 7 days period, usual occupation, usual industry, ensure age threshold is observed i.e. 5+ years (tendency to leave out children)?</i>
30	Would say the training and information you received are adequate to support your tasks accomplishment?		<i>If no please specify areas of concern or challenges</i>
31	Other challenges / concerns		
32	General comments		

Form 6: Team's Daily Log-Sheet

Team No.:

Name of Monitors/Observers:

REGION:	DISTRICT:	SAS	EAS:

DATE:

Activities observed today DISTRICT:

Number of interviews observed:

List of people met (names, titles, functions)

Key observations:

Form 7: Persons met / Contact List (Field Observation)

Region:	
District	
SAs	
EAs:	
Team No.	
Names of Monitors/Observers:	

NAME	JOB TITLE	CENSUS FUNCTION	CONTACTS (TEL#)	CONTACTS (EMAIL)	CONTACTS (EMAIL)

Appendix 6: Contact List

NO.	NAME OF PERSON CONTACTED	JOB TITLE	CENSUS FUNCTION	CONTACTS (TEL#)
1	Emmanuel Paemkah	Administrator	DCO	0267135364
2	Edmond Brown	DFS	DFS	0275857788
3	Nathaniel Quaye	DIT	DIT	0242425895
4	Bernice Aggrey	DIT	DIT	0246904094
5	Ernest Afortokey	DCO	DCO	0242559499
6	Alhaji Abdul Salem	Municipal Chief Director	Chair of DCIC	0264188282
7	Isaac Addai	Regional Statistician	Regional Statistician	
8	Kojo Akompreko	Regional Supervisor	Regional Supervisor	024502448
9	Benedicta Owusu Nyarko	Field Supervisor	Field Supervisor	0208154432
10	Donkor	DCO	DCO	0243773366
11	Alice Boison	Field Supervisor	Field Supervisor	0541832404
12	Enoch Osei	Field Supervisor	Field Supervisor	05413986630
13	Papastin	District Field Supervisor	District Field Supetvisor	0244240625
14	Bashiru	District Field Supervisor	District Field Supervisor	0244487830
15	Fifi	District IT	District IT	0243407931
16	Gabby	District IT	District IT	0244261386
17	Abdul Salaam Ampiah	Field Supervisor	Field Supervisor	0241059664
18	Paul Bosomtwe	Enumerator	Enumerator	0546830711
19	John Cobinah	Field Supervisor	Field Supervisor	0240585101

20	Meshach Srodah	Brooker	Field Supervisor	0245752265
21	REUBEN AFETSI	DCO	same as above	0249820162
22	CHRIS AMEWU	RS	Reg. Census Officer	
23	Gagakuma Setriakor	DFS	DFS	
24	PAMELA AGBAGLO	FS	FS	
25	PAMELA PI-BANSA	Enumerator	Enumerator	
26	ABIGAIL ASAMOAH	FS	FS	
27	CHRIS TOVOE	DQM	DQM	
28	BLESSING AWUSAGBA	Enumerator	Enumerator	
29	Bright Ege	DQM	DQM	0243571996
30	Vida Agbeve	Enumerator	Enumerator	
31	Kosi Kosipa	Field Supervisor	Field Supervisor	
32	Danya Ericson Kofi	Enumerator	Enumerator	
33	- Hon. John B. Ninson	Municipal Chief Executive	None	
34	Anthony Adade	DCO	DCO	0244132153
35	Fred Laryae	Self Employed	DCO	026776811
36	Magdalene Danquah	Student	F supervisor	0552490931
37	Emmanuel Sottie	Data Monitor	Monitoring data	0548311444
38	Francis Gyebi	Data monitoring	Monitoring data	0242018811
39	Isaac T. Angmor	D.C.O	Administrator	0243153748
40	Eva Banson	Enumerator	Enumerator	0542318531

41	Jerry Linus Bog-Ynoye	DFS	Field supervision	0544796452
42	Allan Kwame Imbeah	DIT	Field supervision	0541151915
43	Foli Edwin	DFS	Field supervisor	0552511711
44	Daniel Danko Kofi	Field supervisor	Field supervisor	0243114020
45	Esther Nanama Dever	Field supervisor	Field supervisor	0209129242
46	Jeffery Kevin Asare	Field supervisor	Field supervisor	0200563119
47	Emmanuel O. Mensah	Field Enumerator	Enumerator	0545204201
48	Prosper Mensah	Municipal Statistician	Field Supervisor	0246864029
49	Abdul Rashid Lansah	District Census Officer	DCO	0555083562
50	Abdul Ganiu Abubakari	District IT support	DIT	0549287584
51	Anita Asige	District IT support	DIT	0246130414
52	Desire A. Mawuli	District IT support	DIT	0246128447
53	Yakubu Baba Mohammed	District Field Supervisor	DFS	0541581417
54	Saaka Ibrahim	Enumerator	Enumerator	0240307045
55	Felix Logo	Photographer	Field Supervisor	0248244377
56	Sammed Zankwah	Enumerator	Enumerator	0247734602
57	Amidu Fatawu	District Field Supervisor	DFS	0247073436
58	Sulemana A. Mumin	Field Supervisor	FS	0246031337
59	Yakubu Abu Sufianu	Field Enumerator	Enumerator	0544703065
60	Baaco Alhassan Mustapha	DQM	DQM	0246731644
61	Seth Avusuglo	DCO	DCO	0249710442

62	Abdumalik Addo	DIT	DIT	0543094283
63	Joseph A. Nyantakyi	District Chief Executive	District Chief Executive	0243219715
64	Yaw Adu-Twum	District Census Officer	District Census Officer	0244841526
65	Daniel Antwi	District Field Supervisor	District Field Supervisor	0243882817
66	Kwasi Kedem	District IT	District IT	0246780888
67	George Danquah	Data Quality Monitor	Data Quality Monitor	0547671361
68	Kwabena Sarfo-Kantanka	Field Supervisor	Field Supervisor	0264371197
69	Jacob Ntiamoah	Field Supervisor	Field Supervisor	0200606096
70	Bonney	Field Supervisor	Field Supervisor	0243154109
71	Jacob Ntiamoah	Field Supervisor	Field Supervisor	0200606096
72	William Pharin	DCO	DCO	0244455390
73	Agidi Vincent	Enumerator	Enumerator	
74	Benedicta Ametefe	DIT	DIT	
75	Julius Ahiabu	DQM	DQM	
76	Worlanyo Ablordepey	DFS	DFS	
77	Fred Duho	FS	FS	
78	Mercy Halm	Enumerator	Enumerator	
79	Justice Agbake	Enumerator	Enumerator	
80	Patrick Kwasi	FS	FS	
81	Akutu Anthony	Enumerator	Enumerator	
82	Christuan Asare	DCO	Monitoring	0243266115

83	Alex boateng	DQM	Data monitor	0542959143
84	Samuel Amey	Admin	Administration	0244825336
85	Nathaniel Addo	Statistician	DCO	0242123418
86	Elton Ankrah	National Trainer	DFS	0244567845
87	Nana Yaw Adjei	DCO	DCO	0542768892
88	Avudoahor K. Philip	DCO	DCO	0244861605
89	Theophilus Yao Dortumor	Enumerator	Enumeration	0541422028
90	Wisdom K. Abormegah	District Field Supervisor	DFS	0242378350
91	Mashud Mohammed	Field Supervisor	FS	0270610110
92	Issah A. Aziz	Enumerator	Enumerator	0245264708
93	Seidu Huzeifa	Enumerator	Enumerator	0241788055
94	Bondaya Hussein	Enumerator	Enumerator	0241250838
95	Salifu Mashud	Field Supervisor	FS	0241929120
96	Isaac Mensah	District Census Officer	District Census Officer	0243304508
97	Alhassan Zakaria Abu	Enumerator	Enumerator	0544784948
98	Kwamena S Dickson	District Field Supervisor	District Field Supervisor	0242517664
99	Thomson Kwame Akornor	District Field Supervisor	District Field Supervisor	0245118999
100	Gregory Eshun	Data Quality Monitor	Data Quality Monitor	0547329580
101	Godwin Owusu	District IT	District IT	0247703579
102	Nana Appiah korang	Municipal Chief Executive	Municipal Chief Executive	
103	Emmanuel Ikpe Quarcoe	Municipal Chief Director	Municipal Chief Director	

104	Priscilla Narh	Enumrator	Enumrator	0245265961
105	Patience Eshun	Field Supervisor	Feild Supervisor	0243546766
106	Ofe	Field Supervisor	Field Supervisor	0240236798
107	Anthony Komasi	Enumerator	Supervisor	0275251511
108	Damahe Josiah	DCO	DCO	0245741982
109	Agbenyega Elizabeth	DIT	DIT	
110	Nalikem Finger	DFS	DFS	
111	Moses Zumanu	FS	FS	
112	Agbezuhlor Sela	Enumerator	Enumerator	
113	Issah Kemevor	Enumerator	Enumerator	
114	Shalom Denu	Enumerator	Enumerator	
115	Rosaline Adzogble	Enumerator	Enumerator	
116	Agbegoe Reuben	FS	FS	
117	Emmanuel Akuafio Sabbah	Supervisor	Supervisor	0243844078
118	Gadzekpo Atsu Dennis	District Field Supervisor	DFS	0556146071
119	William	Monitor	Census Monitor	0247477389
120	Alhassan M. Soawii	Field Supervisor	FS	0246388367
121	Stephen Nhar	Enumrator	Enumerator	0242744296
122	Ortimpong Manfred	Teacher	Supervisor	0245904268
123	Agbedam Noam Maku	Field officer/Enumrator	Enumerators	02438774991
124	Zotorvie Geoffrey	Enumerator	Enumerator	0240047145

125	Akorii Teiko Sarah	Field Supervisor	Field Supervisor	0555013032
126	Bernard Bright Grant	District Chief Executive	None	0243083524
127	Martin Sumani Daanko	District Health Director	Member of DCIC	0243753694
128	Mark Lamptey	District Census Officer	District Census Officer	0249739905
129	Prince Kwame Newman	District Coordinating Director	Chairman, DCIC	0243612905
130	Abass Adams	District Data Monitor	District Data Monitor	0242619961
131	Prince Amponsah Oteng	District Field Supervisor	District Field Supervisor	0206334541
132	Edward Darko Ampafu	DIT	DIT	0546012643
133	Seth Owusu-Annor	Gover	Field Supervisor	0240531562
134	Bernard Asare Opoku	Field Supervisor	Field Supervisor	0249327761
135	Miranda Gavor		DIT	0549530446
136	Julius Nornoo		DQM	
137	Wisdom Vordzigbe		DFS	
138	Abdul-Basit Attiogbe		DIT	
139	Wisdom Attigah		FS	
140	Sedem Hamewoo		Enumerator	
141	Salah Frances		Enumerator	
142	Witness Kuagbedzi		Enumerator	
143	Julien Nunekpeku		Enumerator	
144	Leonard Adziboloso		FS	
145	Comfort Dravi		Enumerator	

146	Eugene Okantah		Fleid Supervisor	05498800948
147	Blandina Abena Oklu		Enumerator	0570260726
148	Barbara Kuadzi	Assistant Statistician	DFS	0242636014
149	Beckoe Eunice	Regional Trainer	Supervisor	0245891825
150	Nana Afriyie Osei	Intern	DIT	0502288193
151	Ophelia Sosi		DCO	0543219836
152	John Nortey		DFS	0208339706
153	Seth Sotie	Dist. Director, NCCE	Member of DCIC	0243171542
154	Fidelis Dentel		DFS	0243703936
155	Adu Sarfo Simon		DFS	0242620389
156	Ruebeu Lartey		DIT	0559793464
157	Anna Bortier		DIT	0246018986
158	Patrick Mintah		DIT	0540642893
159	CLEMENT ODOOM	SYSTEM ENGINEER	FS	0271181028
160	Eric Nii Teiko Hammond	Teacher	Enumrator	0553082400
161	Gifty Arithur	Administrator	Administrator	0241456570
162	Daniel Fidelis	DFs	District Field Supervisor	0243703936
163	Kumedzro. Maranda	Supervisor	Supervision	0208215710
164	Anthony Amadu	National service personnel	Enumrator	0561893496
165	Mark Tawiah	Enumrator	Enumerator	0548264501
166	Efua Turkson, Brahim Vall Mohammed, Elyass Didi	Field Supervisor	Field Supervisor	0248316646

167	Richard Yeboah	Deputy Director Asunafo North District Assembly	Member of DCIC	0547515370
168	Luqman Addae Osman	District Census Officer	District Census Officer	0245332480
169	Osei Antwi Robert	District Field Supervisor	District Field Supervisor	0246830918
170	Luqman Addae Osman	District Census Officer	District Census Officer	024332480
171	Albert Yaw Mensah	District Field Supervisor	District Field Supervisor	024970080
172	Akakpo Nicholas	District IT	District IT	0249323655
173	Addai Poku Dickson	District IT	District IT	0205344901
174	Owusu Acheampong Bejamin Bekoe	Data Quality Monitor	Data Quality Monitor	0246132262
175	Theophilus Odartey Mills	Teacher	Enumerator	0548445057
176	Osei Bonsu Snr.	District Chief Executive	District Chief Executive	0244050791
177	Felicia Sarpong	Enumrator	Enumrator	0246830632
178	Felicia Freda Idun- Acquah		Field Supervisor	0548884219
179	Asamoah Damoah	District Coordinating Director	, Chairman of DCIC	0208726809
180	Samuel Essandoh	District Planning Officer	Member of DCIC	024337074
181	Godfred Eddie Bilson		Enumrator	0241898319
182	Kwabla James Adams	Enumerator	Enumerator	0241585807
183	Akuafo Jonathan Narh	Field Enumerator	Enumerator	0541536523
184	Solomon K.D. Okumo	Field Supervisor	Supervision	0265015015
185	Aboagye Abraham	Field Supervisor	Field Supervisor	024929411
186	DENNIS NATHAN AGBOTTAH	SUPERVISOR	Supervision	0243470627
187	Victoria Adjumani	Enumrator	Enumration	0243470627
188	Asare Baffour Bediako	Field Supervisor	Field Supervisor	0243005215

189	Ekuban Patience Abia	Enumrator	Enumerator	0249454761
190	Richmond Owusu Tweneboa	Field Supervisor	Field Supervisor	0243637299
191	Matilda Afuel Gemedil	Supervisor	Supervisor	0248415789
192	Abraham Teye	Enumrator	Enumeration	024667311
193	Ekybad Patience Abia	Enumrator	Enumeration	0249454761
194	Patience Preprah	Feild Supervisor	Feild Supervisor	0264867978
195	Eric Emmanuel Nyarkoh	Teacher	Enumerator	0591053249
196	Joseph Jetuat		District Census Officer	0205086209
197	Kofi Appiah Kubi		DQM	0242047400
198	Collins Antwi Kwarteng		DIT	0244634639
199	Antwi Dennis		DIT	0507663380
200	John Amoateng		DFS	0244974220
201	Deborah Kupoe		Field Supervisor	0277538090
202	Darko Evans		Field Supervisor	0240601385
203	Bayelzine Michael	Field Supervisor	Field Supervisor	0540693725
204	Owusu Evans Fordjour		Enumerator	0541413584
205	Agyei Frimpong		Enumerator	0543842510
206	Lapan Abigail		Enumerator	0540879254
207	Alex Anyetei	Statistician	DCO	0244153897
208	Asakiya Sylvester Sixtus		DFS	0249195786
209	Adu-Gyan Solomon		DFS	0242777709
210	Nicholas Nuamah		DIT	0246337273



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