YOU COUNT, GET COUNTED

THEMATIC BRIEF

Digital Exclusion in Ghana

The AFRICA We Want

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

TRANSFORMING OUR WORLD
THE 2030 AGENDA FOR SUSTAINABLE DEVELOPMENT

GHANA STATISTICAL SERVICE
APRIL 2023

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1. INTRODUCTION

The ability to utilise Information and Communications Technology (ICT) products and services is increasingly gaining recognition as a facilitator of educational success and an essential employable skill. It is also needed for daily activities such as connecting with other people; accessing information on opportunities; and accessing knowledge for decision-making and personal development. Digital exclusion which refers to the lack of access to, and use of, ICT products and services is thus a priority development challenge due to its relevance for individual quality of life and national economic growth.

Multiple targets under the Sustainable Development Goals (SDGs) reflect the importance of increasing ICT access, usage, and skills. These include targets 4.4 (substantially increase the number of youth and adults who have relevant skills) measured using the proportion of youth and adults with ICT skills, by type of skill; 5.b (enhance the use of enabling technology, in particular ICT, to promote the empowerment of women) measured using the proportion of individuals who own a mobile telephone, by sex; and 9.c (significantly increase access to ICT and strive to provide universal and affordable access to the internet in least developed countries by 2020).

In 2003, Ghana launched the ICT for Accelerated Development (ICT4D) policy. Strategies in the policy include transforming Ghana into an information and knowledge-driven ICT literate nation; modernising and expanding Ghana's information and communications infrastructure and services to improve universal access and quality of service; and modernising Ghana's educational system using ICT to improve and expand access to education.

Almost two decades after the ICT4D policy's introduction, the 2021 Population and Housing Census (PHC) *General Report on ICT* indicated that among the population 12 years and older, 3.5 million persons did not use an ICT device in the three months preceding Census Night while 6.0 million did not use the internet within the same period. The report also indicated substantial disparities by region and type of locality in the ownership and use of ICT devices.

The size of the population not using ICT devices and the internet has implications for access to educational, employment, business, and other opportunities. Vulnerable populations such as the poor, persons with disabilities and those living in remote areas are particularly at risk of being digitally excluded. This is because they are more likely to lack the resources to access ICT devices and the skills to utilise them when accessible. They are also more likely to be in locations with inadequate ICT infrastructure.

The nation's ongoing Digital Ghana agenda, which aims to digitise government services and promote the use of digital technologies in key sectors has the potential to deepen existing inequalities by hindering the ability of the digitally excluded

population from accessing public services. The COVID-19 pandemic which precipitated an exponential increase in the use of ICT in different facets of life including education, work, commerce, and financial transactions has also magnified the disadvantage of being digitally excluded.

The 2021 PHC Thematic Brief on Digital Exclusion presents statistics on the digitally excluded population in Ghana with a focus on their socio-demographic characteristics and geographic distribution. The report also depicts the extent of the digital divide, for selected population sub-groups. The objectives of the report are to describe trends in the ownership and use of ICT devices; patterns in the use of ICT devices, internet access, and use of mobile phones for financial transactions; and identify the correlates of digital exclusion.

The report presents statistics in both percentages and absolute numbers to underscore the size of the population that is being digitally left behind and provide information for targeted policies and programmes. This focus aligns with the SDGs' objective to leave no one behind and the Coordinated Programme of Economic and Social Development Policies, 2017-2024 intent to create prosperity and equal opportunity for all.

The subsequent sections of the report present the Definition of Concepts, Data Sources and Measurements; Justification for the Selection of Correlates of Digital Exclusion, Key Findings; Conclusion and Appendices.

2. DEFINITION OF CONCEPTS, DATA SOURCES AND ESTIMATION

2.1. Definition of Concepts

2.1.1. Difficulty in performing activities

This refers to limited or lack of ability to perform specific functions in the following domains: sight, hearing, physical (walking or climbing stairs), intellectual (remembering or concentrating), self-care, and speech.

2.1.2. Digital divide

Refers to the difference between population groups in the use of ICT. Defined in this report as differences in the percentage of the population 6 years and older that did not use an ICT device in the three months before Census Night.

2.1.2.1. Age digital divide

The difference between the age group that has the lowest percentage of persons that did not use an ICT device and the other age groups.

2.1.2.2. Gender digital divide

The difference between males and females in the percentage that did not use an ICT device.

2.1.2.3. Regional digital divide

The difference between the region that has the lowest percentage of persons that did not use an ICT device and the other regions.

2.1.3. ICT device

Refers to electronic equipment that provides access to information and the means to communicate with others. These include phones, tablets, laptops, desktop computers, TVs, and radio sets.

2.1.3.1. Usage of ICT device

Refers to the use of an ICT device in the three months preceding Census Night i.e., April to June 2021. Census Night, 27th June 2021, was the reference point for census enumeration and all questions in the census related to that night.

2.1.4. Level of education

This refers to the highest stage of formal education attended by a person.

2.1.5. Literacy

This refers to the ability to read and write with understanding in any language.

2.1.6. Multidimensional poverty

A non-monetary deprivation measure which uses three dimensions (health, living conditions and education) and 12 indicators (mortality, health insurance, school attainment, school attendance, school lag, cooking fuel, assets, electricity, water, housing, overcrowding and sanitation).

2.1.7. School attendance

School attendance is defined as enrolment and participation in education at an educational institution or programme for organised learning at any level. For analytical purposes this is classified as never attended, attending now, and attended in the past. Attended in the past refers to children that have ever attended school but were no longer in school at the time of the conduct of the census.

2.2. Data Sources

The statistics presented in this report are generated from the 2021 PHC, with data from the 2010 PHC used to present trends.

The 2021 PHC collected data on ICT device usage and internet access in the three months preceding Census Night (i.e., April to June 2021); and ownership of functional ICT devices from the population aged 6 years and older.

The 2010 PHC collected data on individual ownership of mobile phones and use of internet for the population 12 years and older. There was no reference period specified for the 2010 PHC.

2.3. Estimation

The correlates of non-usage of ICT devices and of mobile phones for financial transactions are estimated using a logistic regression. The models for ICT usage are estimated separated for population 6 to 14 years and for population 15 years and older. The model on the use of mobile phones for financial transactions is estimated for the population 18 years and older.

3. JUSTIFICATION FOR THE SELECTION OF CORRELATES OF DIGITAL EXCLUSION

This section presents the justification for the selection of the key correlates of digital exclusion that are presented in the report.

3.1. Difficulty in Performing Activities

Persons with difficulty in performing activities would be expected to have less access to ICT devices in general and specifically ICT devices that are designed for the use of persons with difficulty in specific domains. Particularly, persons with difficulty in seeing would be least likely to use ICT devices as most of these devices involve a visual interface.

3.2. Employment Sector

Given the increasing importance of ICT skills in the labour market, persons that are employed are expected to be more likely in using ICT devices. The sector of employment would also influence digital exclusion as those in the formal sector would be more likely to be using ICT devices.

3.3. Household Ownership of Functional ICT devices

Household ownership of functional ICT devices makes the devices accessible to household members which should increase their likelihood of using an ICT device.

3.4. Literacy

Individuals who are literate would be more likely to utilise ICT devices as reading is a requisite skill for using most ICT devices. It is also probable that literate persons would have the confidence to develop the skills to use ICT devices.

3.5. Level of Education

The level of education would be correlated with the likelihood of using ICT devices for the following reasons. Individuals who are educated would have the skills to use the devices and they would be more likely to be working in jobs that require the use of ICT.

3.6. Multidimensional Poverty

Poor persons will be less likely to have the means to purchase ICT devices which would reduce the likelihood of them using such devices.

3.7. School Attendance

The basic education Common Core Programme Curriculum includes computing as one of the subjects. The aims of the computing courses include acquiring basic ICT literacy; and developing interest and obtaining skills in the use of the internet. As such, children currently attending school in Ghana would be expected to regularly use ICT devices and access the internet.

3.8. Sex

A lower proportion of females would be expected to use ICT devices compared to males. This expectation is based on global statistics from the International Telecommunications Union which indicate that fewer women own mobile phones, own smartphones, and access the internet compared to men.

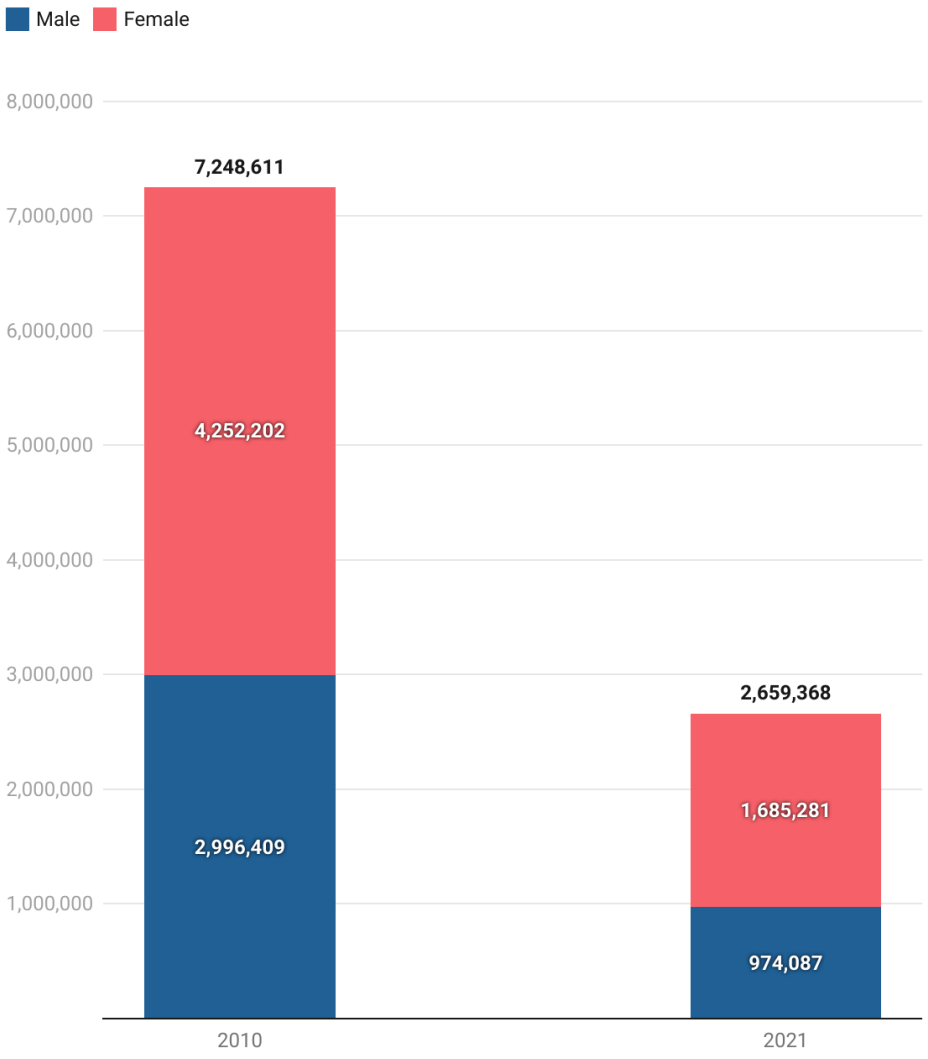
4. KEY FINDINGS

Statistics presented in this section are generated using data from the 2021 Population and Housing Census unless otherwise indicated.

Trends

In 2021, 2.7 million persons 15 years and older did not own a mobile phone representing a decline of 4.6 million from 2010. The decline in absolute numbers was larger for females (2.6 million) compared to males (2.0 million).

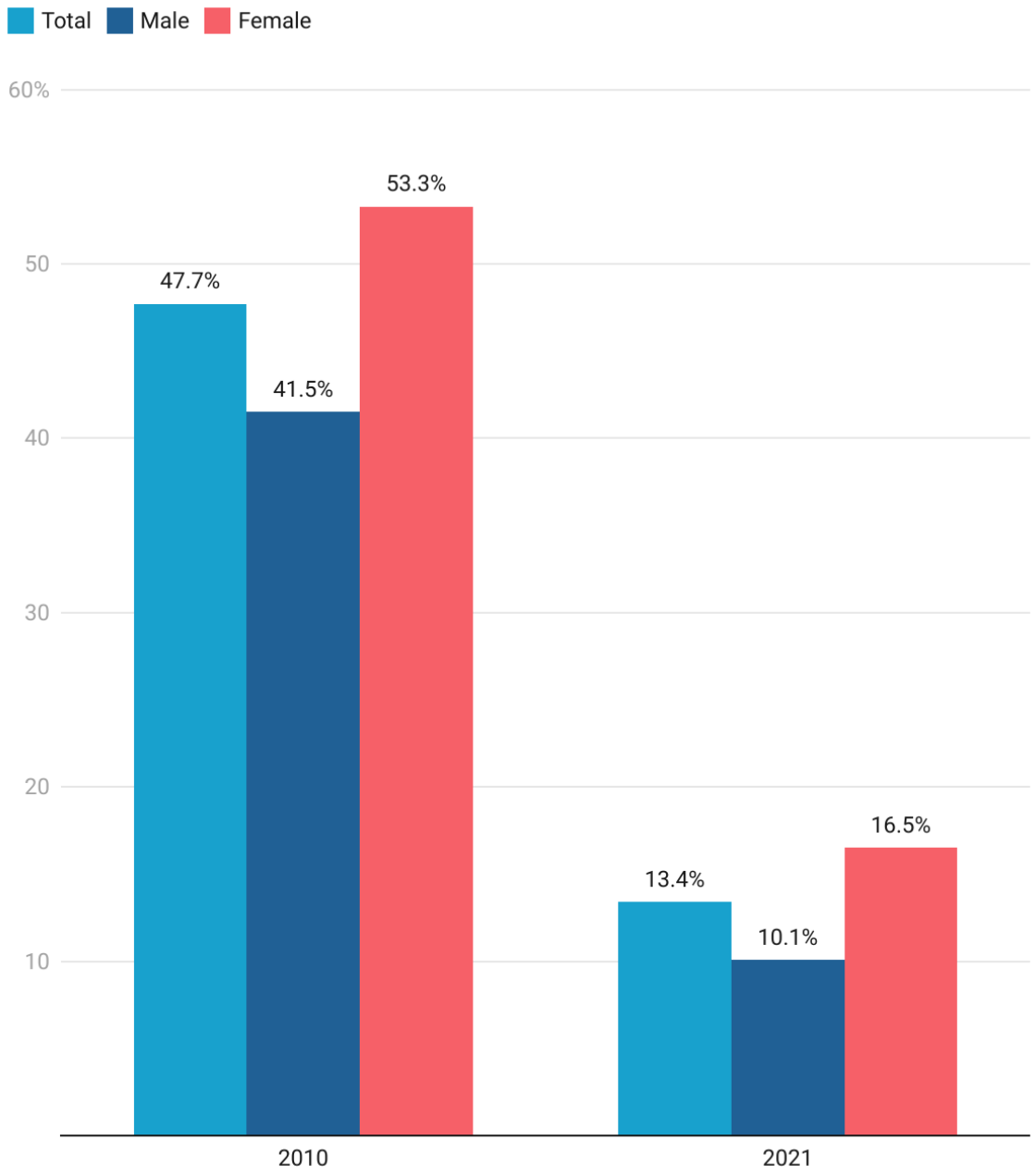
FIGURE 4.1: POPULATION 15 YEARS AND OLDER THAT DID NOT OWN A MOBILE PHONE, 2010 AND 2021 BY SEX



The percentage of persons 15 years and older that did not own a mobile phone in 2010 (47.7%) was 3.6 times larger than the percentage in 2021 (13.4%).

In both years, the percentage for females was higher than males with the difference almost halving from 11.8 percentage points in 2010 to 6.4 percentage points in 2021.

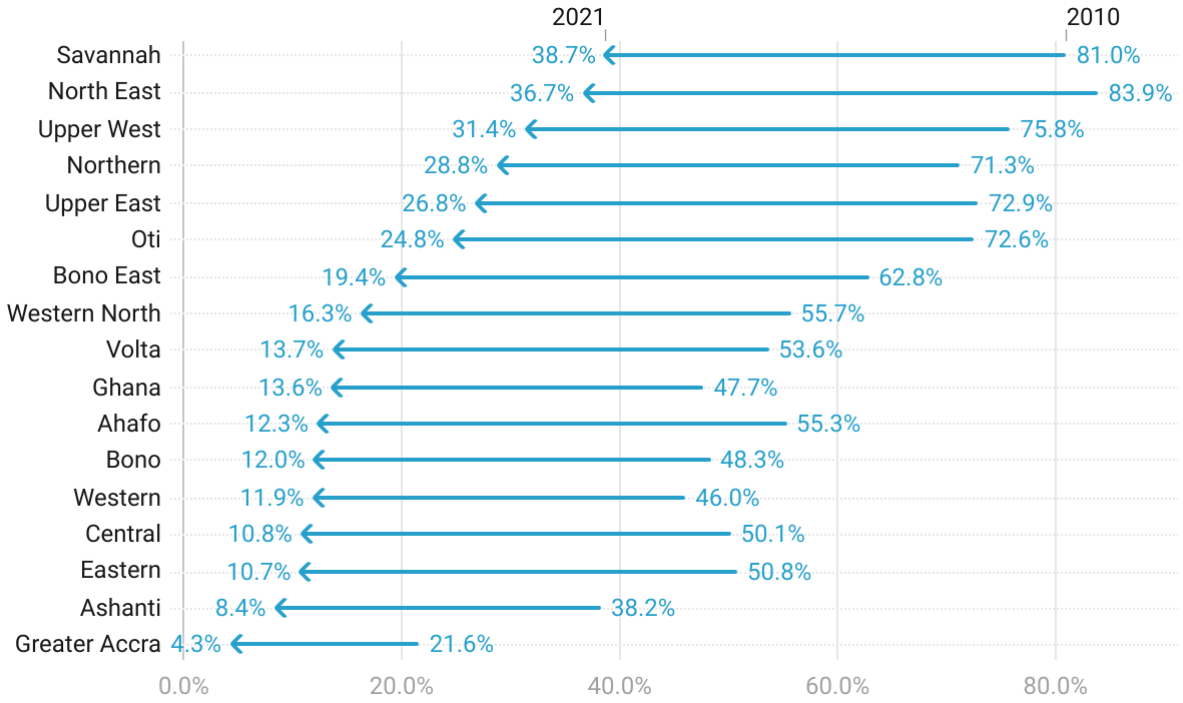
FIGURE 4.2: PERCENT OF PERSONS 15 YEARS AND OLDER THAT DID NOT OWN A MOBILE PHONE, 2010 AND 2021 BY SEX



The percentage of persons 15 years and older that did not own mobile phones declined by more than half in all regions between 2010 and 2021.

The percentage in the Savannah Region who did not own a mobile phone in 2021 (38.7%) was higher than the percentage who did not own a mobile phone in the Greater Accra (21.3%) and Ashanti (38.0%) regions in 2010. All five regions in the northern part of the country and the Oti Region had proportions in 2021 higher than the 2010 figure for Greater Accra Region.

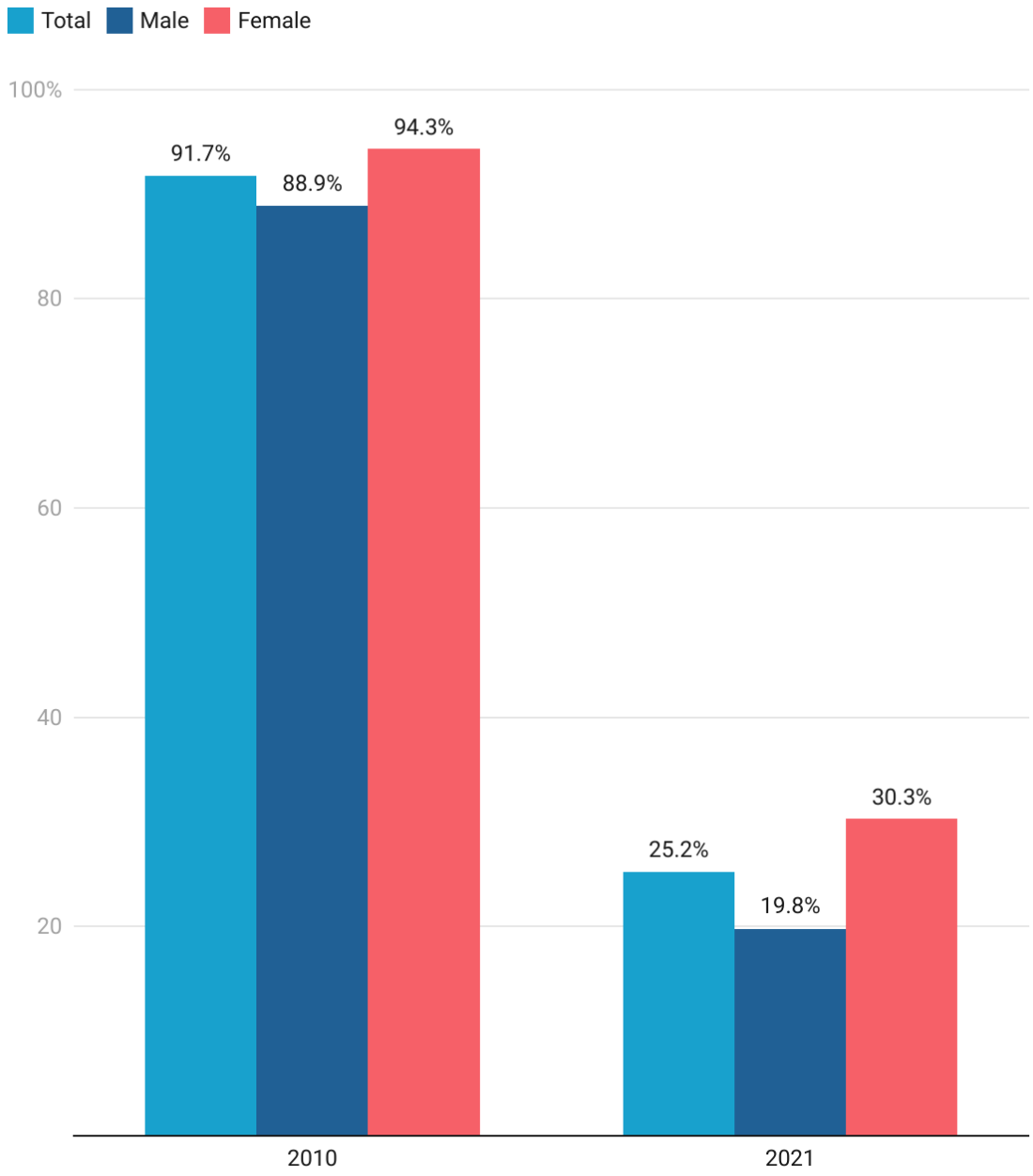
FIGURE 4.3: PERCENT OF PERSONS 15 YEARS AND OLDER THAT DID NOT OWN A MOBILE PHONE, 2010 AND 2021 BY REGION



One in every four persons (25.2%) 15 years and older did not use the internet in the three months preceding Census Night, a decline of almost four (3.6) times that of 2010 where nine in every 10 (91.7%) did not access the internet.

The difference between males and females about doubled from 5.4 to 10.5 percentage points in the intercensal period.

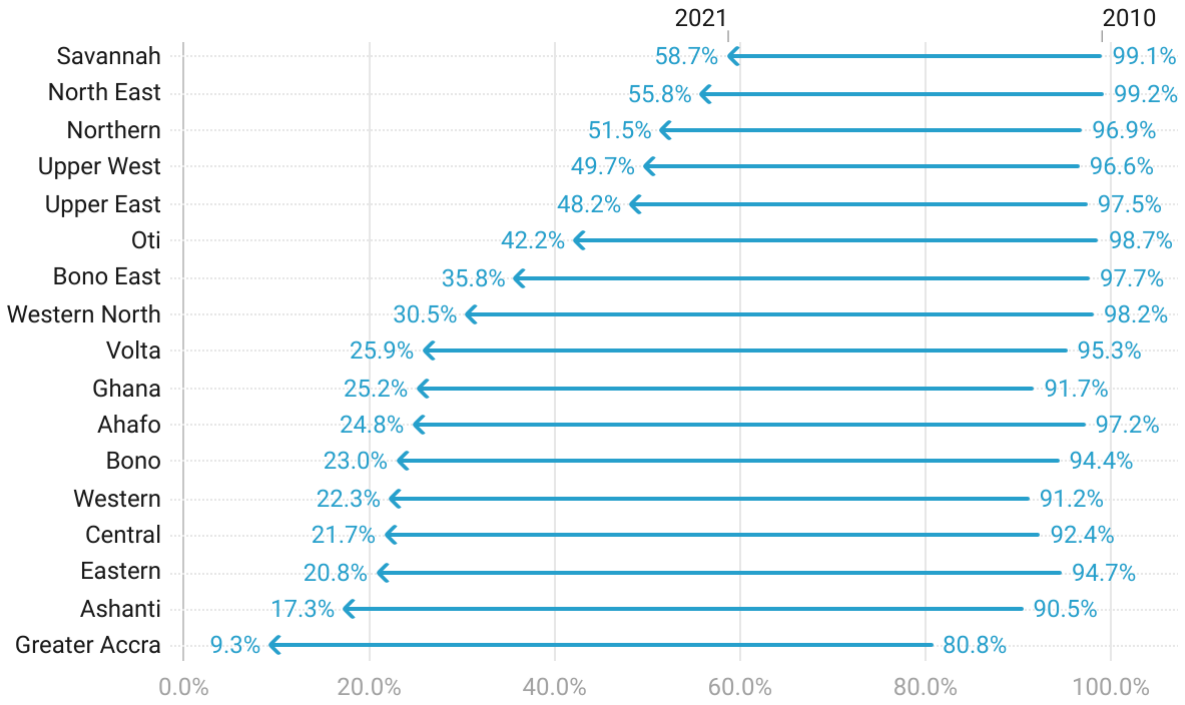
FIGURE 4.4: PERCENT OF PERSONS 15 YEARS AND OLDER THAT DID NOT USE THE INTERNET, 2010 AND 2021 BY SEX



More than 90 percent of persons 15 years and older did not access the internet in all regions except Greater Accra in 2010. The percentage has fallen to below half in all regions except Savannah (58.7%), North East (55.8%), and Northern (51.5%).

In 2021, the five regions with the highest percentage of persons who did not use the internet had figures more than twice that of the five regions with the lowest percentages.

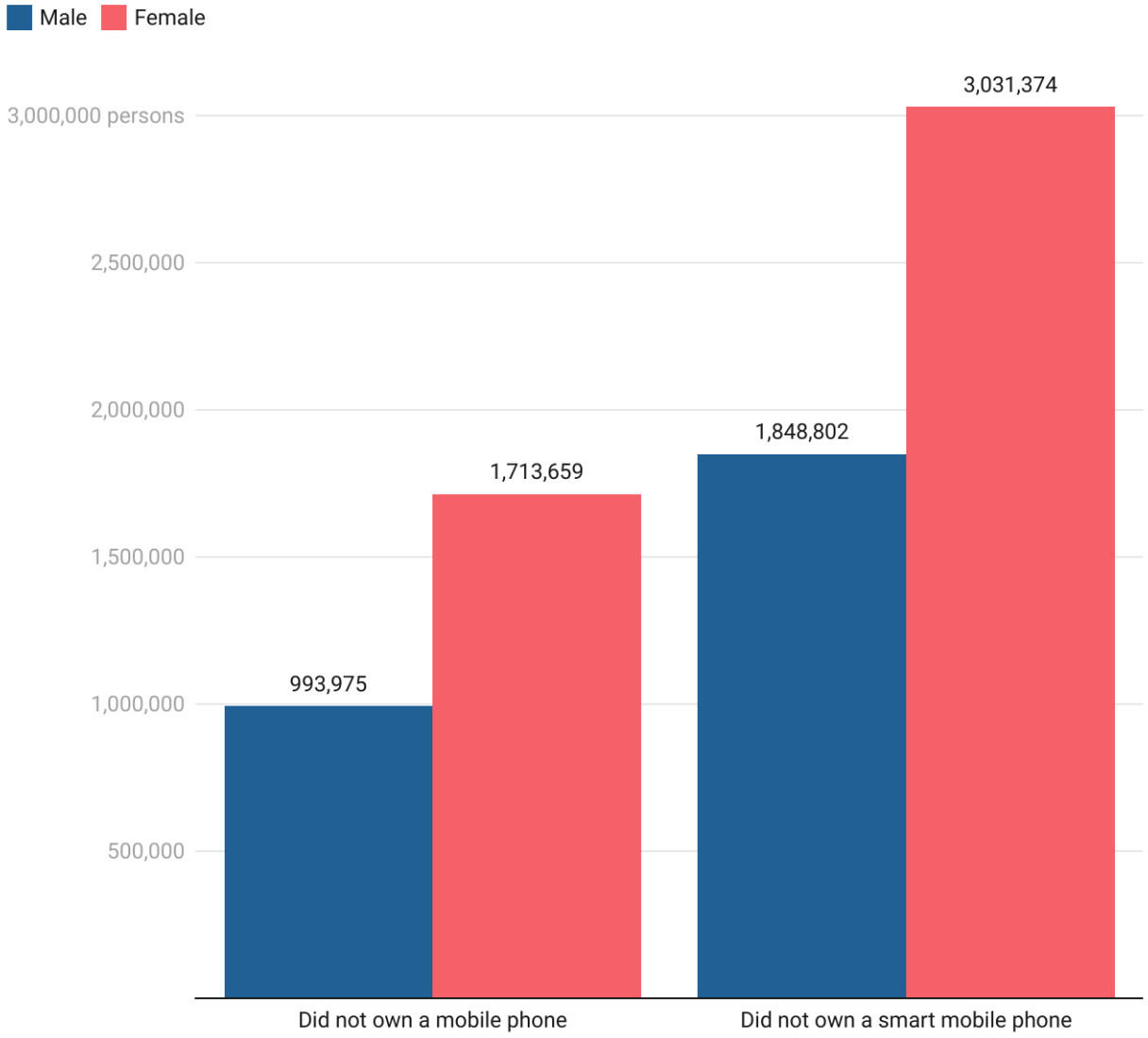
FIGURE 4.5: PERCENT OF PERSONS 15 YEARS AND OLDER THAT DID NOT USE THE INTERNET, 2010 AND 2021 BY REGION



Ownership and Usage of ICT

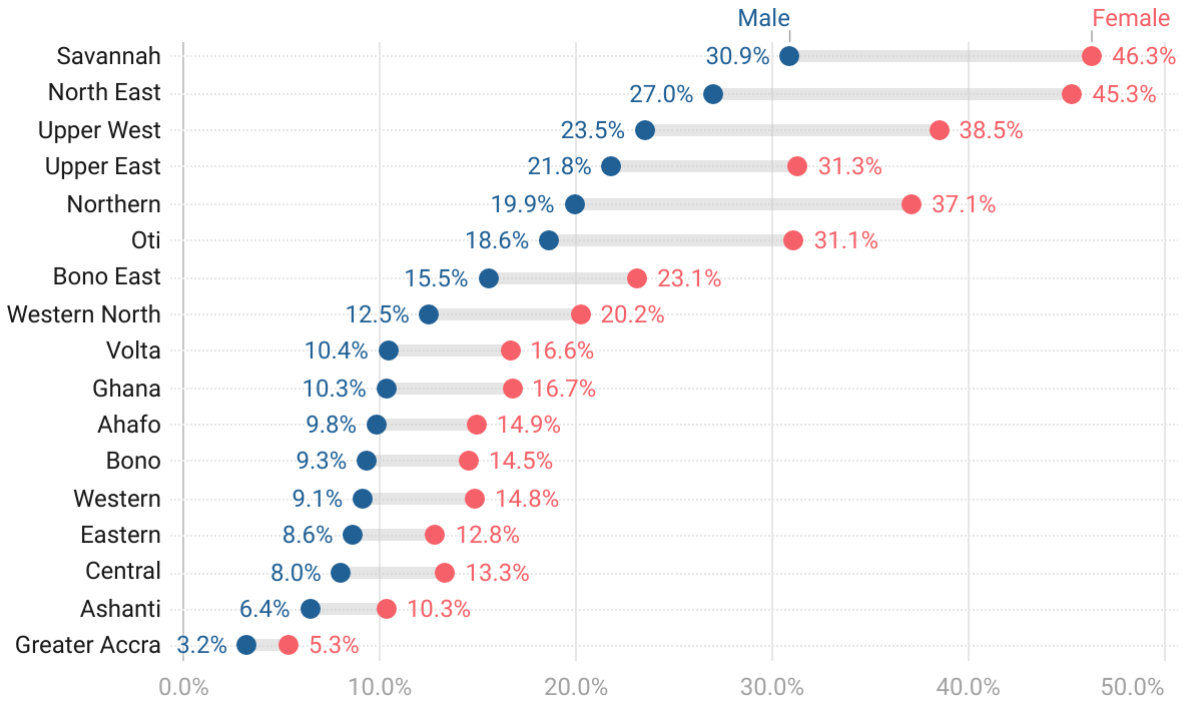
Nationally 4.9 million persons 15 years and older did not own a smart mobile phone. Over a million more females did not own a smartphone compared to males.

FIGURE 4.6: POPULATION 15 YEARS AND OLDER THAT DID NOT OWN A MOBILE PHONE BY SEX



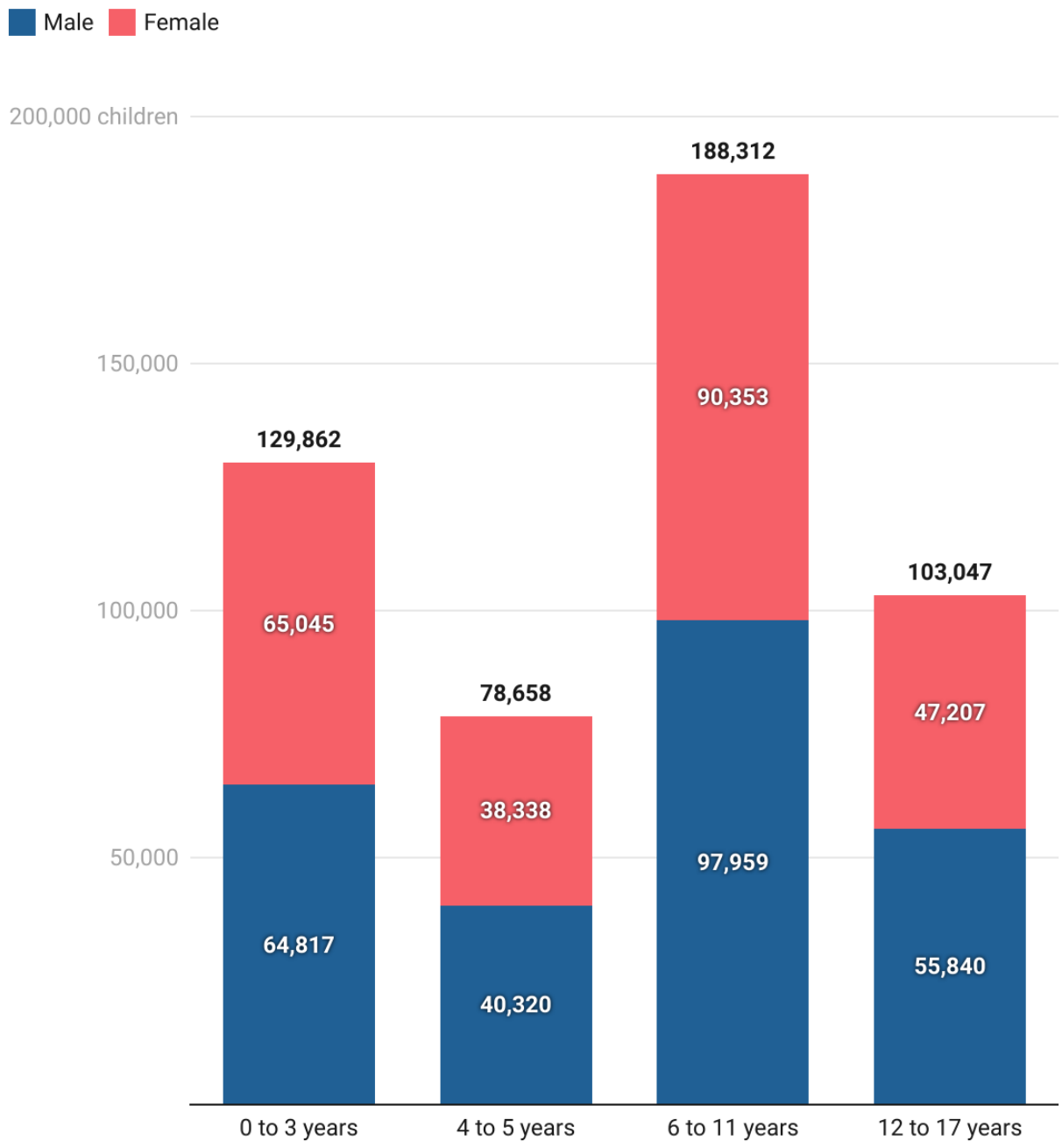
In all regions, the percent that did not own mobile phones was higher for women compared to males. Four regions – North East (18.3 percentage points), Northern (17.3 percentage points), Savannah (15.4 percentage points), and Upper West (15.0 percentage points) – had differences between males and females that were more than twice the national average difference of 6.4 percentage points.

FIGURE 4.7: PERCENT OF THE POPULATION 15 YEARS AND OLDER THAT DID OWN A MOBILE PHONE BY REGION AND SEX



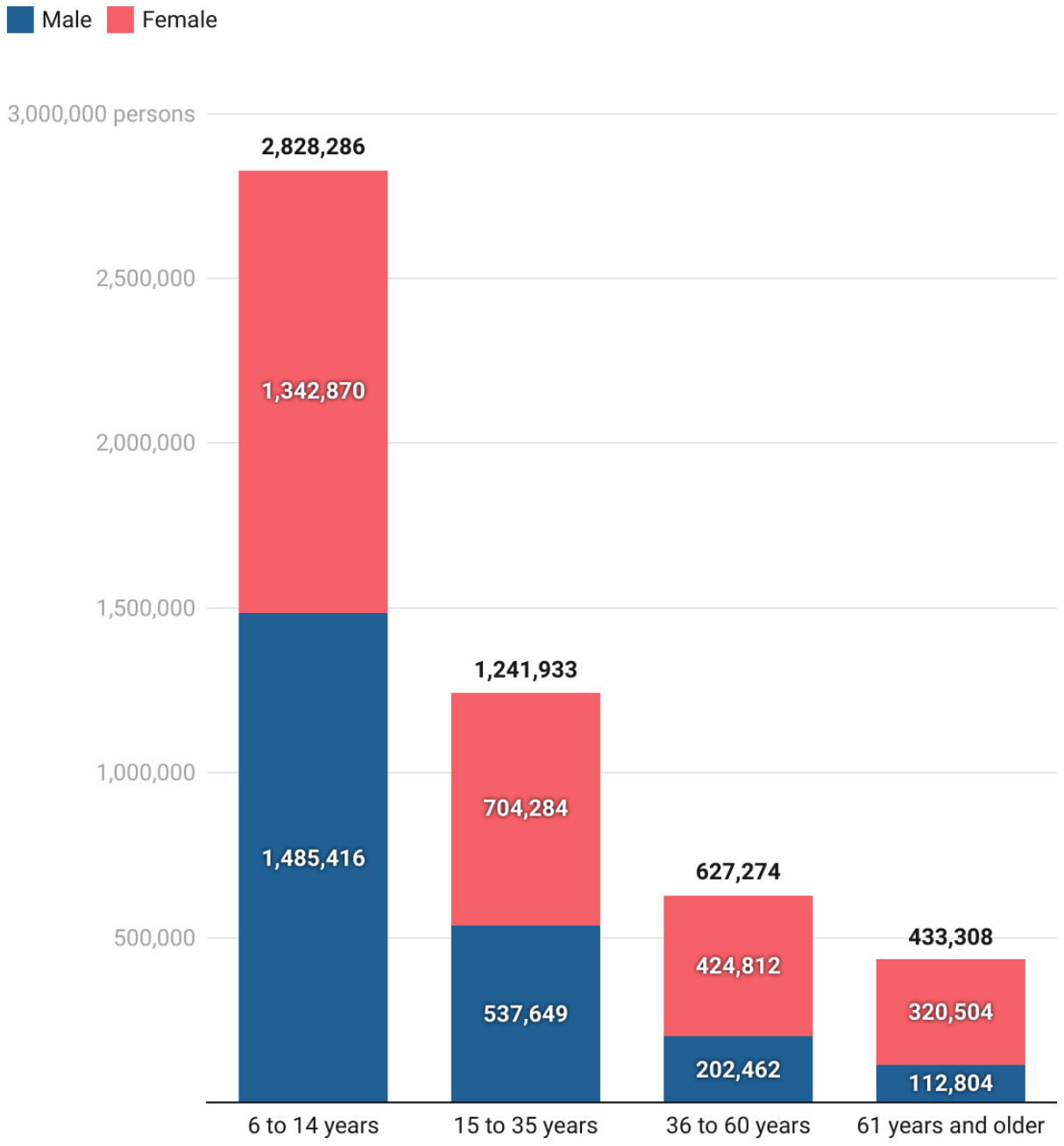
Almost half a million (499,879) children lived in a household that did not own any functional ICT devices.

FIGURE 4.8: CHILDREN 0 TO 17 YEARS LIVING IN HOUSEHOLDS THAT DID NOT OWN A FUNCTIONAL ICT DEVICE BY AGE GROUP AND SEX



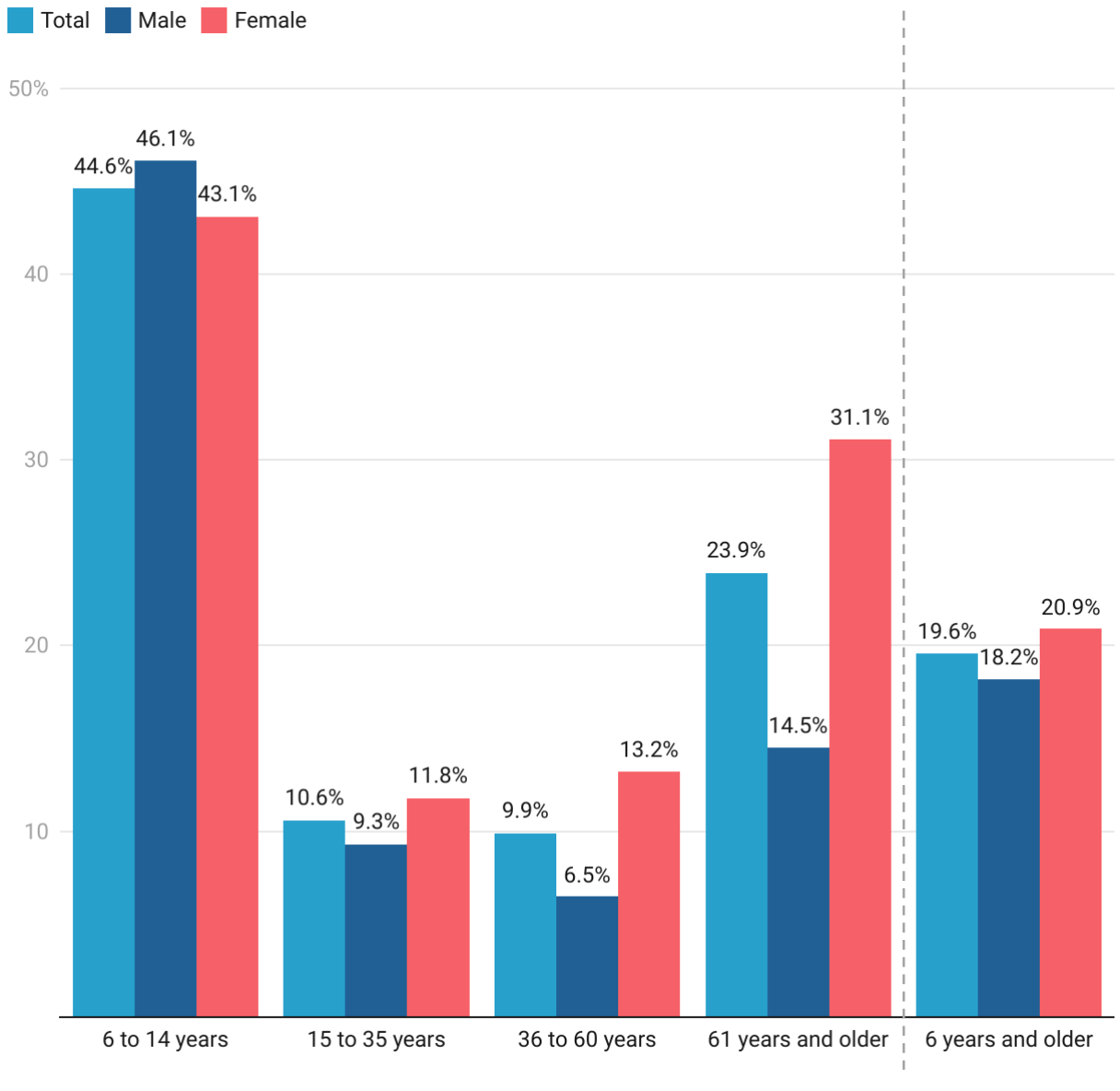
Over five million persons in Ghana 6 years and older did not use an ICT device in the three months before Census Night. The share of females in this population increases with age, from under half for 6 to 14 years to almost three-quarters for 61 years and older.

FIGURE 4.9: POPULATION 6 YEARS AND OLDER THAT DID NOT USE AN ICT DEVICE IN THE THREE MONTHS PRECEDING CENSUS NIGHT BY AGE GROUP AND SEX



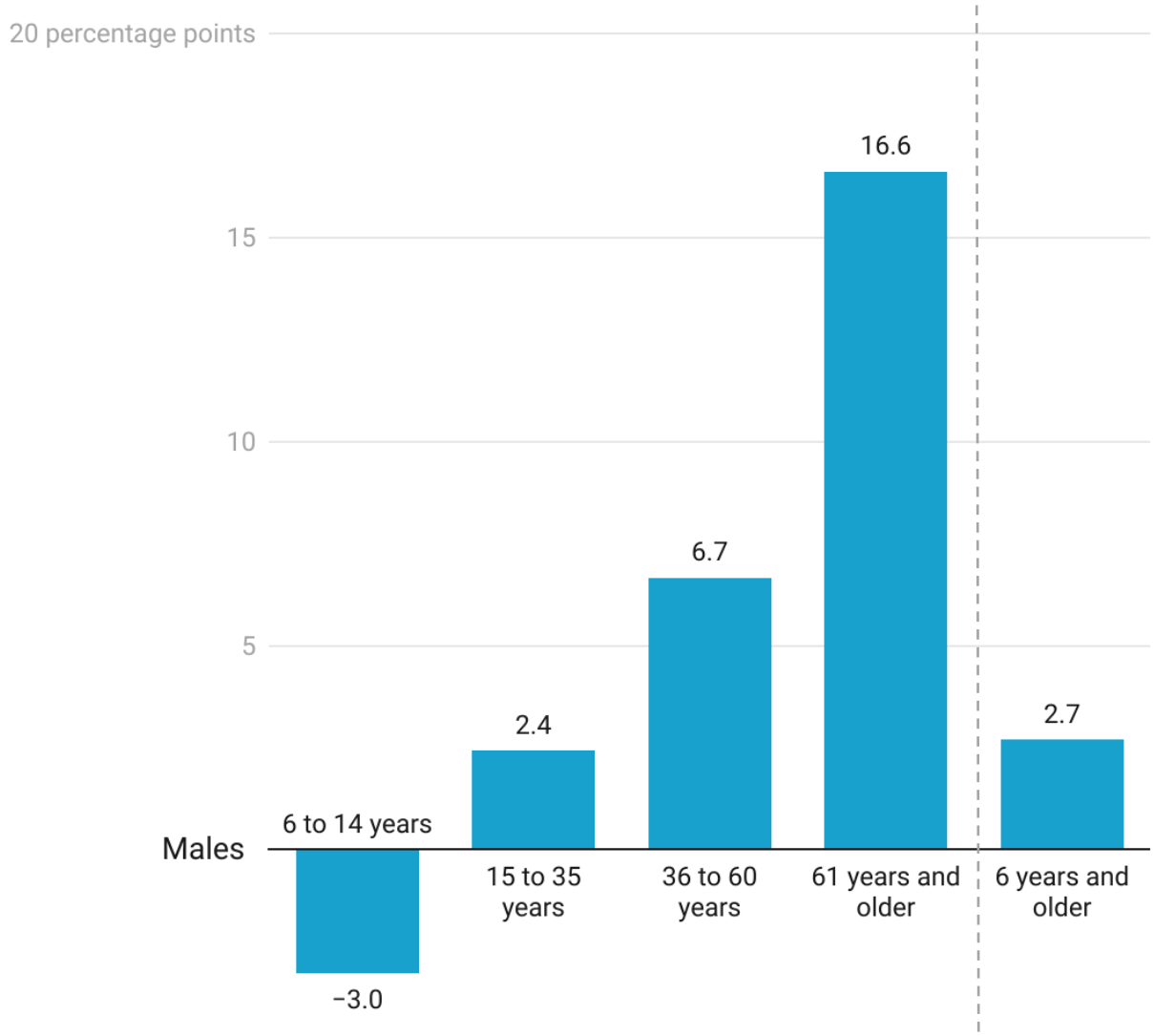
One in every five (19.6%) persons 6 years and older did not use an ICT device in the three months before Census Night. The age group 6 to 14 years (44.6%) had the highest percentage that did not use followed by persons 61 years and older (23.9%).

FIGURE 4.10: PERCENT OF THE POPULATION 6 YEARS AND OLDER THAT DID NOT USE AN ICT DEVICE IN THE THREE MONTHS PRECEDING CENSUS NIGHT BY AGE GROUP AND SEX



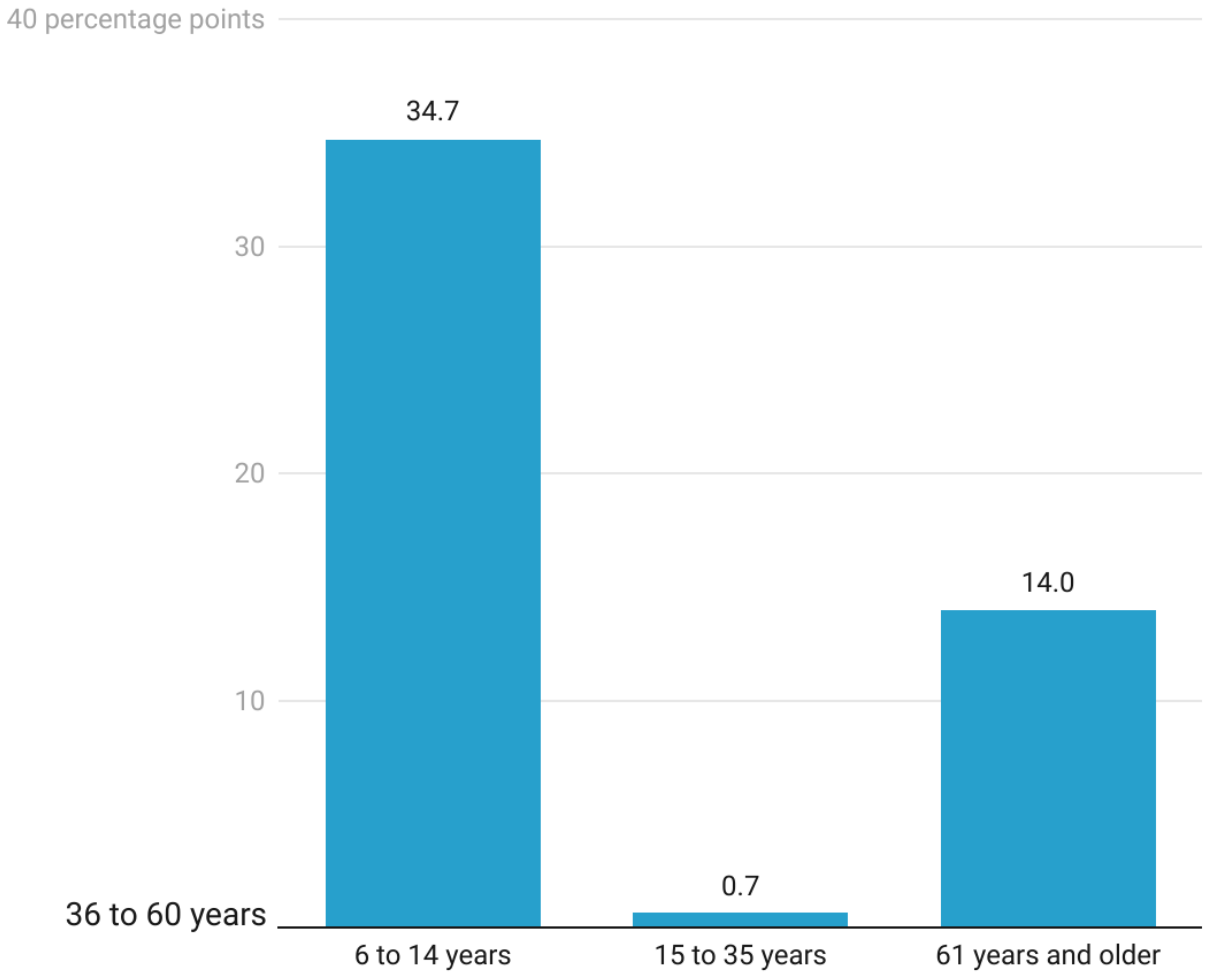
The digital divide by sex is 2.7 percentage points. The divide is largest for the age group 61 years and older (16.6 percentage points difference). The age group 6 to 14 years is the only category where a higher proportion of males did not use an ICT device relative to females.

FIGURE 4.11: DIGITAL DIVIDE BY SEX



Compared to the age group 36 to 60 years which has the lowest proportion of persons that did not use ICT devices, the digital divide is 34.7, 0.7, and 14.0 percentage points for ages 6 to 14 years, 15 to 35 years, and 61 years and older respectively. The digital divide for children is over 30 times that of the youth population and more than twice that of the elderly population.

FIGURE 4.12: DIGITAL DIVIDE BY AGE



In the North East Region, one in every three (33.0%) youth aged 15 to 35 years did not use an ICT device in the previous three months preceding Census Night. This was the highest followed by Upper East (28.6%) and Savannah (24.6%) regions.

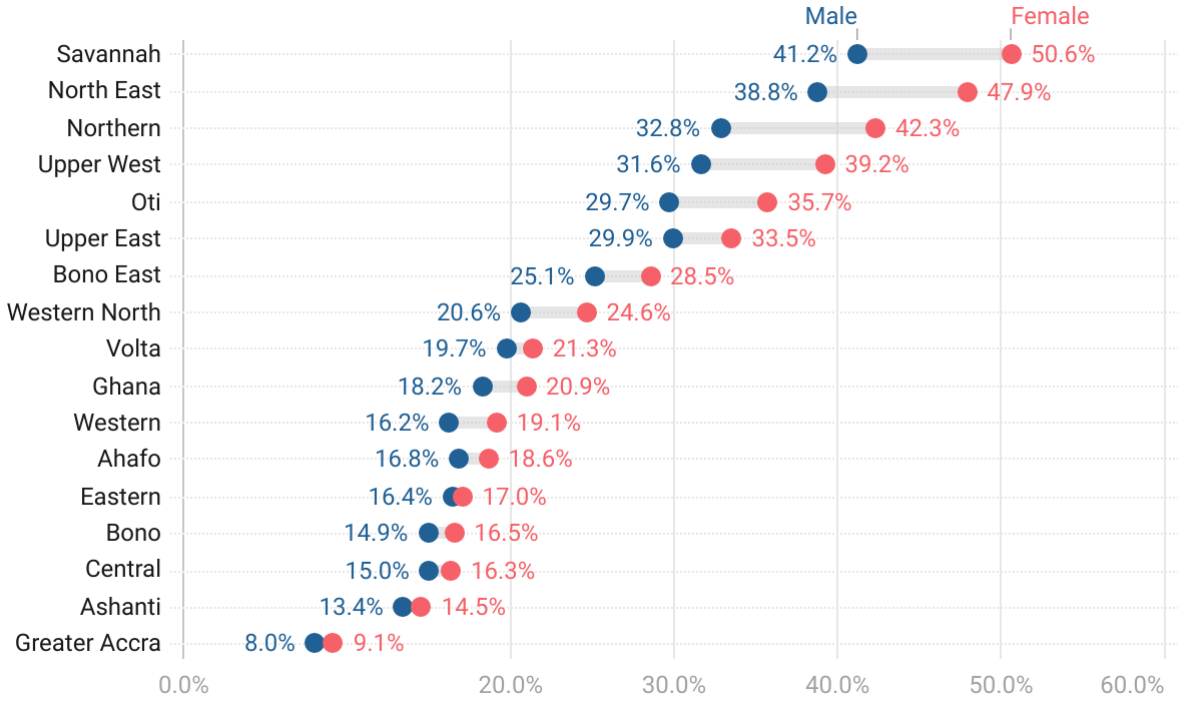
In seven regions – Savannah (72.8%), North East (67.6%), Northern (65.4%), Oti (64.0%), Upper West (61.1%), Upper East (56.3%) and Bono East (56.3%) – more than half of children 6 to 14 years did not use an ICT device.

FIGURE 4.13: PERCENT OF THE POPULATION 6 YEARS AND OLDER THAT DID NOT USE AN ICT DEVICE IN THE THREE MONTHS PRECEDING CENSUS NIGHT BY REGION AND AGE GROUP

	Region	6 years and older	6 to 14 years	15 to 35 years	36 to 60 years	61 years and older
1	Savannah	45.9%	72.8%	24.6%	25.6%	43.3%
2	North East	43.5%	67.6%	33.0%	36.4%	54.5%
3	Northern	37.7%	65.4%	19.2%	19.3%	32.2%
4	Upper West	35.5%	61.1%	16.7%	24.4%	50.1%
5	Oti	32.6%	64.0%	14.6%	16.0%	31.4%
6	Upper East	31.8%	56.3%	28.6%	35.5%	56.8%
7	Bono East	26.8%	56.3%	7.5%	7.6%	21.3%
8	Western North	22.5%	49.2%	6.6%	5.6%	16.3%
9	Volta	20.5%	50.0%	4.1%	2.2%	9.3%
10	Ahafo	17.7%	43.0%	12.4%	13.1%	26.3%
11	Western	17.6%	41.5%	10.6%	9.9%	23.9%
12	Eastern	16.7%	42.7%	10.4%	8.5%	22.1%
13	Bono	15.7%	38.1%	8.6%	7.9%	18.7%
14	Central	15.7%	38.1%	9.3%	9.1%	22.5%
15	Ashanti	14.0%	36.0%	7.9%	6.9%	17.8%
16	Greater Accra	8.6%	27.2%	7.0%	7.1%	20.9%

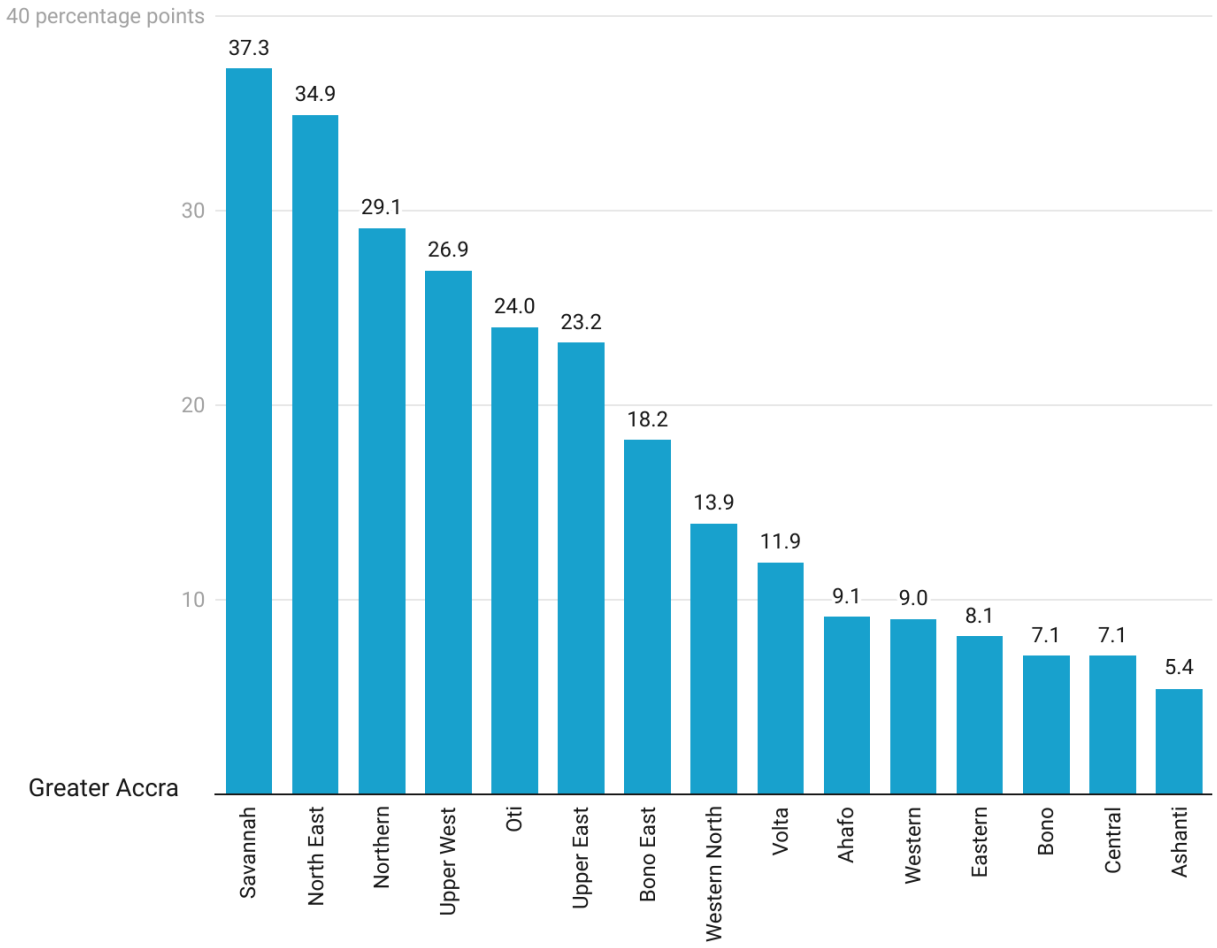
The disparity between males and females in the non-use of ICT devices is greatest in the Northern (9.5 percentage points), Savannah (9.4 percentage points), and North East (9.1 percentage points) regions. These three regions also have the highest percentage of both males and females that did not use ICT devices.

FIGURE 4.14: PERCENT OF THE POPULATION 6 YEARS AND OLDER THAT DID NOT USE AN ICT DEVICE IN THE THREE MONTHS PRECEDING CENSUS NIGHT BY REGION AND SEX



In six regions – Savannah (37.3 percentage points), North East (34.9 percentage points), Northern (29.1 percentage points), Upper West (26.9 percentage points), Oti (24.0 percentage points) and Upper East (23.2 percentage points) – the difference in the percentage of persons that did not use ICT devices and that of Greater Accra exceeded 20 percentage points. The digital divide for these regions is more than four times that of Ashanti (5.4 percentage points), the region with the smallest difference relative to Greater Accra.

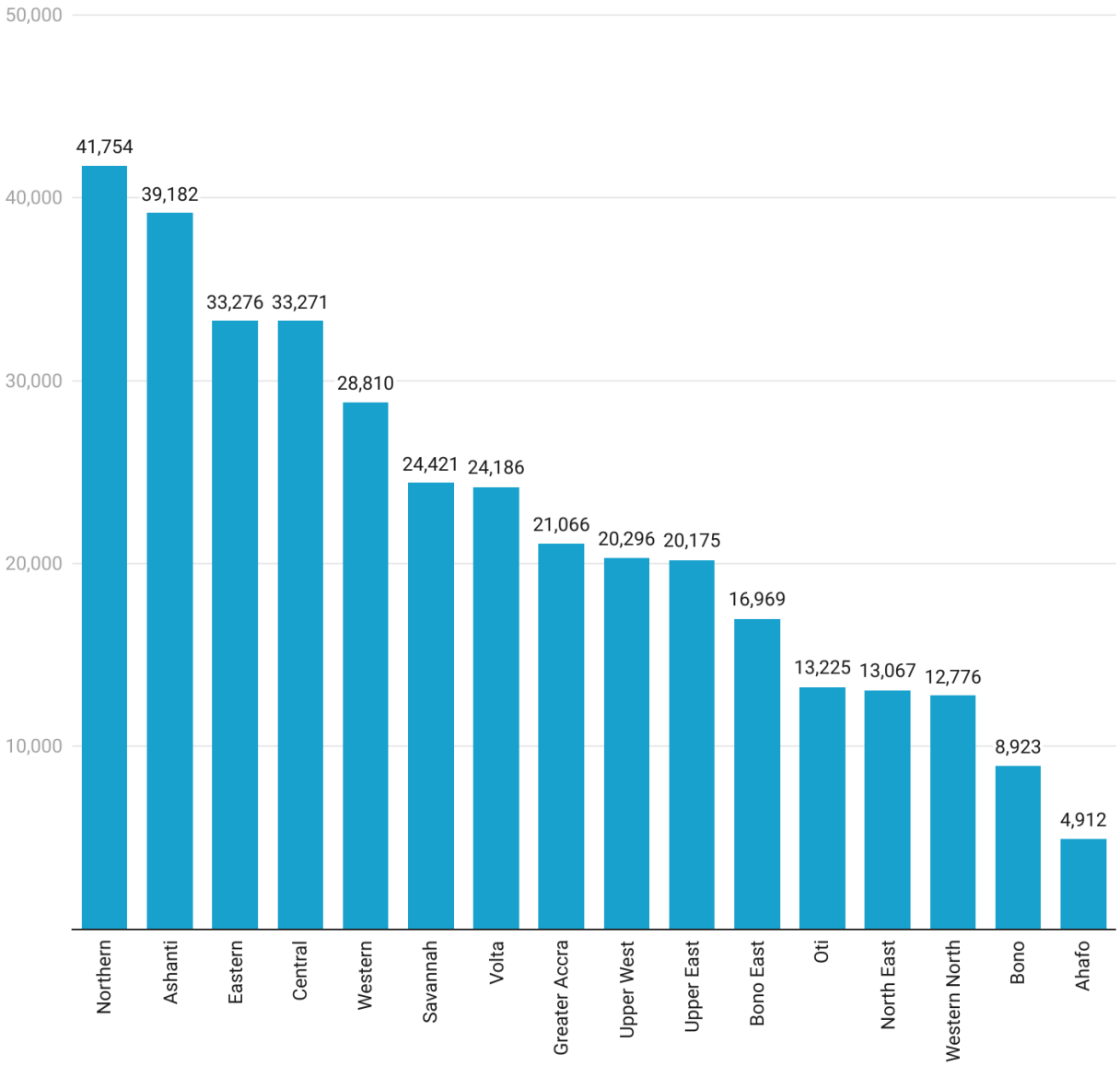
FIGURE 4.15: DIGITAL DIVIDE BY REGION



Nationally, there were 356,309 households where no member used an ICT device in the three months preceding Census Night. In 14 out of the 16 regions, there were more than 10,000 households where no one used an ICT device.

The Northern Region (41,754) had the highest number of households where no member used an ICT device in the three months preceding Census Night followed by Ashanti (39,182). These two regions constitute about a fifth of households where no member used an ICT device.

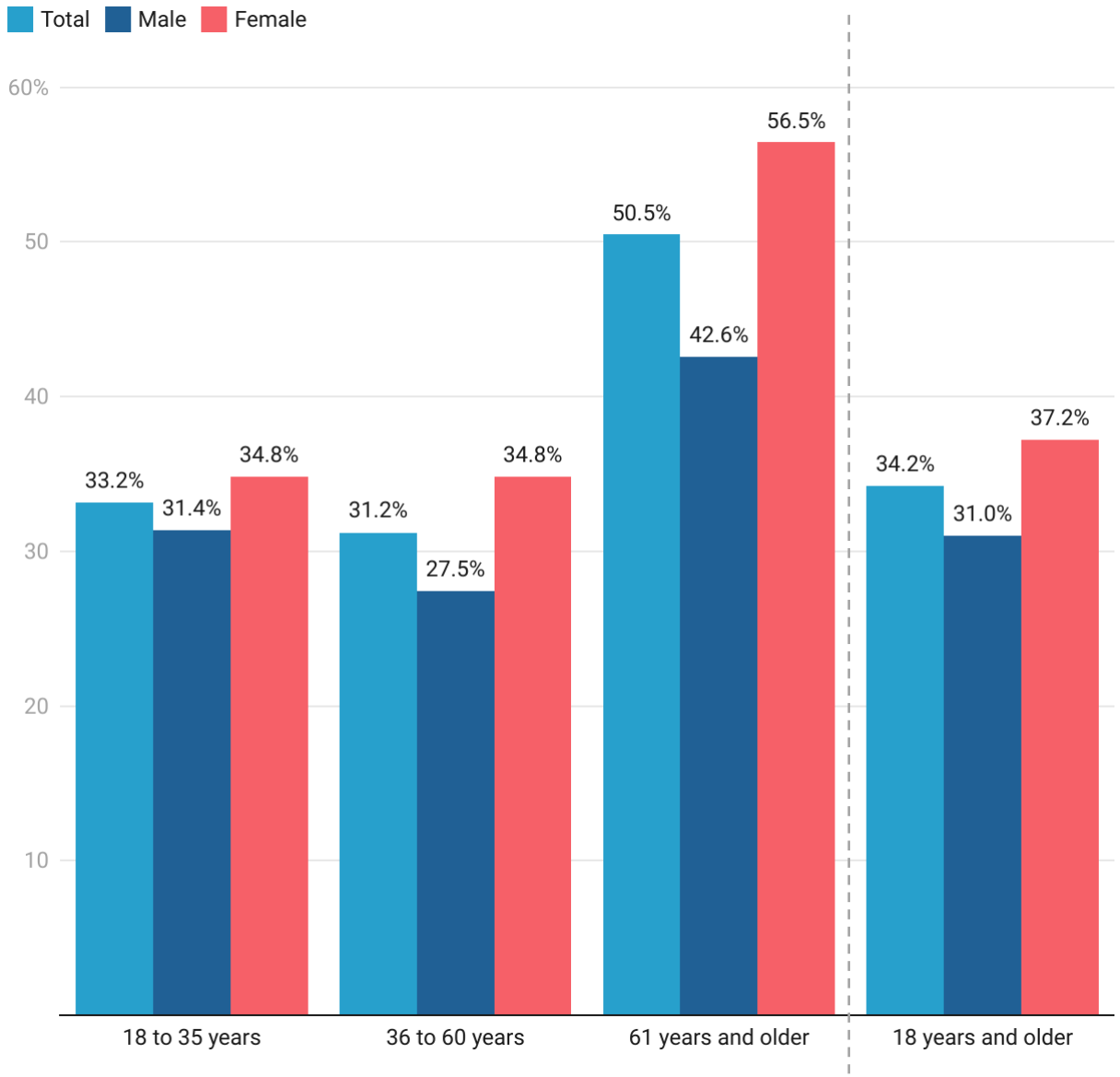
FIGURE 4.16: HOUSEHOLDS WHERE NO MEMBER USED AN ICT DEVICE IN THE THREE MONTHS PRECEDING CENSUS NIGHT BY AGE GROUP



One in every three (34.2%) adults did not use a mobile phone for a mobile money transaction in the three months before Census Night. This was highest in the age group 61 years and older where half (50.5%) did not use.

In all age groups, a higher percentage of females did not use mobile phones for financial transactions compared to males with the largest difference observed for 61 years and older (13.9 percentage points).

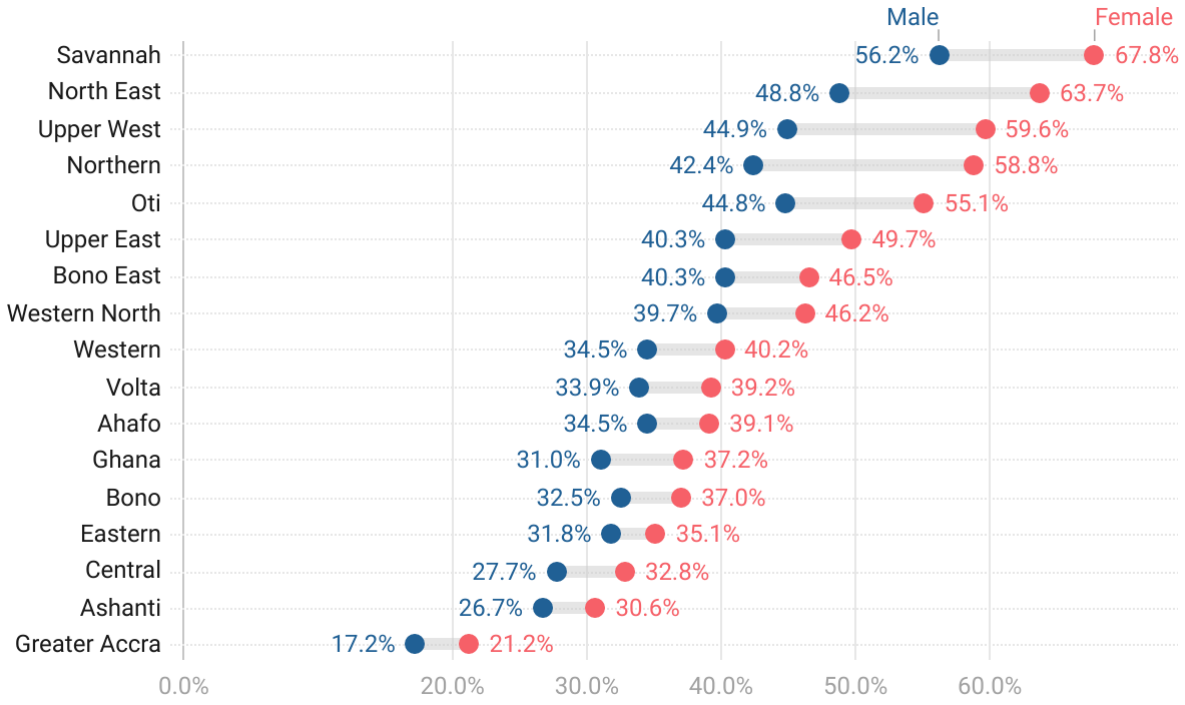
FIGURE 4.17: PERCENT OF THE POPULATION 18 YEARS AND OLDER THAT DID NOT USE A MOBILE PHONE FOR MOBILE MONEY TRANSACTIONS IN THE THREE MONTHS PRECEDING CENSUS NIGHT BY AGE GROUP AND SEX



In all regions, the percentage of females that did not use a mobile phone for a mobile money transaction was higher than that of males. The digital divide by sex is largest in the Northern (16.3 percentage points), North East (14.9 percentage points) and Upper West (14.7 percentage points) regions.

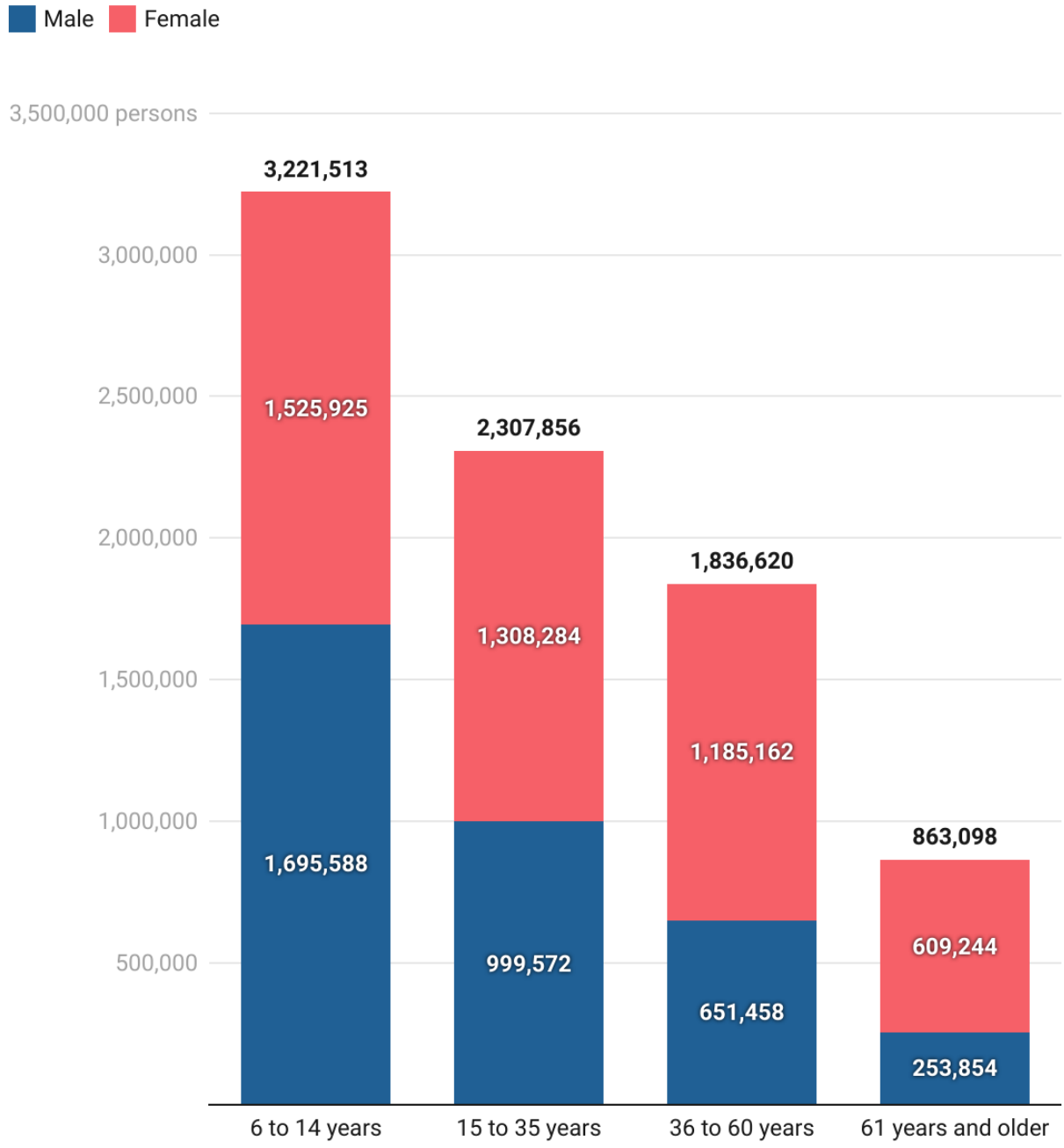
Savannah is the only region where more than half of both males and females did not use mobile phones for mobile money transactions. In all, there were five regions where more than half of females did not use a mobile phone for a mobile money transaction – Savannah (67.8%), North East (63.7%), Upper West (59.6%), Northern (58.8%) and Oti (55.1%).

FIGURE 4.18: PERCENT OF THE POPULATION 18 YEARS AND OLDER THAT DID NOT USE A MOBILE PHONE FOR MOBILE MONEY TRANSACTIONS IN THE THREE MONTHS PRECEDING CENSUS NIGHT BY REGION AND SEX



About 8.2 million persons 6 years and older did not use the internet in the three months before Census Night. Out of this number, 2.3 million were youth aged 15 to 35 years.

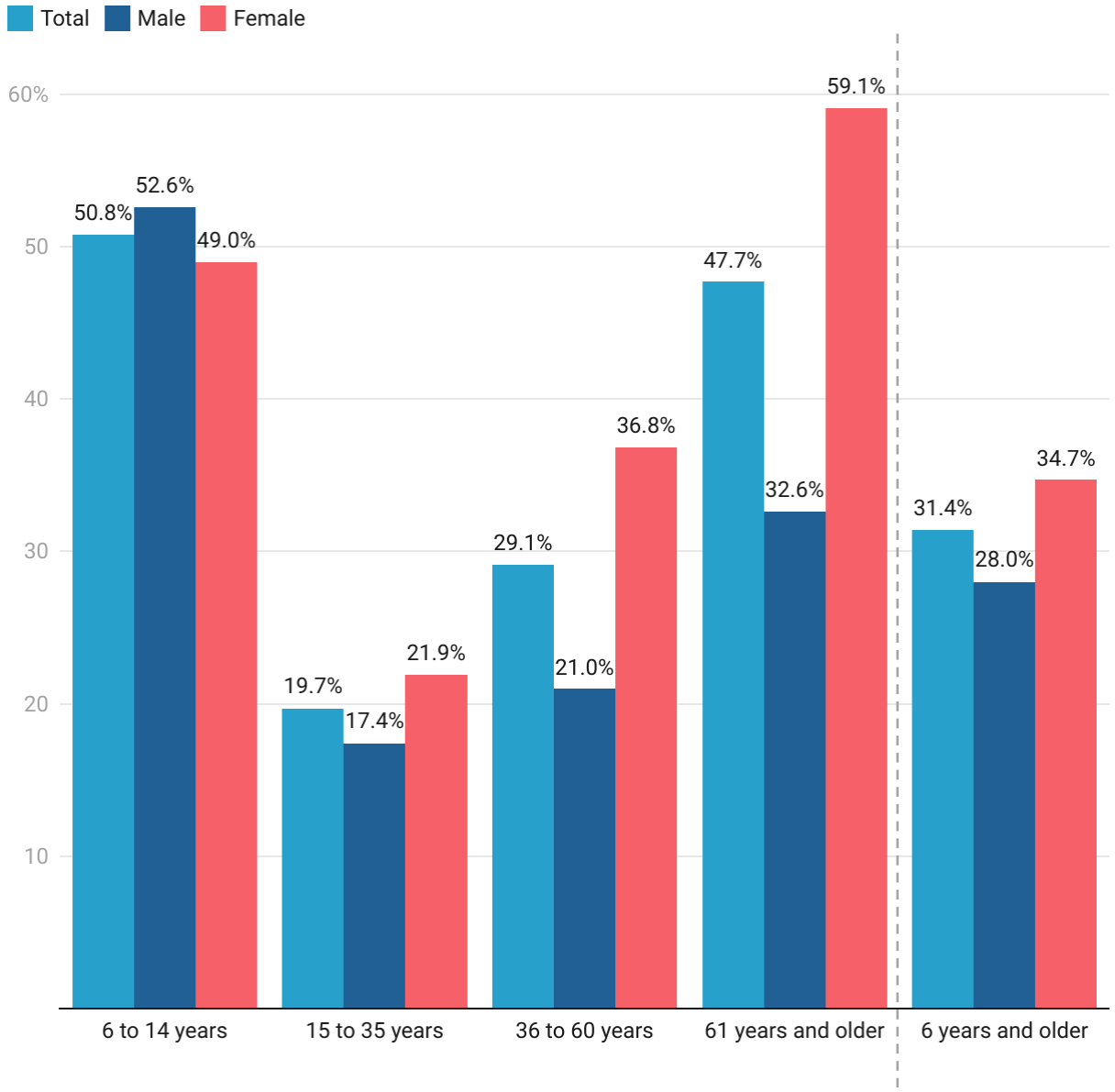
FIGURE 4.19: POPULATION 6 YEARS AND OLDER THAT DID NOT USE THE INTERNET IN THE THREE MONTHS PRECEDING CENSUS NIGHT BY AGE GROUP AND SEX



Almost half (47.7%) of persons in the age group 61 years and older years did not use the internet in the three months before Census Night. This figure is more than twice that of the population 15 to 35 years (19.7%).

The difference between females and males increases with age: ranging from -3.7 percentage points for 6 to 14 years to 26.5 percentage points for 61 years and older.

FIGURE 4.20: PERCENT OF THE POPULATION 6 YEARS AND OLDER THAT DID NOT USE THE INTERNET IN THE THREE MONTHS PRECEDING CENSUS NIGHT BY AGE GROUP AND SEX

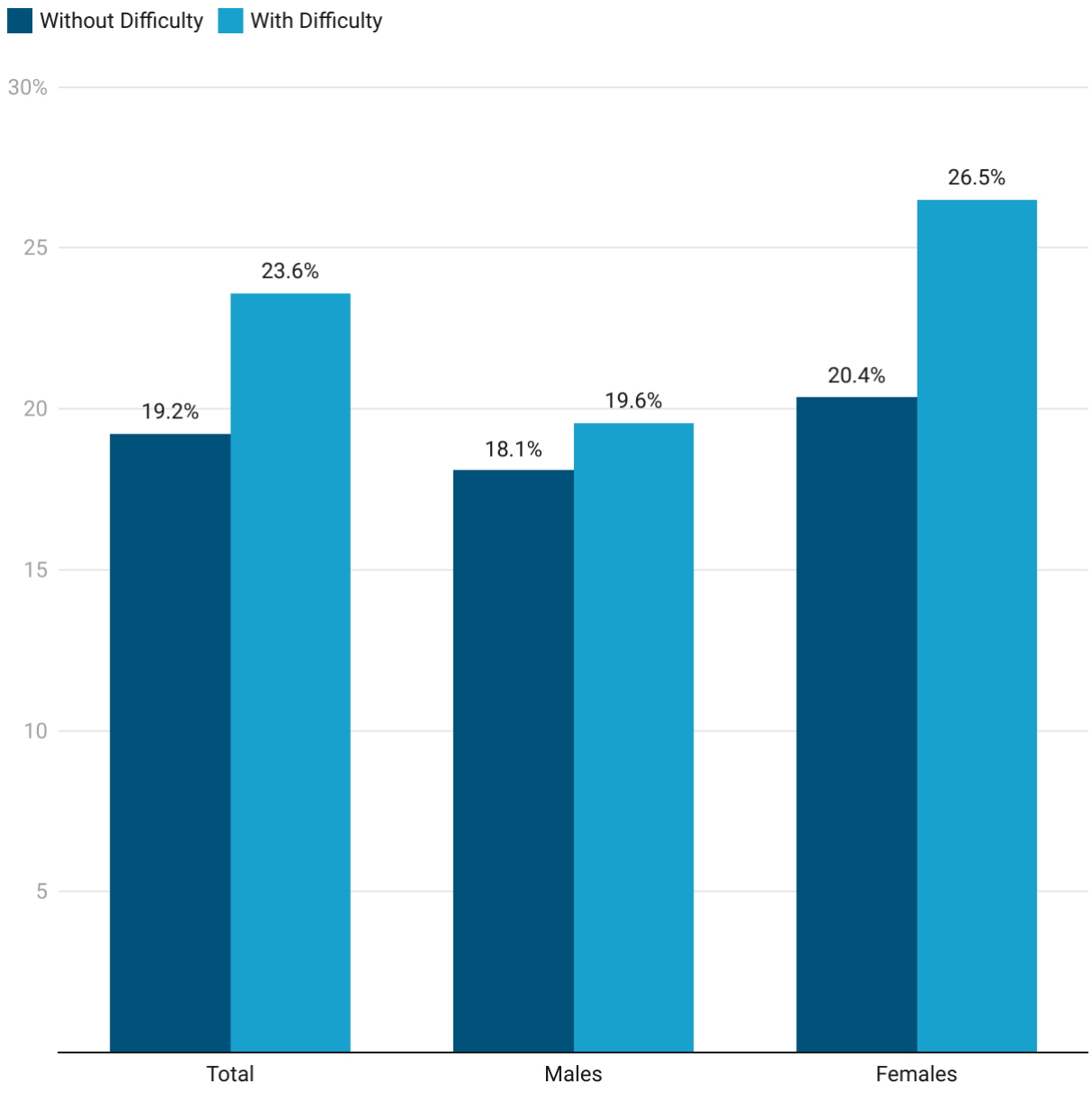


Correlates of Digital Exclusion

Almost a quarter (23.6%) of persons with difficulty in performing activities did not use an ICT device in the three months preceding Census Night. This figure is 4.4 percentage points higher than for those without difficulty.

The difference between those with and without difficulty is larger for females (6.2 percentage points) than males (1.5 percentage points).

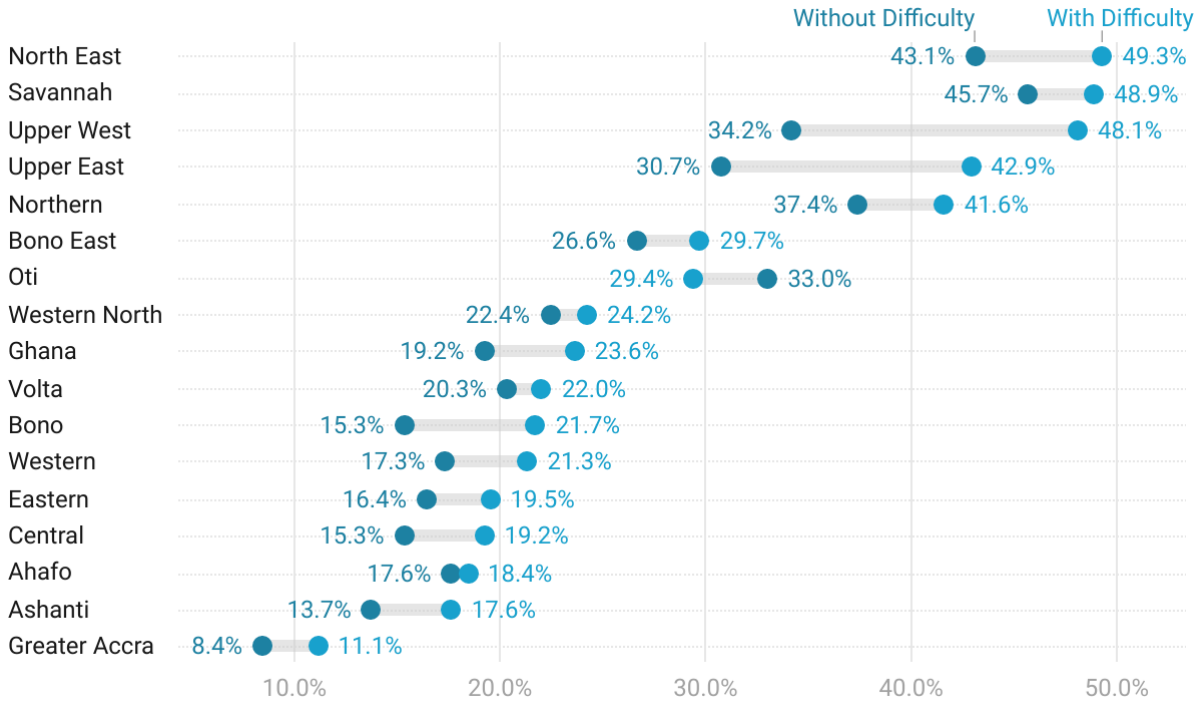
FIGURE 4.21: PERCENT OF THE POPULATION 6 YEARS AND OLDER THAT DID NOT USE AN ICT DEVICE IN THE THREE MONTHS PRECEDING CENSUS NIGHT BY SEX AND DIFFICULTY IN PERFORMING ACTIVITIES STATUS



The disparity in the non-usage of ICT devices between persons with difficulty in performing activities and those without is largest in the Upper West (13.9 percentage points) and Upper East (12.2 percentage points) regions. The digital divide in these regions is about three times the national average.

The Oti Region (-3.6 percentage points) is the only region where the percent that did not use ICT devices was lower for those with difficulty in performing activities compared to those without any difficulty.

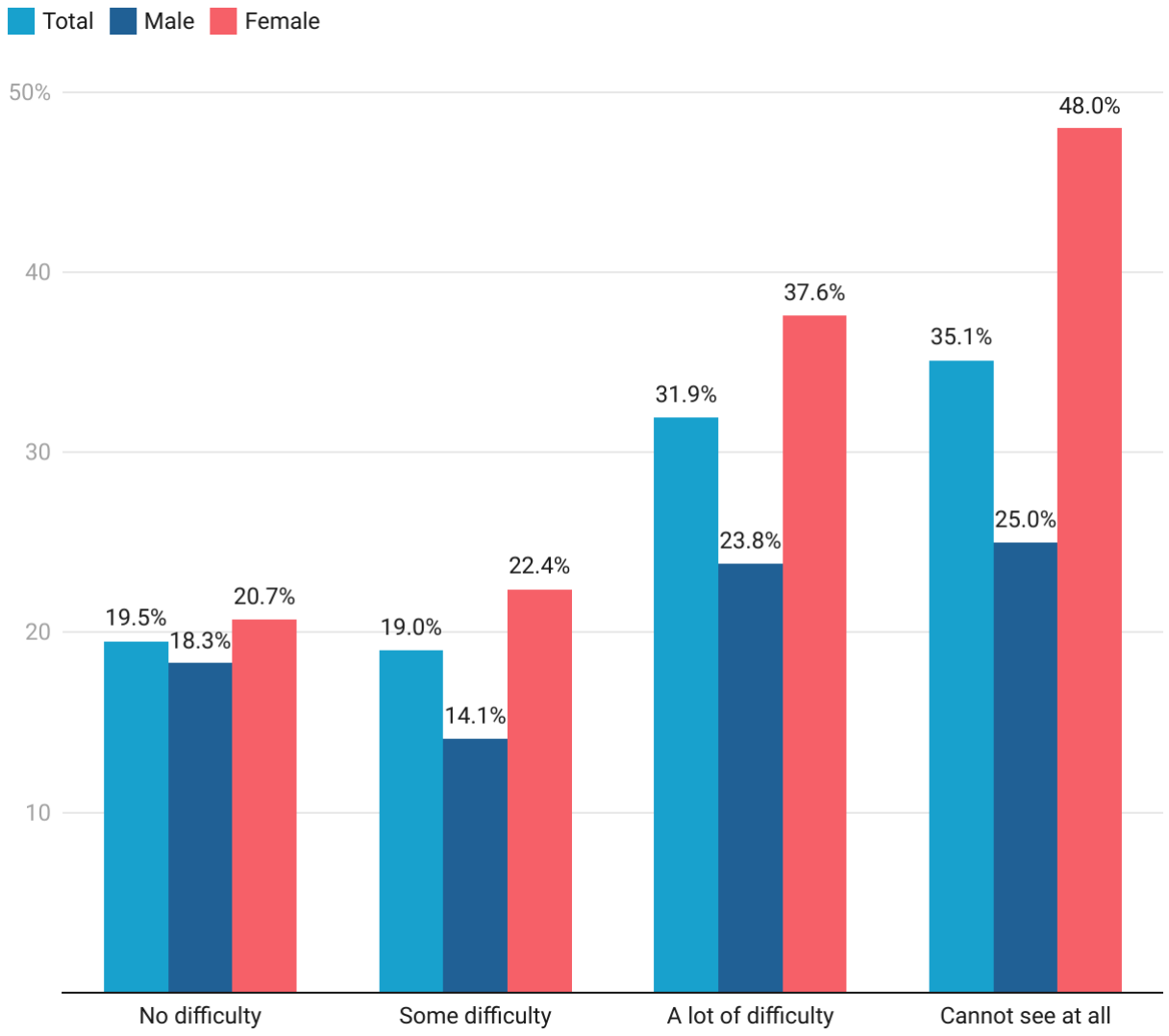
FIGURE 4.22: PERCENT OF THE POPULATION 6 YEARS AND OLDER THAT DID NOT USE AN ICT DEVICE IN THE THREE MONTHS PRECEDING CENSUS NIGHT BY REGION AND DIFFICULTY IN PERFORMING ACTIVITIES STATUS



The non-use of an ICT device in the three months before Census Night increases with the severity of difficulty in seeing. The percentage of persons who cannot see at all and did not use an ICT device (35.1%) is almost twice that for those without difficulty (18.3%) and those with some difficulty (19.0%) in seeing.

The difference between females and males also increases with severity of difficulty from 8.3 percentage points for those with some difficulty to 23.0 percentage points for those who cannot see at all.

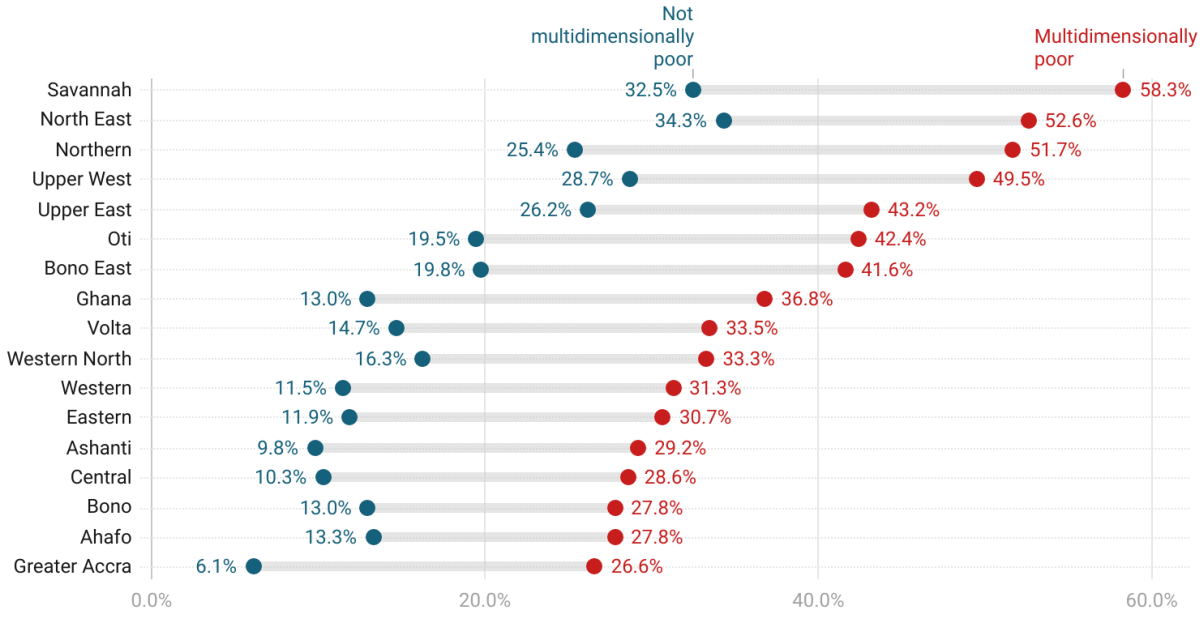
FIGURE 4.23: PERCENT OF THE POPULATION 6 YEARS AND OLDER THAT DID NOT USE AN ICT DEVICE IN THE THREE MONTHS PRECEDING CENSUS NIGHT BY SEVERITY OF DIFFICULTY IN SEEING AND SEX



About one in every three persons (36.8%) in Ghana that were multidimensionally poor did not use an ICT device in the previous three months. In the Savannah (58.3%), North East (52.6%) and Northern (51.7%) regions, more than half the persons that were multidimensionally poor did not use ICT devices.

The percentage of the non-poor population that did not use ICT devices in the Savannah (32.5%) and North East (34.3%) regions is higher than the percentage of the poor population that did not use ICT devices in seven other regions.

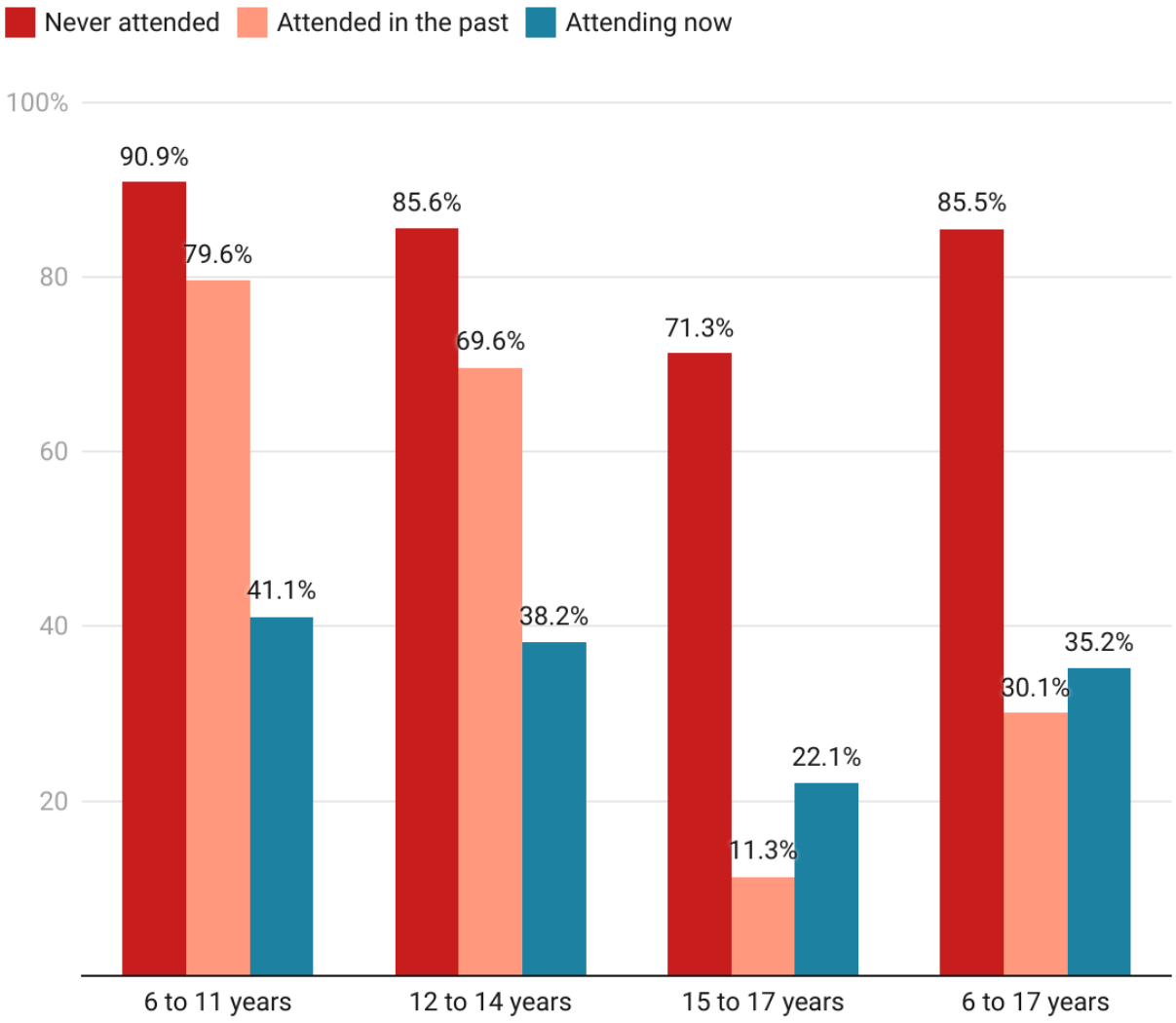
FIGURE 4.24: PERCENT OF THE POPULATION 6 YEARS AND OLDER THAT DID NOT USE AN ICT DEVICE IN THE THREE MONTHS PRECEDING CENSUS NIGHT BY MULTIDIMENSIONAL POVERTY STATUS



One in every three children (35.2%) children currently attending school did not use an ICT device in the three months preceding Census Night.

Nationally, 85.5 percent of children who have never attended school did not use an ICT device within the period. This figure is more than twice the percentages of children who were currently attending school or attended in the past.

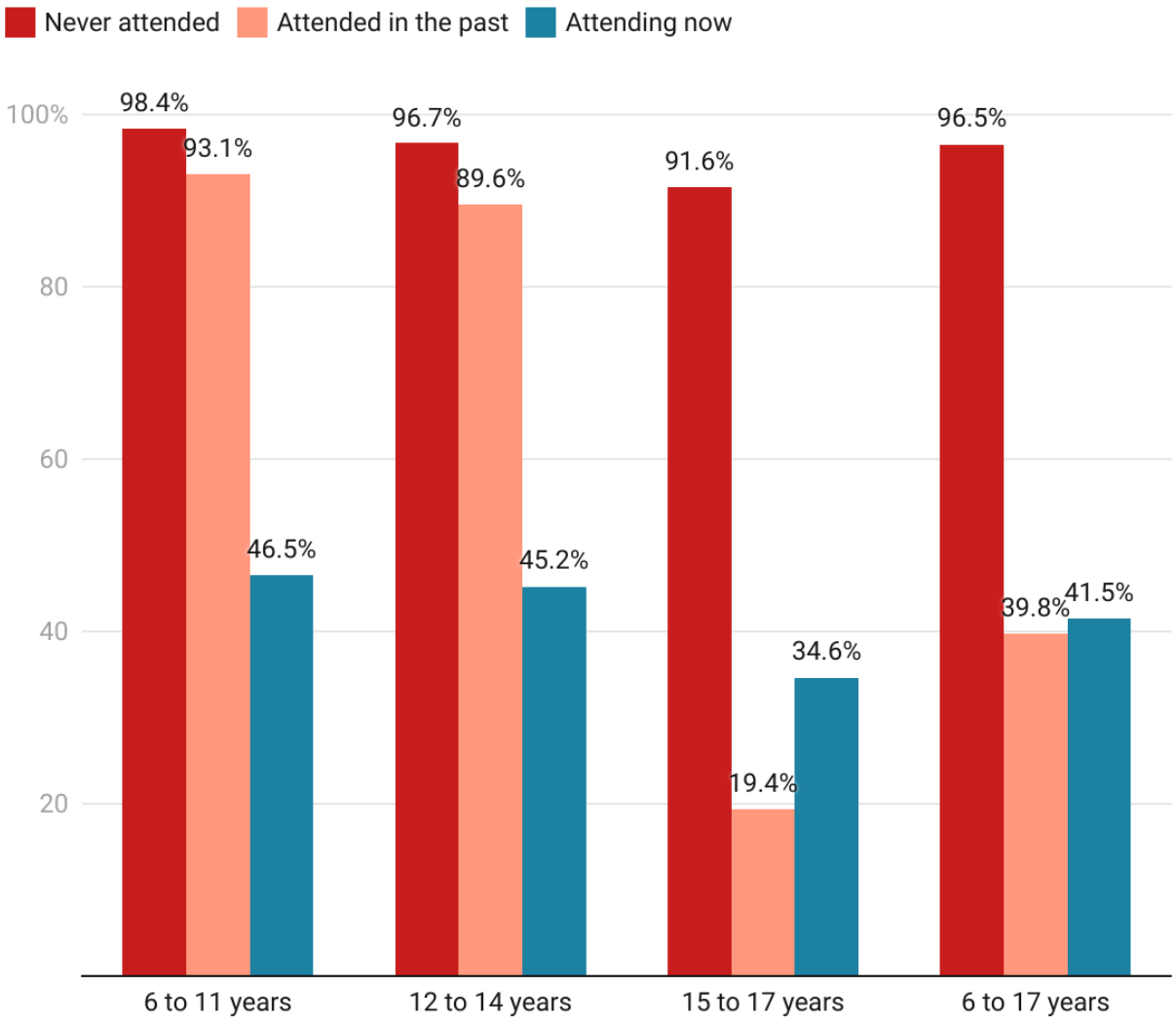
FIGURE 4.25: PERCENT OF CHILDREN 6 TO 17 YEARS THAT DID NOT USE AN ICT DEVICE IN THE THREE MONTHS PRECEDING CENSUS NIGHT BY AGE GROUP AND SCHOOL ATTENDANCE STATUS



Four in every ten children (41.5%) children currently attending school did not access the internet in the three months before Census Night.

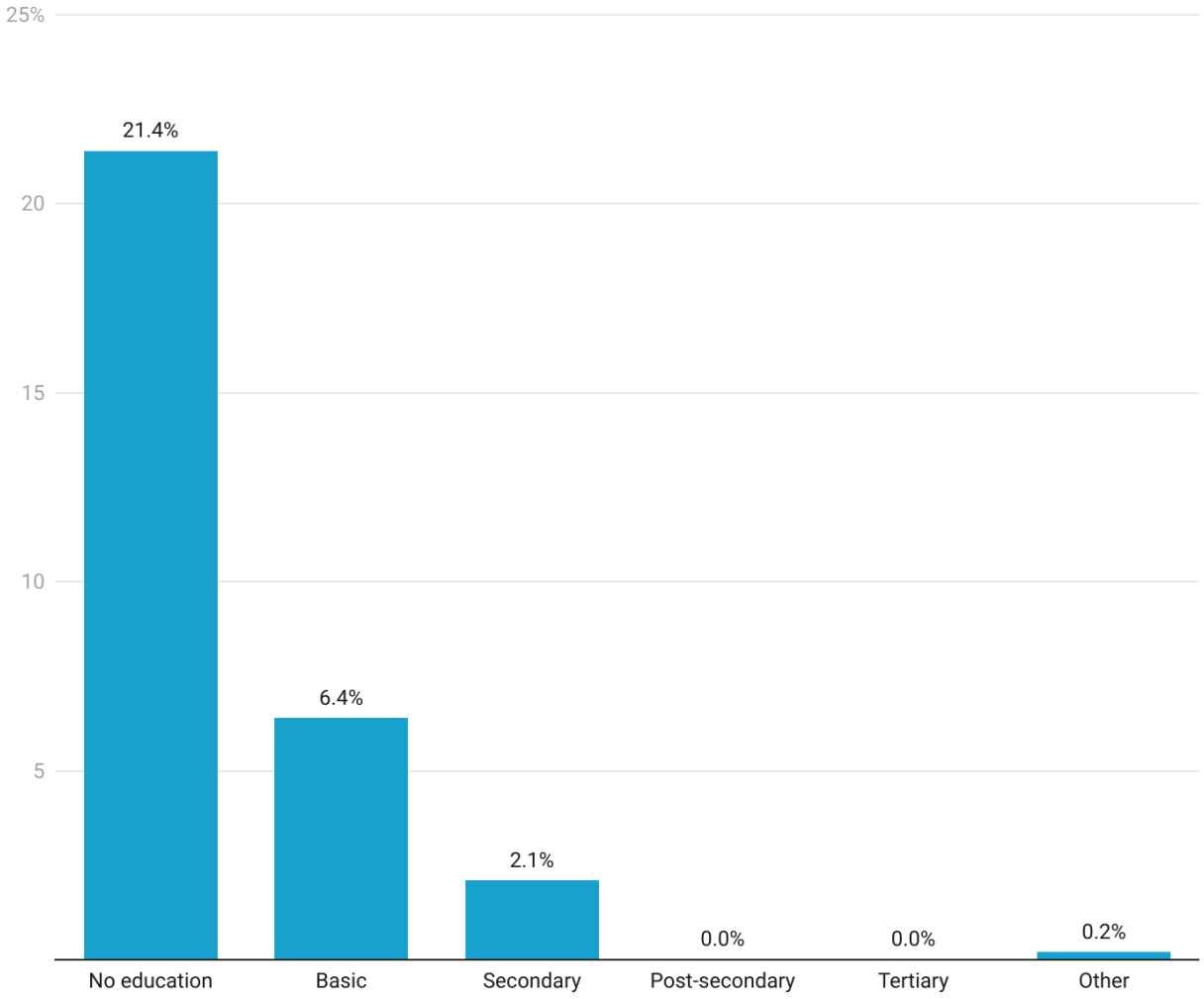
Almost all (96.5%) children that that have never attended school did not use the internet within the period. For all age groups, the percentage was above 90 percent and more than twice the percentage for those who were currently attending school.

FIGURE 4.26: PERCENT OF CHILDREN 6 TO 17 YEARS THAT DID NOT ACCESS THE INTERNET IN THE THREE MONTHS PRECEDING CENSUS NIGHT BY AGE GROUP AND SCHOOL ATTENDANCE STATUS



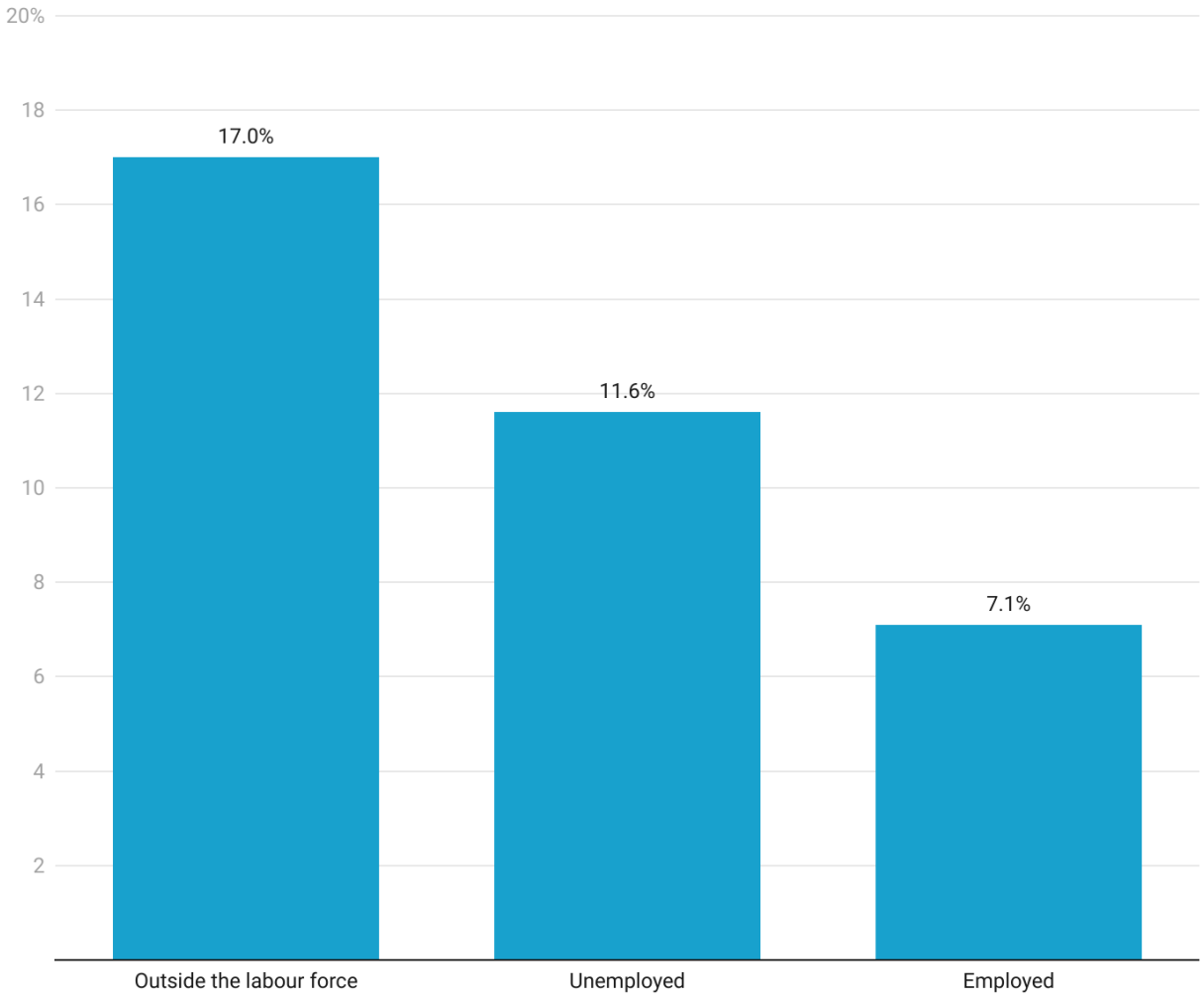
One in every five persons (21.4%) aged 15 years and older with no education did not use an ICT device in the three months before Census Night. This figure is more than ten times that of persons with secondary education and above.

FIGURE 4.27: PERCENT OF THE POPULATION 15 YEARS AND OLDER THAT DID NOT USE AN ICT DEVICE IN THE THREE MONTHS PRECEDING CENSUS NIGHT BY HIGHEST LEVEL OF EDUCATION



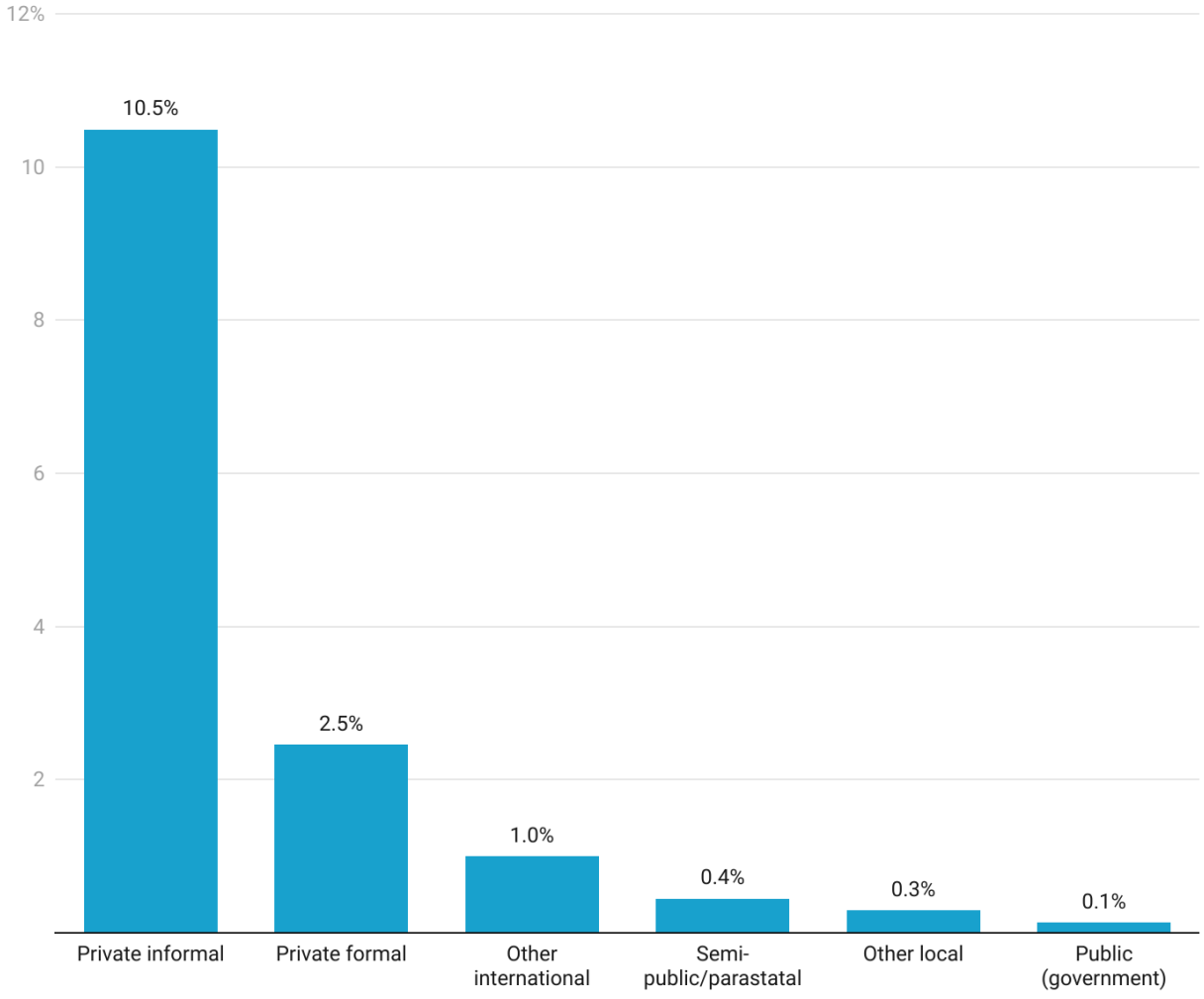
Persons outside the labour force (17.0%) had the highest percentage of persons who did not use ICT devices in the previous three months, which is more than twice the percentage for persons who were employed (7.1%).

FIGURE 4.28: PERCENT OF THE POPULATION 15 YEARS AND OLDER THAT DID NOT USE AN ICT DEVICE IN THE THREE MONTHS PRECEDING CENSUS NIGHT BY ECONOMIC ACTIVITY STATUS



One in every ten persons (10.5%) in the private informal sector did not use an ICT device in the three months preceding Census Night. This percentage is 4.2 times that of the private formal sector (2.5%) which had the next highest percentage of persons that did not use ICT devices.

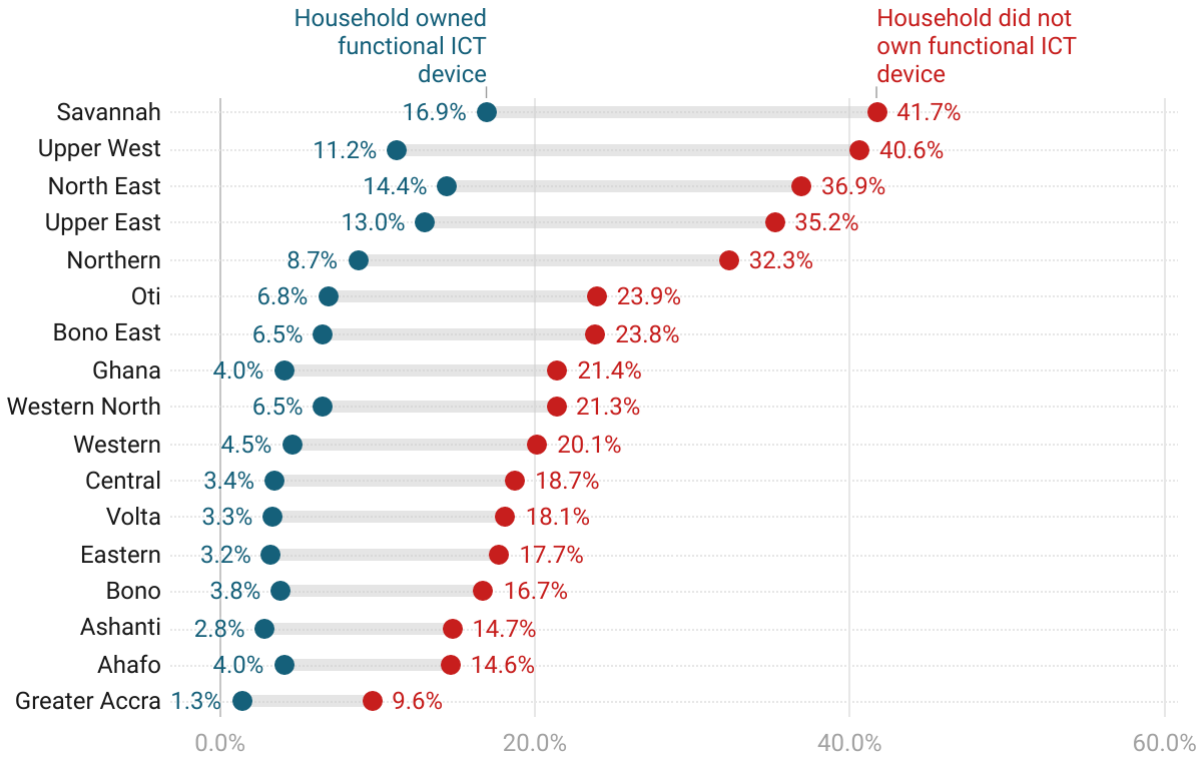
FIGURE 4.29: PERCENT OF THE POPULATION 15 YEARS AND OLDER THAT DID NOT USE AN ICT DEVICE IN THE THREE MONTHS PRECEDING CENSUS NIGHT BY EMPLOYMENT SECTOR



One in every five persons (21.4%) that did not use an ICT device lived in a household that did not own a functional ICT device, which is more than five times (5.3) that of persons who lived in households that owned functional ICT device (4.0%).

The disparity is largest in the Upper West Region where non-usage was 29.4 percentage points higher for persons in households that did not own functional ICT devices.

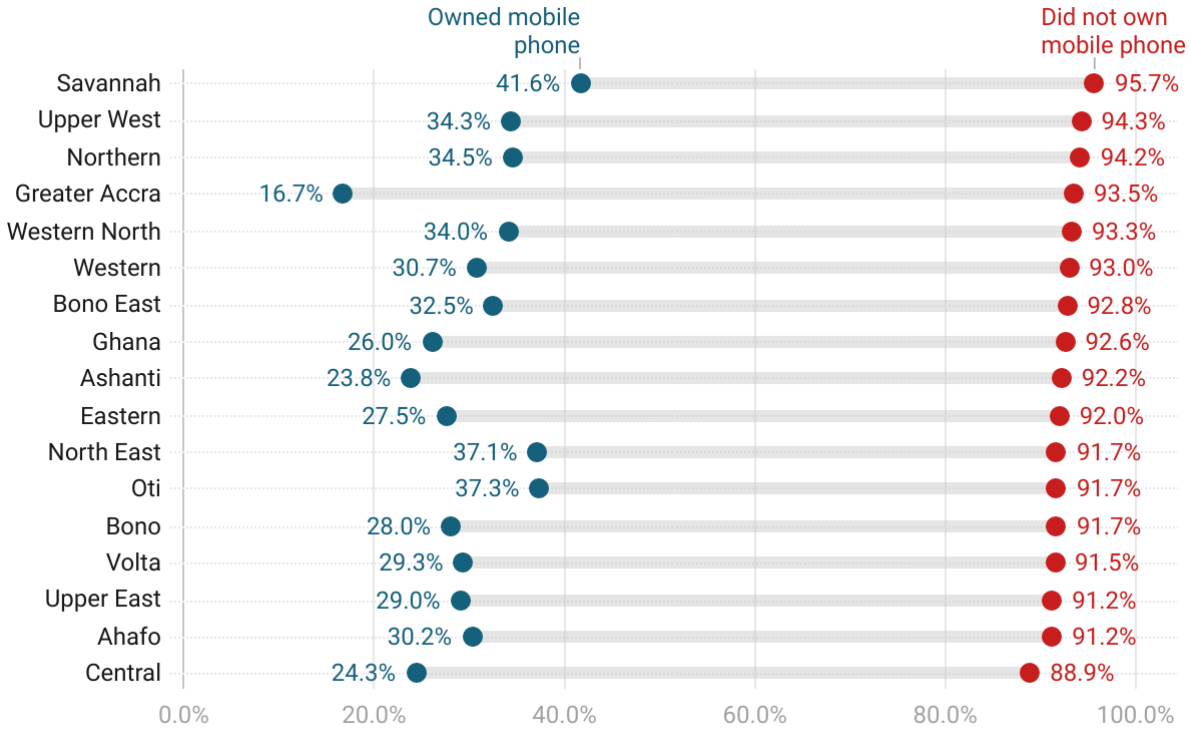
FIGURE 4.30: PERCENT OF THE POPULATION 6 YEARS AND OLDER THAT DID NOT USE AN ICT DEVICE IN THE THREE MONTHS PRECEDING CENSUS NIGHT BY HOUSEHOLD OWNERSHIP OF FUNCTIONAL ICT DEVICE AND REGION



The percentage of adults that did not own a mobile phone and did not use mobile phones for mobile money transactions in the three months (92.6%) is almost four times (3.6) the percentage of those that owned mobile phones (26.0%).

In all regions except Central, 90 percent or more of adults that did not own a mobile phone did not use mobile phones for mobile money transactions in the three months before Census Night.

FIGURE 4.31: PERCENT OF THE POPULATION 18 YEARS AND OLDER THAT DID NOT USE A MOBILE PHONE FOR MOBILE MONEY TRANSACTIONS IN THE THREE MONTHS PRECEDING CENSUS NIGHT BY OWNERSHIP OF MOBILE PHONE AND REGION



For the age group 6 to 14 years, females are 10.5 percent less likely to not use ICT devices compared to males while for the population 15 years and older, females are 23.7 percent more likely to not have used an ICT device. Females are also 6.6 percent more likely to not have used a mobile phone for financial transactions.

Persons in rural areas are more likely to be digitally excluded relative to those in urban areas. Persons aged 15 years and older in rural areas are 9.0 percent more likely not to have used an ICT device compared to those in urban areas. Those 6 to 14 years are 33.0 percent more likely to not have used an ICT device. Rural residents are also 66.4 percent more likely to not have used a mobile phone for financial transactions.

The likelihood of being digitally excluded decreases with level of education. Compared to persons with no education, persons with basic education are 31.6 percent less likely to not have used an ICT device among the population 15 years and older. When comparing persons with no education to those with tertiary education, the likelihood of being digitally excluded is 100 percent less for persons with tertiary education.

Compared to children not attending school, children currently attending school are 82.3 percent less likely to not have used an ICT device. For those who attended school in the past, they are 38.9 percent less likely to not have used an ICT device.

Persons that are multidimensionally poor are more likely to be digitally excluded than those who are not. For poor children 6 to 14 years, the likelihood of not using an ICT device is 155.8 percent more. For poor persons 15 years and older, it is 87.7 percent more.

Children 6 to 14 years with difficulty in performing activities are 11.7 percent more likely to not have used an ICT device compared to those without difficulty. For persons 15 years and older with difficulty in performing activities, the likelihood is 19.6 percent. Adults with difficulty in performing activities are also 40.9 percent more likely to not have used a mobile phone for financial transactions.

Children living in households that owned functional ICT devices are 32.8 percent less likely to not have used an ICT device in the preceding three months compared to children in households that do not own a functional ICT device.

Adults who owned a functional ICT device were 95.7 percent less likely to not have used a mobile phone for financial transactions.

TABLE 4:1: PERCENTAGES OF ODDS RATIOS FROM THE LOGISTIC REGRESSION PREDICTING DIGITAL EXCLUSION

Variable	Did not use ICT Device (6 to 14 years old)	Did not use ICT Device (15 years and older)	Did not use mobile phone for financial transactions (18 years and older)
Base category (male)			
Female	−10.5	23.7	6.6
Base category (urban)			
Rural	33.0	9.0	66.4
Base category (never attended)			
Attending now	−82.3	-	-
Attended in the past	−38.9	-	-
Base category (no education)			
Basic	-	−31.6	5.6
Secondary	-	−81.0	−12.8
Post middle	-	−99.8	−47.1
Tertiary	-	−100.0	−41.4
Other	-	−95.2	6.5
Base category (not literate)			
Literate		−75.0	−2.5
Base category (without difficulty)			
With difficulty in performing activities	11.7	19.6	40.9
Base category (not poor)			
Multidimensionally poor	155.8	87.7	92.3
Base category (does not own)			
Owns ICT device	-	-	−95.7
Base category (household does not own)			
Household owns ICT device	−32.8	-	-
Number of observations	*630,789*	*1,206,322*	*1,041,534*

The 10% microdata sample is used for the estimation. All models control for age and region. Model for children 6 to 14 years also controls for relationship to head of household.

5. CONCLUSIONS

This thematic brief presents statistics on digital exclusion in Ghana using data from the 2021 Population and Housing Census. The findings indicate that there has been a substantial decline in the percentage of the population that did not own mobile phones and did not access the internet over the past decade. However, 5.1 million persons aged 6 years and older who did not use an ICT device in the three months before Census Night were digitally excluded in 2021.

The report also presents statistics on the digital divide by age, sex, and region. The size of the digital divide relative to the population 36 to 60 years is largest for children 6 to 14 years, followed by the elderly population. Differences between males and females in the usage of ICT devices is evident for adults but not children; and are largest for the population 61 years and older suggesting that the gender digital divide emerges in adulthood and widens with age. The regional digital divide between Greater Accra, the region with the lowest percent of persons that did not use ICT devices, and other regions is in the double-digits for nine regions.

The likelihood of not using ICT devices is higher for vulnerable populations such as persons with difficulty in performing activities, the elderly and those that are multidimensionally poor.

There are substantial geographic disparities in the proportion of the population that did not own or use ICT devices with the regions in the northern part of the country notably having the highest proportions. These regions also have the largest differences between males and females; multidimensionally poor and non-poor; persons with difficulty in performing activities and those without; and persons in households that do not own functional ICT devices and those in households that do.

The proportion of children in school that are not using ICT devices or accessing the internet despite the inclusion of ICT in the curriculum points to a need for an assessment of the existing gaps for the development of solutions.

Ownership of ICT devices predictably drives usage highlighting the importance of ongoing efforts to increase access to ICT devices and services as required to meet the Sustainable Development Goal targets related to ICT.

The findings are timely and relevant in the current context where the country is committed to digitalisation. The statistics presented can guide the development of targeted policies and programmes to reduce both the number and percentage of digitally excluded persons in Ghana.

6. APPENDICES – DISTRICT TABLES

Additional tables are available from the StatsBank or the 2021 PHC General Report on ICT which can be downloaded from www.census2021.statsghana.gov.gh.

TABLE 6:1: POPULATION 6 YEARS AND OLDER THAT DID NOT USE AN ICT DEVICE IN THE THREE MONTHS PRECEDING CENSUS NIGHT BY DISTRICT AND SEX

Region	District	Total	Male	Female
Western	Jomoro Municipal	22,632	10,275	12,357
Western	Ellembelle	18,843	8,510	10,333
Western	Nzema East Municipal	19,803	9,218	10,585
Western	Ahanta West Municipal	25,267	11,235	14,032
Western	Effia Kwesimintsim Municipal	10,810	4,867	5,943
Western	Sekondi Takoradi Metropolitan Area (STMA	17,627	7,806	9,821
Western	Shama	18,296	8,255	10,041
Western	Wassa East	18,695	8,942	9,753
Western	Mpohor	10,972	5,156	5,816
Western	Tarkwa-Nsuaem Municipal	24,232	11,512	12,720
Western	Prestea/Huni Valley Municipal	37,939	17,870	20,069
Western	Wassa Amenfi East Municipal	37,924	18,056	19,868
Western	Wassa Amenfi Central	24,374	11,792	12,582
Western	Wassa Amenfi West Municipal	23,766	11,395	12,371
Central	Komenda Edina Eguafo Abirem Municipal	25,923	11,934	13,989
Central	Cape Coast Metropolitan Area (CCMA)	15,004	6,773	8,231
Central	Abura Asebu Kwamankese	21,057	9,607	11,450
Central	Mfantsiman Municipal	28,351	13,212	15,139
Central	Ekumfi	8,229	3,713	4,516
Central	Gomoa West	23,916	10,822	13,094
Central	Effutu Municipal	14,058	6,408	7,650
Central	Gomoa Central	12,342	5,467	6,875
Central	Gomoa East	27,665	13,022	14,643
Central	Awutu Senya East Municipal	18,102	8,513	9,589
Central	Awutu Senya	27,105	12,348	14,757
Central	Agona East	16,335	7,350	8,985
Central	Agona West Municipal	17,908	8,380	9,528
Central	Asikuma Odoben Brakwa	20,469	9,610	10,859
Central	Ajumako Enyan Essiam	16,677	7,504	9,173
Central	Assin South	15,919	7,447	8,472
Central	Twifo Heman Lower Denkyira	10,098	4,710	5,388
Central	Twifo Ati Morkwa	18,524	8,830	9,694
Central	Assin Fosu Municipal	8,479	4,036	4,443
Central	Assin North	12,036	5,765	6,271
Central	Upper Denkyira East Municipal	13,535	6,479	7,056
Central	Upper Denkyira West	13,035	6,195	6,840
Greater Accra	Ga South Municipal	38,207	17,547	20,660
Greater Accra	Weija Gbawe Municipal	14,225	6,789	7,436
Greater Accra	Ga Central Municipal	19,467	9,132	10,335
Greater Accra	Ablekuma North Municipal	9,235	4,222	5,013

Region	District	Total	Male	Female
Greater Accra	Ablekuma West Municipal	9,928	4,384	5,544
Greater Accra	Ablekuma Central Municipal	11,720	5,371	6,349
Greater Accra	Accra Metropolitan Area (AMA)	24,403	9,567	14,836
Greater Accra	Korle Klottey Municipal	3,648	1,646	2,002
Greater Accra	Ayawaso Central Municipal	5,893	2,395	3,498
Greater Accra	Ayawaso East Municipal	4,904	1,953	2,951
Greater Accra	Ayawaso North Municipal	4,607	1,848	2,759
Greater Accra	La Dade-Kotopon Municipal	6,169	2,776	3,393
Greater Accra	Ledzokuku Municipal	14,085	6,329	7,756
Greater Accra	Krowor Municipal	7,409	3,306	4,103
Greater Accra	Adentan Municipal	13,805	6,490	7,315
Greater Accra	Ayawaso West Municipal	3,479	1,665	1,814
Greater Accra	Okaikoi North Municipal	7,738	3,532	4,206
Greater Accra	Ga North Municipal	12,510	5,999	6,511
Greater Accra	Ga West Municipal	26,135	12,378	13,757
Greater Accra	Ga East Municipal	14,218	6,554	7,664
Greater Accra	La Nkwantanang Madina Municipal	12,957	5,906	7,051
Greater Accra	Kpone Katamanso Municipal	31,828	14,910	16,918
Greater Accra	Ashaiman Municipal	15,503	6,955	8,548
Greater Accra	Tema West Municipal	9,203	4,230	4,973
Greater Accra	Tema Metropolitan Area (TMA)	13,038	5,828	7,210
Greater Accra	Ningo-Prampram	26,377	12,283	14,094
Greater Accra	Shai-Osudoku	16,189	7,622	8,567
Greater Accra	Ada West	15,697	7,364	8,333
Greater Accra	Ada East	15,680	7,358	8,322
Volta	South Tongu	24,700	11,011	13,689
Volta	Anloga	18,038	8,196	9,842
Volta	Keta Municipal	13,062	6,068	6,994
Volta	Ketu South Municipal	51,004	21,908	29,096
Volta	Ketu North Municipal	23,155	10,317	12,838
Volta	Akatsi North	6,034	2,595	3,439
Volta	Akatsi South Municipal	17,650	7,633	10,017
Volta	Central Tongu	20,088	9,014	11,074
Volta	North Tongu	24,529	11,326	13,203
Volta	Ho West	11,494	5,510	5,984
Volta	Adaklu	8,083	3,774	4,309
Volta	Agortime-Ziope	9,253	3,870	5,383
Volta	Ho Municipal	17,183	7,635	9,548
Volta	South Dayi	9,102	4,454	4,648
Volta	Afadzato South	13,685	6,671	7,014
Volta	North Dayi	5,608	2,739	2,869
Volta	Kpando Municipal	7,626	3,667	3,959
Volta	Hohoe Municipal	13,998	6,532	7,466
Eastern	Birim South	5,557	2,705	2,852
Eastern	Birim Central Municipal	7,863	3,801	4,062
Eastern	Achiase	9,958	4,725	5,233
Eastern	Asene Manso Akroso	14,635	6,722	7,913

Region	District	Total	Male	Female
Eastern	West Akim Municipal	19,081	8,888	10,193
Eastern	Upper West Akim	17,545	8,115	9,430
Eastern	Ayensuano	15,015	7,170	7,845
Eastern	Nsawam Adoagyiri Municipal	17,957	8,639	9,318
Eastern	Akwapim South Municipal	8,332	3,927	4,405
Eastern	Akwapim North Municipal	12,102	5,774	6,328
Eastern	Okere	7,313	3,382	3,931
Eastern	New Juaben South Municipal	9,187	4,189	4,998
Eastern	New Juaben North Municipal	6,825	3,245	3,580
Eastern	Suhum Municipal	14,989	7,157	7,832
Eastern	Abuakwa North Municipal	8,520	3,962	4,558
Eastern	Abuakwa South Municipal	12,161	5,689	6,472
Eastern	Denkyembuor	9,882	4,774	5,108
Eastern	Akyemansa	17,226	8,318	8,908
Eastern	Kwaebibirem Municipal	17,682	8,646	9,036
Eastern	Birim North	12,203	5,993	6,210
Eastern	Atiwa West	7,735	3,844	3,891
Eastern	Atiwa East	8,247	4,182	4,065
Eastern	Fanteakwa South	6,389	3,088	3,301
Eastern	Yilo Krobo Municipal	17,586	8,079	9,507
Eastern	Lower Manya Krobo Municipal	14,982	6,547	8,435
Eastern	Asuogyaman	14,481	6,776	7,705
Eastern	Upper Manya Krobo	16,372	7,565	8,807
Eastern	Fanteakwa North	9,967	4,969	4,998
Eastern	Kwahu South Municipal	13,692	6,497	7,195
Eastern	Kwahu West Municipal	17,665	8,565	9,100
Eastern	Kwahu East	14,264	7,113	7,151
Eastern	Kwahu Afram Plains South	18,894	9,574	9,320
Eastern	Kwahu Afram Plains North	17,945	9,354	8,591
Ashanti	Amansie South	18,851	8,868	9,983
Ashanti	Amansie Central	17,445	8,210	9,235
Ashanti	Akrofuom	6,866	3,311	3,555
Ashanti	Adansi South	14,439	6,883	7,556
Ashanti	Adansi Asokwa	12,074	5,724	6,350
Ashanti	Obuasi East	8,006	3,857	4,149
Ashanti	Obuasi Municipal	7,617	3,498	4,119
Ashanti	Adansi North	6,232	2,864	3,368
Ashanti	Bekwai Municipal	16,778	7,700	9,078
Ashanti	Amansie West	19,882	9,208	10,674
Ashanti	Atwima Kwanwoma	23,535	11,012	12,523
Ashanti	Bosomtwi	16,060	7,567	8,493
Ashanti	Bosome Freho	13,029	6,161	6,868
Ashanti	Asante Akim Central Municipal	7,988	3,703	4,285
Ashanti	Asante Akim South Municipal	19,755	9,724	10,031
Ashanti	Asante Akim North Municipal	12,985	6,115	6,870
Ashanti	Sekyere Kumawu	8,518	4,154	4,364
Ashanti	Sekyere East	8,130	3,897	4,233

Region	District	Total	Male	Female
Ashanti	Juaben Municipal	10,755	5,313	5,442
Ashanti	Ejisu Municipal	17,031	7,923	9,108
Ashanti	Oforikrom Municipal	12,631	5,680	6,951
Ashanti	Asokwa Municipal	7,786	3,496	4,290
Ashanti	Kumasi Metropolitan Area (KMA)	28,262	12,780	15,482
Ashanti	Kwadaso Municipal	8,674	3,935	4,739
Ashanti	Suame Municipal	8,719	3,881	4,838
Ashanti	Old Tafo Municipal	8,574	3,995	4,579
Ashanti	Asokore Mampong Municipal	19,369	8,865	10,504
Ashanti	Kwabre East	26,815	12,651	14,164
Ashanti	Afigya Kwabre South	23,727	11,392	12,335
Ashanti	Atwima Nwabiagya North	16,759	7,983	8,776
Ashanti	Atwima Nwabiagya South Municipal	16,598	7,922	8,676
Ashanti	Atwima Mponua	31,263	14,533	16,730
Ashanti	Ahafo Ano South West	13,257	6,230	7,027
Ashanti	Ahafo Ano North Municipal	14,018	6,745	7,273
Ashanti	Ahafo Ano South East	12,751	6,198	6,553
Ashanti	Offinso North	19,138	9,065	10,073
Ashanti	Offinso Municipal	22,856	10,586	12,270
Ashanti	Afigya Kwabre North	10,663	5,268	5,395
Ashanti	Sekyere South	10,462	4,947	5,515
Ashanti	Mampong Municipal	17,196	7,911	9,285
Ashanti	Ejura Sekyedumase Municipal	28,285	12,759	15,526
Ashanti	Sekyere Central	15,825	7,368	8,457
Ashanti	Sekyere Afram Plains	11,404	5,528	5,876
Western North	Aowin Municipal	33,987	16,174	17,813
Western North	Sefwi Akontombra	14,981	7,072	7,909
Western North	Suaman	4,910	2,502	2,408
Western North	Bodi	14,178	6,668	7,510
Western North	Sefwi Wiawso Municipal	24,442	11,373	13,069
Western North	Bibiani Anhwiaso Bekwai Municipal	25,508	11,621	13,887
Western North	Juaboso	16,661	7,746	8,915
Western North	Bia West	23,287	10,901	12,386
Western North	Bia East	10,862	5,222	5,640
Ahafo	Asunafo South	14,349	6,933	7,416
Ahafo	Asunafo North Municipal	21,426	10,375	11,051
Ahafo	Asutifi South	11,616	5,524	6,092
Ahafo	Asutifi North	11,431	5,553	5,878
Ahafo	Tano North Municipal	12,212	5,721	6,491
Ahafo	Tano South Municipal	14,102	6,729	7,373
Bono	Dormaa West	6,211	3,090	3,121
Bono	Dormaa Central Municipal	15,593	7,157	8,436
Bono	Dormaa East	8,824	4,174	4,650
Bono	Sunyani Municipal	17,959	8,472	9,487
Bono	Sunyani West Municipal	14,357	6,690	7,667
Bono	Berekum East Municipal	10,353	4,661	5,692
Bono	Berekum West	5,795	2,510	3,285

Region	District	Total	Male	Female
Bono	Jaman South	20,245	9,346	10,899
Bono	Jaman North	18,625	8,691	9,934
Bono	Tain	22,180	10,402	11,778
Bono	Wenchi Municipal	16,912	7,795	9,117
Bono	Banda	5,878	2,839	3,039
Bono East	Nkoranza South Municipal	20,390	9,958	10,432
Bono East	Techiman Municipal	31,082	14,378	16,704
Bono East	Nkoranza North	10,968	5,249	5,719
Bono East	Techiman North	14,028	6,328	7,700
Bono East	Atebubu Amantin Municipal	37,321	17,326	19,995
Bono East	Sene West	22,166	10,114	12,052
Bono East	Sene East	23,680	11,837	11,843
Bono East	Pru West	21,193	9,663	11,530
Bono East	Pru East	29,982	14,053	15,929
Bono East	Kintampo South	23,338	10,982	12,356
Bono East	Kintampo North Municipal	34,681	15,931	18,750
Oti	Biakoye	15,127	7,284	7,843
Oti	Jasikan Municipal	10,974	5,090	5,884
Oti	Kadjebi	14,208	6,723	7,485
Oti	Krachi East Municipal	31,157	14,522	16,635
Oti	Krachi West Municipal	15,681	7,487	8,194
Oti	Krachi Nchumuru	22,158	10,145	12,013
Oti	Nkwanta South Municipal	38,966	17,488	21,478
Oti	Nkwanta North	48,966	21,708	27,258
Oti	Guan	4,076	1,999	2,077
Northern	Kpandai	43,993	19,232	24,761
Northern	Nanumba South	39,027	16,700	22,327
Northern	Nanumba North Municipal	67,144	28,595	38,549
Northern	Zabzugu	30,186	12,615	17,571
Northern	Tatale Sanguli	28,032	11,942	16,090
Northern	Saboba	38,943	16,494	22,449
Northern	Yendi Municipal	46,923	20,180	26,743
Northern	Mion	40,537	17,319	23,218
Northern	Nanton	13,865	6,025	7,840
Northern	Tamale Metropolitan Area (TMA)	69,008	30,196	38,812
Northern	Sagnarigu Municipal	55,027	23,968	31,059
Northern	Tolon	38,755	16,529	22,226
Northern	Kumbungu	30,956	13,095	17,861
Northern	Savelugu Municipal	31,608	13,422	18,186
Northern	Karaga	49,491	20,586	28,905
Northern	Gushegu Municipal	65,175	27,792	37,383
Savannah	Bole	35,465	16,945	18,520
Savannah	Sawla Tuna Kalba	45,365	19,190	26,175
Savannah	North Gonja	28,874	13,054	15,820
Savannah	West Gonja	17,423	8,180	9,243
Savannah	Central Gonja	54,842	24,493	30,349
Savannah	East Gonja Municipal	42,218	19,653	22,565

Region	District	Total	Male	Female
Savannah	North East Gonja	15,107	6,514	8,593
North East	Mamprugu Moagduri	26,837	11,901	14,936
North East	West Mamprusi Municipal	51,884	22,530	29,354
North East	East Mamprusi Municipal	66,067	28,744	37,323
North East	Bunkpurugu Nakpanduri	21,315	8,861	12,454
North East	Yunyoo Nasuan	24,586	10,515	14,071
North East	Chereponi	36,634	15,699	20,935
Upper East	Builsa South	13,969	6,822	7,147
Upper East	Builsa North Municipal	13,866	6,845	7,021
Upper East	Kasena Nankana Municipal	19,711	9,166	10,545
Upper East	Kasena Nankana West	23,340	10,702	12,638
Upper East	Bolgatanga Municipal	25,977	11,617	14,360
Upper East	Talensi	21,248	10,133	11,115
Upper East	Bolgatanga East	7,263	3,211	4,052
Upper East	Bongo	34,006	15,390	18,616
Upper East	Nabdam	15,649	7,541	8,108
Upper East	Bawku West	45,762	20,974	24,788
Upper East	Binduri	23,524	10,676	12,848
Upper East	Bawku Municipal	26,018	11,339	14,679
Upper East	Garu	22,504	9,751	12,753
Upper East	Tempane	30,997	13,129	17,868
Upper East	Pusiga	25,025	10,644	14,381
Upper West	Wa West	38,712	16,116	22,596
Upper West	Wa East	38,997	18,038	20,959
Upper West	Wa Municipal	32,433	13,938	18,495
Upper West	Nadowli Kaleo	22,163	9,342	12,821
Upper West	Daffiama Bussie Issa	13,005	5,756	7,249
Upper West	Sissala East Municipal	22,074	9,771	12,303
Upper West	Sissala West	20,112	8,452	11,660
Upper West	Jirapa Municipal	27,042	11,268	15,774
Upper West	Lawra Municipal	19,007	8,140	10,867
Upper West	Lambussie Karni	18,985	8,121	10,864
Upper West	Nandom	15,343	6,617	8,726

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