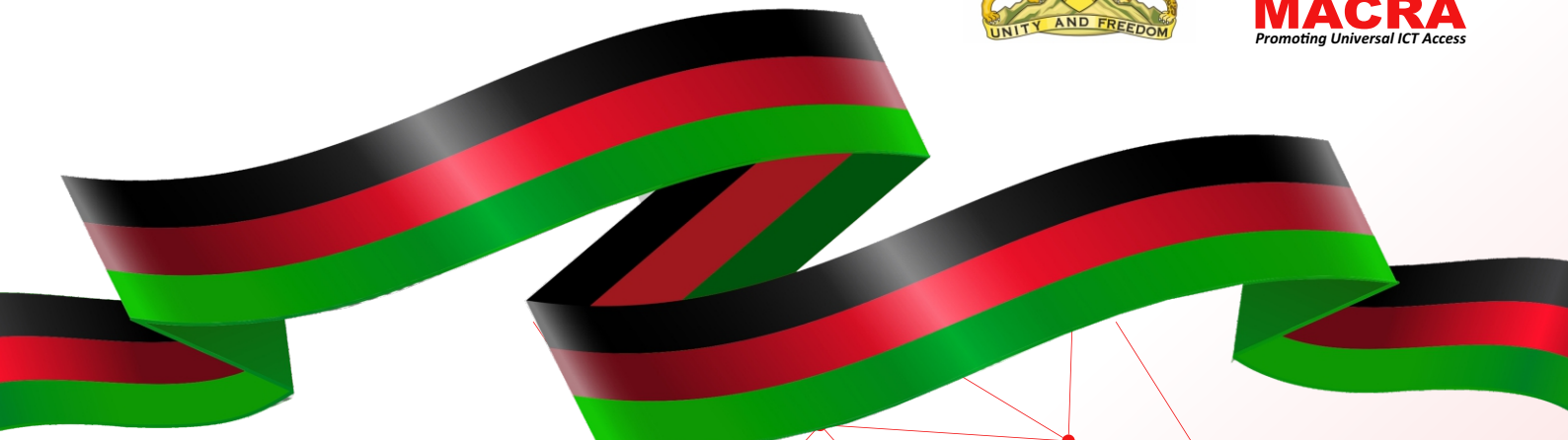

# NATIONAL SURVEY ON ACCESS AND USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGIES BY HOUSEHOLDS AND INDIVIDUALS IN MALAWI 2019

AUGUST, 2020

NATIONAL STATISTICAL OFFICE


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# FOREWORD

The Government of Malawi's medium term development strategy, the Malawi Growth and Development Strategy (MGDS) III, recognizes that ICT is pivotal to accelerating growth and also act as an enabler for poverty reduction and wealth creation. In this regard, Government through the Malawi Communications Regulatory Authority (MACRA) strives to ensure universal access to ICT services through provision of reliable and affordable ICT services in Malawi. This vision is given more impetus by the Sustainable Development Goals (SDGs) and emergence of the digital economy. Since the turn of the millennium, the country has seen an increase in ICT infrastructure development and services uptake. This has consequently led to increasing demand for data on ICT access and usage. Planning, monitoring and evaluation of programs both at national and district levels as well as reporting on the SDGs and other international targets require quality statistics. It is against this background that MACRA commissioned the 2019 National Household Survey on Access and Usage of ICT Services in Malawi. This report presents findings of this survey and is, therefore, a major milestone as it provides information on ICT access and usage patterns that is crucial for implementing development initiatives. Moreover, this report coincides with the formulation of the country's second long term development vision, Vision 2063.

The 2019 National Household Survey on Access and Usage of ICT Services in Malawi is the product of the collaboration between the National Statistical Office (NSO) and the Malawi Communications Regulatory Authority (MACRA). This was the second survey following that of 2014 and was designed to collect key information on access and use of ICT services for computation of updated ICT indicators for local and international reporting.

I would like to commend the National Statistical Office for the technical support provided to MACRA in the implementation of this survey. The collaboration between NSO and MACRA in this survey will go a long way in ensuring that the increasing demand for reliable and timely statistics on access and usage of ICT services in Malawi is satisfied. The data set from this survey will add to the existing database on ICT services.

**Henry Shamu**
Director General
Malawi Communications Regulatory Authority

# PREFACE

The National Statistical Office (NSO) has been working with the Malawi Communication Regulatory Authority (MACRA) in conducting ICT Surveys since 2014. This report presents results of the 2019 Access and Usage of ICT Services Survey in Malawi that was conducted from September to December 2019. The objective of the second survey was to establish the extent of access to and use of ICT services by households and individuals in order to take stock of trends in ICT development over the years and continue providing reliable statistics to assist in policy formulation and strategic planning in formulation of national development initiatives driven by the ICT sector.

The collaboration between NSO and MACRA in data generation has been very productive as it has provided a great opportunity for capacity building in both institutions in data collection, processing and analysis. It has also enabled NSO to live up to its motto of providing "Statistics at the fingertips of the users" and its mission of providing high quality and timely statistical information through carrying out of censuses and surveys, setting statistical standards and promoting the dissemination and use of statistics for policy formulation, decision making and monitoring and evaluation of development programmes in order to spur socio-economic growth and development.

I would like to express my appreciation to MACRA for the continued financial support to the ICT surveys. Let me acknowledge the dedication and professionalism portrayed by the staff from the two institutions in handling the survey. My gratitude also goes to the field teams and community leaders for their support and the respondents for taking their time in answering the questions.
It is the wish of Government that the results of this survey go a long way to assist in the formulation of ICT policies that promote adequate access to ICTs for everyone.

**Mercy Kanyuka (Mrs.)**
Commissioner of Statistics

# EXECUTIVE SUMMARY

The 2019 Access and Use of Information and Communications Technologies survey collected information on access and use of ICT services and products such as phone, postal services, digital financial services, cyber security, electrical and electronic waste management and child online protection. Cyber security and electronic waste management are new topics which were not covered in the previous survey. The following are key findings:

- About 46 percent of the households owned a functional radio in Malawi with individual radio listenership at 71.1 percent.
- The proportion of households across the country with a working television set was 11.6 percent with local TV stations viewership at 69.8 percent.
- About 37 percent of households in Malawi in 2019 owned a mobile telephone which was accessible to every household member.
- The proportion of individuals that owned computers in Malawi in 2019 was 2.8 percent.
- The proportion of households having family postal addresses in 2019 was 2.9 percent.
- Access to internet services among individuals was at 14.6 percent. In urban areas, 40.7 percent of the individuals had access to internet services compared to 9.3 percent in rural areas.
- About 32 percent of individuals had access to digital financial services with 29.5 percent of individuals having mobile money account.
- About 36 percent of individuals were aware and confident of their knowledge on cyber security.
- About 26 percent of all the households across the country had disposed of some electronic or electrical items which were damaged or were no longer useful to the households. The highest proportion (27.8 percent) of individuals reported that they sold or gave away their damaged electronic or electrical equipment.
- The survey results reveal that 79.0 percent of the children were connected to the internet by themselves, 11.4 percent were assisted by their family members, 6.6 percent by their friends and lastly 2.4 percent by someone else.
- About 40 percent of the children between 9 to 17 years old who reported to have experienced cyber bullying did not report the incident to anyone.

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# ACRONYMS

| | |
|---|---|
| AM | Amplitude Modulation |
| CAPI | Computer Assisted Personal Interviews |
| CERT | Computer Emergency Response Team |
| EA | Enumeration Area |
| FM | Frequency Modulation |
| ICFDH | International Classification of Functioning, Disability and Health |
| ICT | Information Communication Technologies |
| ITU | International Telecommunications Union |
| GPS | Global Positioning System |
| GSM | Global System for Mobile Communications |
| KM | Kilometres |
| LW | Long Wave |
| MACRA | Malawi Communications Regulatory Authority |
| MBC | Malawi Broadcasting Corporation |
| MDBNL | Malawi Digital Broadcasting Network Limited |
| MGDS II | Malawi Growth and Development Strategy II |
| NSO | National Statistical Office |
| PSTN | Public Switched Telephone Network |
| PSU | Primary Sampling Unit |
| SW | Shortwave |
| TV | Television |
| UPU | Universal Postal Union |
| WSIS | World Summit on Information Society |

# CHAPTER 1
## INTRODUCTION

The 2019 National Survey on Access and Use of Information and Communications Technologies (ICTs) Services by households and individuals in Malawi was conducted by the National Statistical Office (NSO) with technical and financial support from the Malawi Communications Regulatory Authority (MACRA). This was the second national ICT survey following the initial one undertaken in 2014 which established the baseline for the access and use of ICT services and products in the country and it covered all the districts in Malawi. The objective of the second survey was to establish the extent of access to and use of ICT services by the households and individuals in order to take stock of trends in ICT development over the years and continue provide reliable statistics to assist in policy formulation and strategic planning of national development initiatives driven by the ICT sector.

The global rapid advancements in ICT industry, which has not spared Malawi, in both policy and technological development emphasizes the key role that ICT plays in accelerating socio-economic development in the World. These advancements have led to increased investment by both providers of ICT services in infrastructure, network and provision of services through applications while the Government has also invested much in ensuring technological advancement in provision of improved public services in the country. This has led to an increased uptake of ICT services and products by households and individuals in the country over the period since the last survey. However, the growth and development of ICT and subsequently the access and use of the services by households and individuals in country still faces some challenges that have prevented the country from maximizing the potential of utilizing ICT services.

The Government of Malawi has over the years developed medium-term development strategies with the recent one being the Malawi Growth and Development Strategy III (MGDS III) that takes full recognition of ICT as pivotal in accelerating growth and also act as an enabler for poverty reduction and wealth creation. This national strategy builds on the Fourth Industrialization Revolution of ensuring that ICT is the key catalyst for new developmental agenda in Africa. Government through MACRA is striving to ensure that there is universal access of ICT services through provision of reliable and affordable ICT services in the country. This vision is given more impetus by the Sustainable Development Goals (SDGs) and African Union Agenda 2063: The Africa We Want. Since the turn of the millennium, the country has seen an increase in ICT infrastructure development and services uptake. This has consequently led to increasing demand for statistics on ICT access and use. As such planning, monitoring and evaluation of programs both at national and district levels as well as reporting on the SDGs and other international targets require quality statistics. The results of the survey will also go a long way is substantiating the demand for accurate and reliable statistics in the formulation of the country's second long term development the National Transformation 2063 as championed by the Government through the National Planning Commission (NPC).

Access and use of ICTs is doubtless the most fundamental prerequisite for an inclusive information society. As such the 2019 national ICT survey on measuring access and use was a key priority for assessing a set of indicators that are relevant in order to judge the effect of ICT on the socio-economic growth of our nation but also to help in effectively and efficiently regulating the

industry. The survey provided information on access and use of ICTs which included radio, television, mobile telephone, fixed telephone, postal services, computer and internet as well as the challenges households and individuals currently face in accessing and using the services. Furthermore, the survey provided information on electrical and electronic waste (e-waste) management, cyber security and child using and accessing ICT services.

This report has a total of eight chapters. Chapter two provides information on access and use of ICTs by households. Chapters three and four provide information on access and use of ICTs for individuals aged 15 years and above. Chapter five presents information on individuals' knowledge and experience on cyber security incidences. Chapter six provides information on methods and volume of electrical and electronic waste disposed. Chapter seven presents information on overview of children online protection and behaviour. Finally, chapter eight provides findings of the report for policy makers and regulatory interventions.

# CHAPTER 2
## ACCESS AND USE OF ICT SERVICES AND PRODUCTS BY HOUSEHOLDS

### 2.1 Introduction

This chapter provides a discussion of the survey results on how various ICT products and services were being accessed and used by households in Malawi. The assessment looks at the ownership of various products such as radio, television, computer, fixed and mobile telephone. It also assesses household access and use of communication services such as postal services. The chapter further provides an analysis of the various barriers and challenges that households faced in owning various ICT products and use of such services. The survey analysis is presented at national level and further disaggregated by region, place of residence, availability of electricity and demographic factors such as sex of household head. Some of the results at district level are available in the Appendix.

### 2.2 Ownership of Functional Radio and Access to the Radio

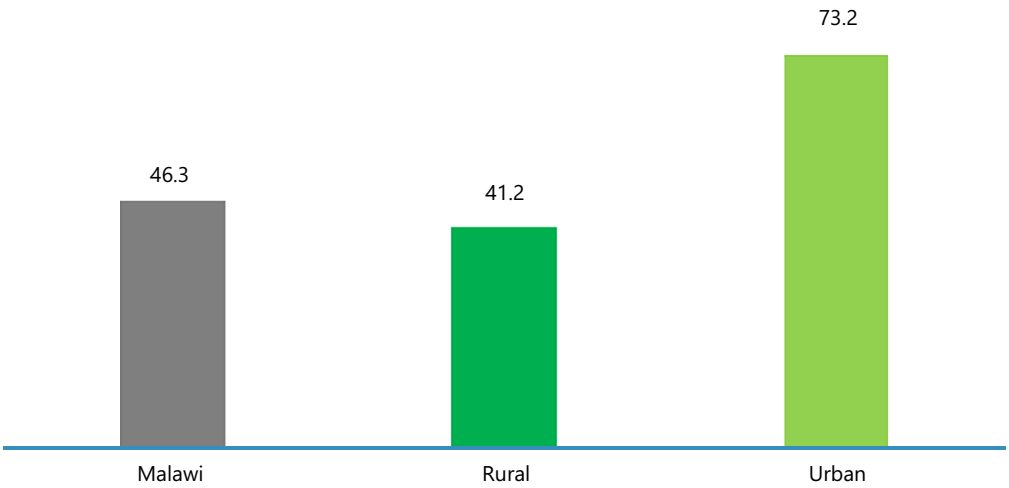
A radio is a device capable of receiving broadcast radio signals, using common frequencies, such as FM, AM, LW and SW. A radio may be a standalone device or it may be integrated with another device such as an alarm clock, an audio player, a mobile telephone or a computer. The equipment should be in working order or expected to be returned to working order soon.

### 2.2.1 Ownership of Functional Radio

The survey results show that 46.3 percent of the households in Malawi owned a functioning radio which was used by all members within the household.

A comparison by place of residence shows that a higher proportion of the urban households (73.2 percent) owned a functioning radio compared to 41.2 percent of the rural households (Figure 2.1).

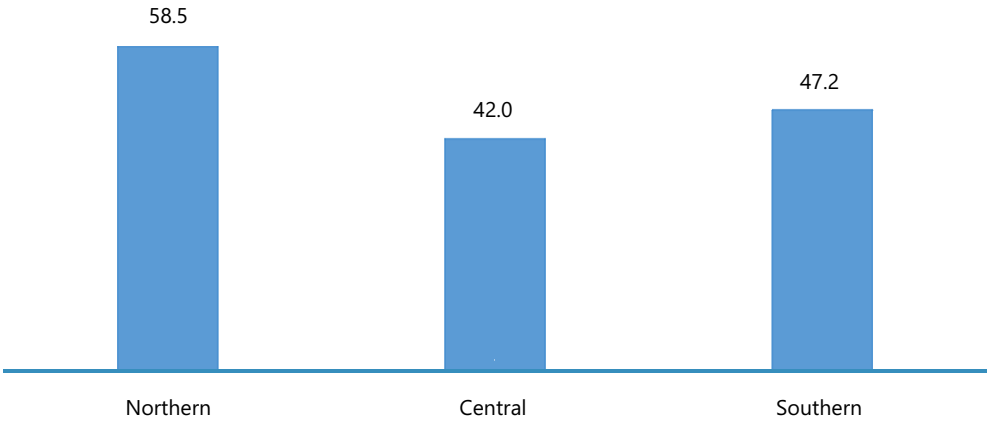
**Figure 2.1: Proportion of Households with a Functioning Radio by Place of Residence, ICT 2019**




*Source: National Statistical Office: Access and use of ICTs 2019*

The Northern region had the highest proportion of households (58.5 percent) owning a functioning radio while the Southern and Central regions had 47.2 percent and 42.0 percent, respectively (Figure 2.2).

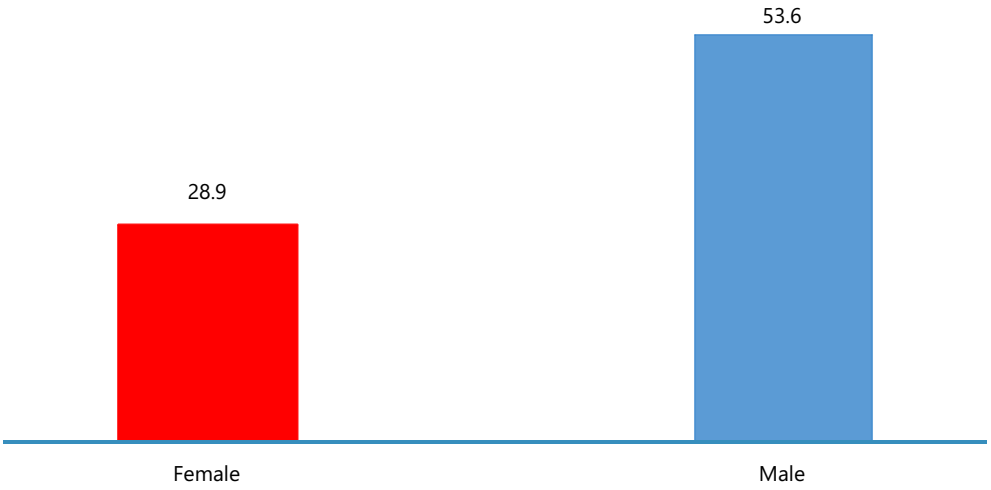
**Figure 2.2: Proportion of Households with a Functioning Radio by Region, ICT 2019**




*Source: National Statistical Office: Access and use of ICTs 2019*

The proportion of male headed households that owned a functioning radio was higher (53.6 percent) than the proportion of female headed households (28.9 percent) (Figure 2.3).

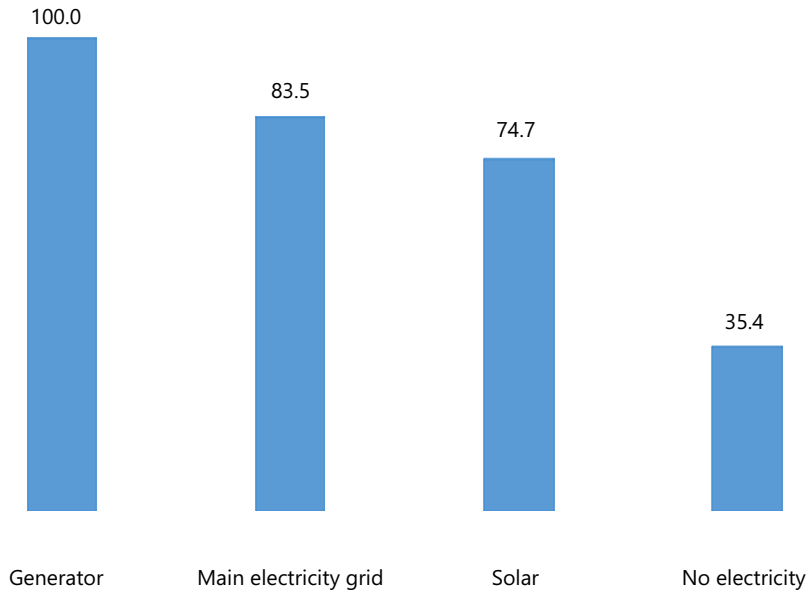
**Figure 2.3: Proportion of Households with a Functioning Radio by Sex of Household Head, ICT 2019**




*Source: National Statistical Office: Access and use of ICTs 2019*

There is a strong association between availability of electricity and ownership of a functioning radio. About 84 percent of households with electricity from the main grid had a functioning radio compared to 35.4 percent without electricity (Figure 2.4).

**Figure 2.4: Proportion of Households with a Functioning Radio by Availability of Electricity, ICT 2019**

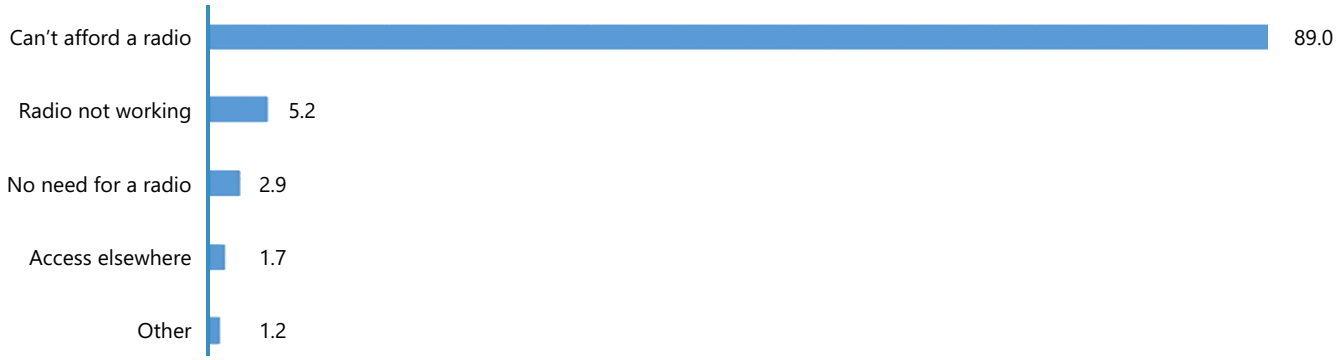



*Source: National Statistical Office: Access and use of ICTs 2019*

### 2.2.2 Main Reasons for not Owning a Functional Radio

The findings show that 89.0 percent of those that responded not having a functioning radio indicated that they could not afford to buy a radio while 1.7 percent indicated that they accessed radio elsewhere (Figure 2.5).

**Figure 2.5: Percentage Distribution of Households by Main Reasons for Not Owning a Functioning Radio, ICT 2019**




*Source: National Statistical Office: Access & Use of ICT services, 2019*

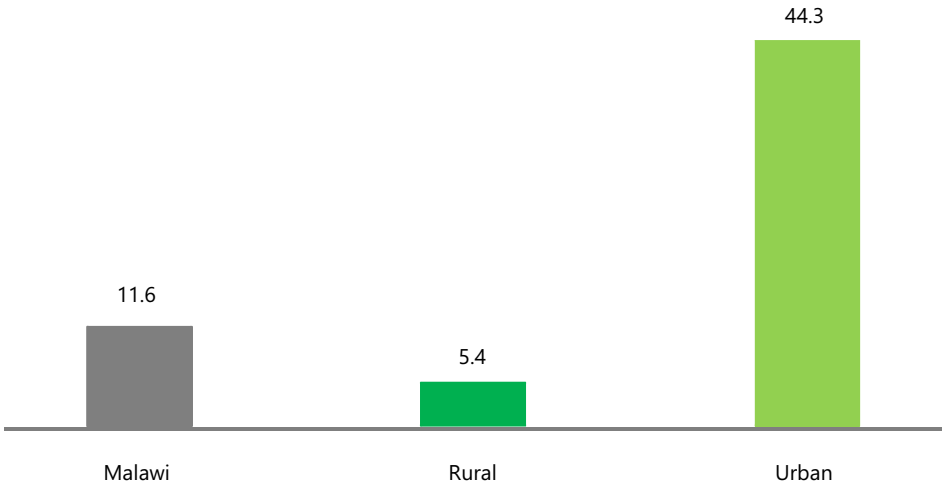
## 2.3 Ownership of Functioning TV and Access to the TV Broadcasting Services

A television (TV) is a device capable of receiving broadcast television signals using popular access means such as: over the air, cable and satellite. A television set is typically a standalone device but it may be integrated with another device such as a computer or mobile telephone. The equipment should be in working condition at the time of the survey.

### 2.3.1 Ownership of Television Set

The findings from the survey show that the proportion of households with a functioning television set was 11.6 percent. Analysis by place of residence shows that the proportion of households with functioning television set was higher in urban areas (44.3 percent) than in rural areas (5.4 percent) (Figure 2.6).

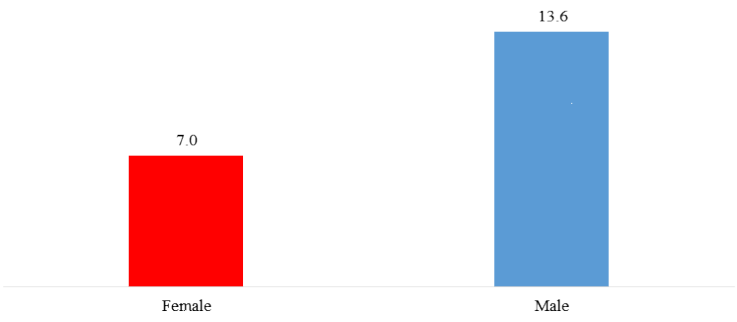
**Figure 2.6: Proportion of Households with a Functioning Television Set by Place of Residence, ICT 2019**




*Source: National Statistical Office: Access & Use of ICT services, 2019*

The survey also looked at the ownership of a functioning TV set by sex of household heads in the country. The proportion of male headed households who owned a functioning TV set was higher (13.6 percent) than proportion of female headed households (7.0 percent) (Figure 2.7).

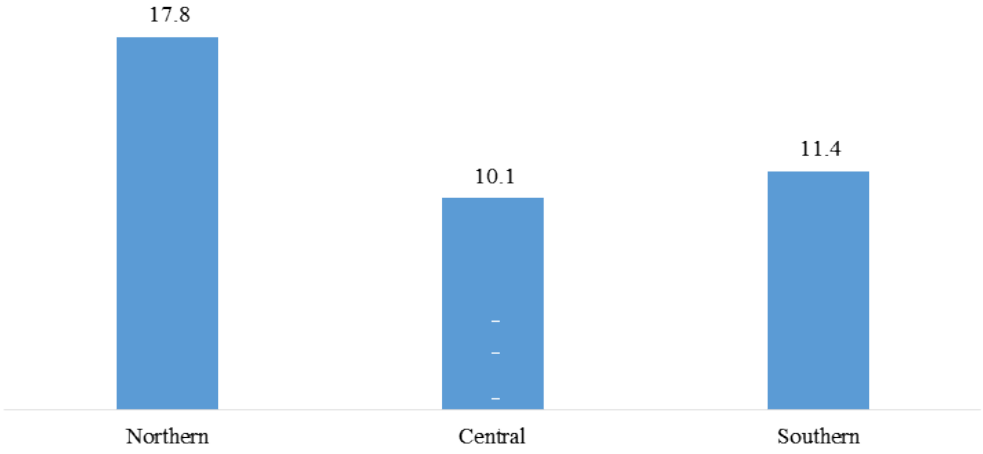
**Figure 2.7: Proportion of Households with a Functioning Television Set by Sex of Household Head, ICT 2019**




*Source: National Statistical Office: Access and use of ICTs 2019*

The proportion of households with functioning television set across the three regions of the country indicates that the Northern region had the highest percentage of households with functioning television sets (17.8 percent) followed by households in the Southern region (11.4 percent) (Figure 2.8).

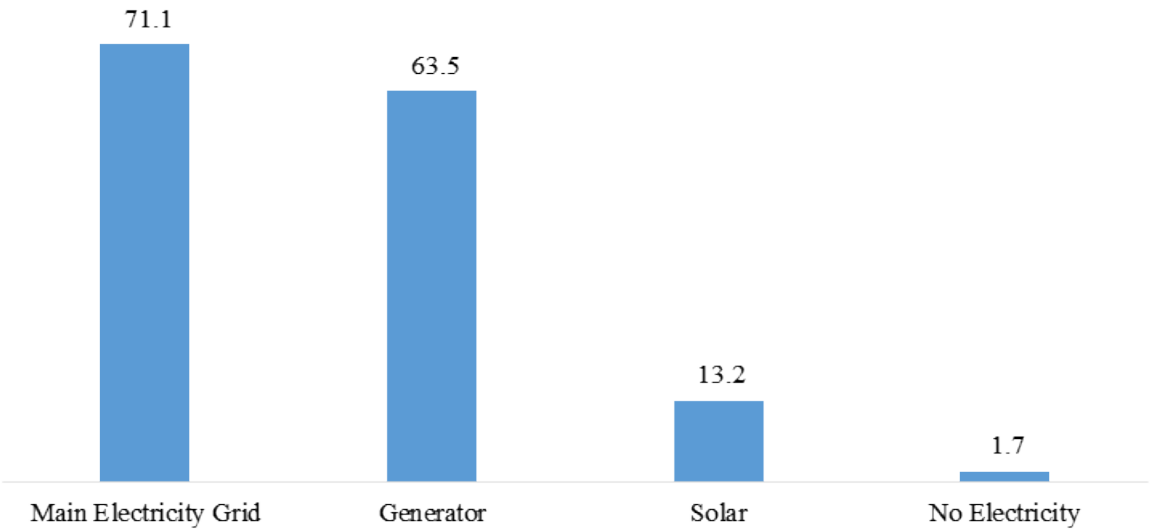
**Figure 2.8: Proportion of Households with a Television Set by Region, ICT 2019**




*Source: National Statistical Office: Access and use of ICTs 2019*

The proportion of households with a television set by whether a household had electricity or not and type of electricity reveals that 71.1 percent of the households with electricity from the main grid owned a functioning television set compared to 1.7 percent of households with no electricity (Figure 2.9).

**Figure 2.9: Proportion of Households with a Television Set by Type of Electricity, ICT 2019**

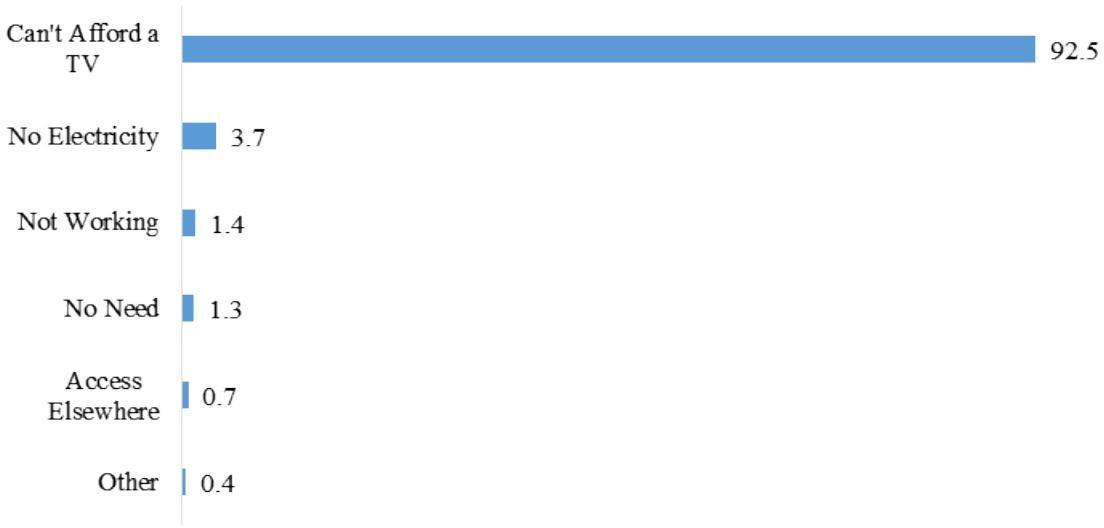



*Source: National Statistical Office: Access and use of ICTs 2019*

### 2.3.2 Main Reasons for Not Owning a Functioning Television Set

Most of the households (92.5 percent) that reported not to own a functioning television set cited that affordability was the main reason for not owning a television set while 0.7 percent cited that they were able to access the services elsewhere (Figure 2.10).

**Figure 2.10: Percentage Distribution of Households by the Main Reasons to Television Set Ownership, ICT 2019.**

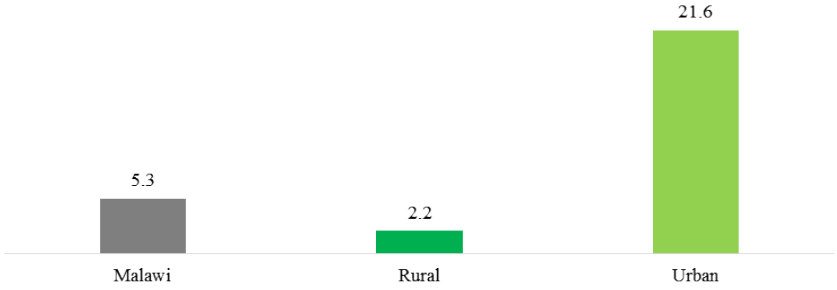



*Source: National Statistical Office: Access and use of ICTs 2019*

### 2.3.3 Access to Local Free to Air Television Broadcasting Services

The establishment of the Malawi Digital Broadcasting Network Limited (MDBNL) has assisted some households in accessing local free to air television stations and services. The proportion of households that owned a functioning television set and had access to local free to air television services (Kiliye-Kiliye) was 5.3 percent nationally. Analysis by place of residence shows that 21.6 percent of households in urban areas had access to local free to air television services (Kiliye-Kiliye) compared to 2.2 percent of the households in rural areas (Figure 2.11).

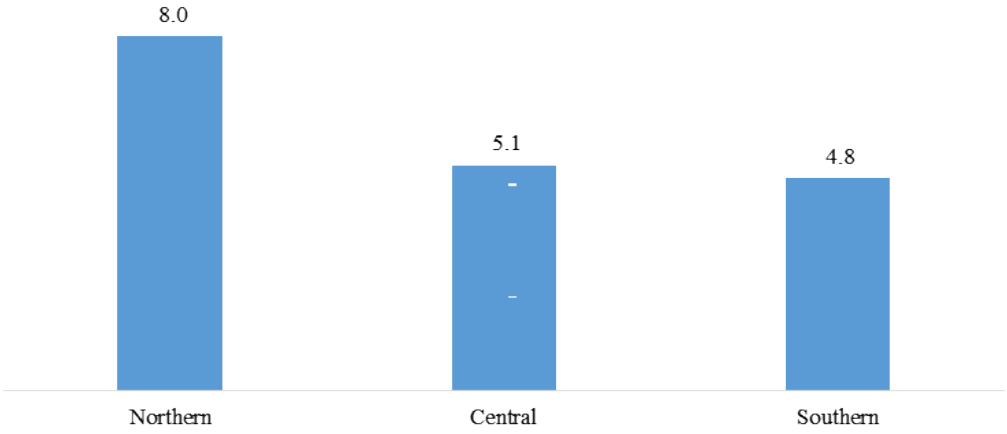
**Figure 2.11: Proportion of Households with Local Free to Air Television Services by Place of residence, ICT 2019**




*Source: National Statistical Office: Access and use of ICTs 2019*

In terms of regions, 8.0 percent of households in the Northern region had access to free to air television services (Kiliye-Kiliye). While there were minor differences between the Central region (5.1 percent) and Southern region (4.8 percent) (Figure 2.12).

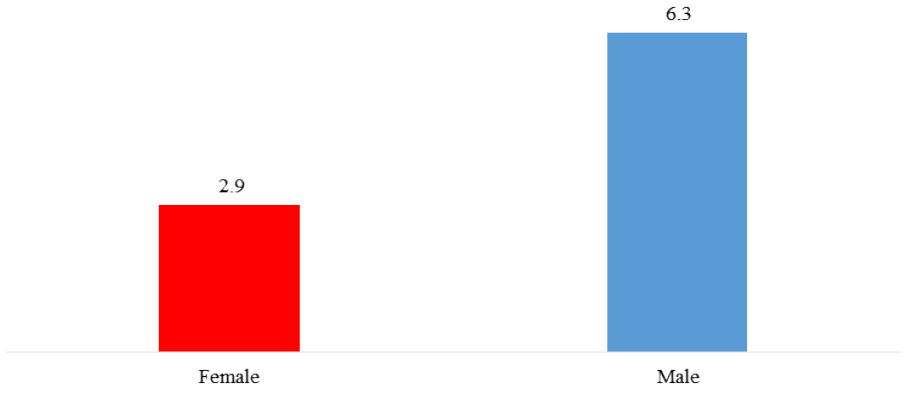
**Figure 2.12: Proportion of Households with Free to Air Television by Region, ICT 2019**




*Source: National Statistical Office: Access and use of ICTs 2019*

Analysis by sex shows that male headed households with local free to air television services was higher (6.3 percent) than female headed households (2.9 percent) (Figure 2.13).

**Figure 2.13: Proportion of Household Heads with Free to Air Television by Sex, ICT 2019**

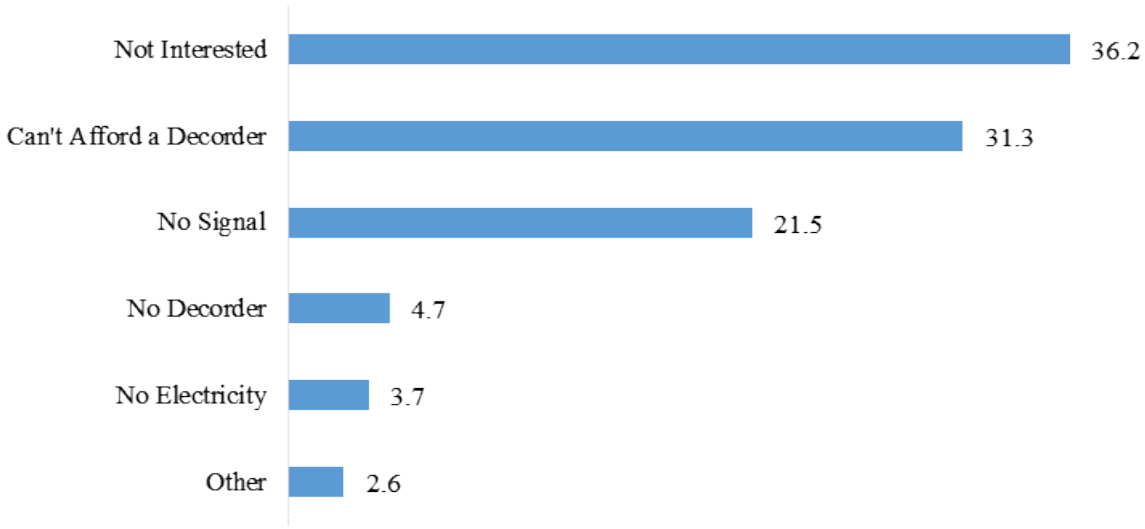



Source: National Statistical Office: Access and use of ICTs 2019

### 2.3.4 Main Reasons for Not Accessing Free to Air TV Services

About 31 percent of households cited that they could not afford a free to air decoder, 21.5 percent cited that there was no signal in their areas while 3.7 percent indicated lack of electricity (Figure 2.14).

**Figure 2.14: Percentage Distribution of Households by the Main Reason for Not Accessing Free to Air Television Services, ICT 2019**

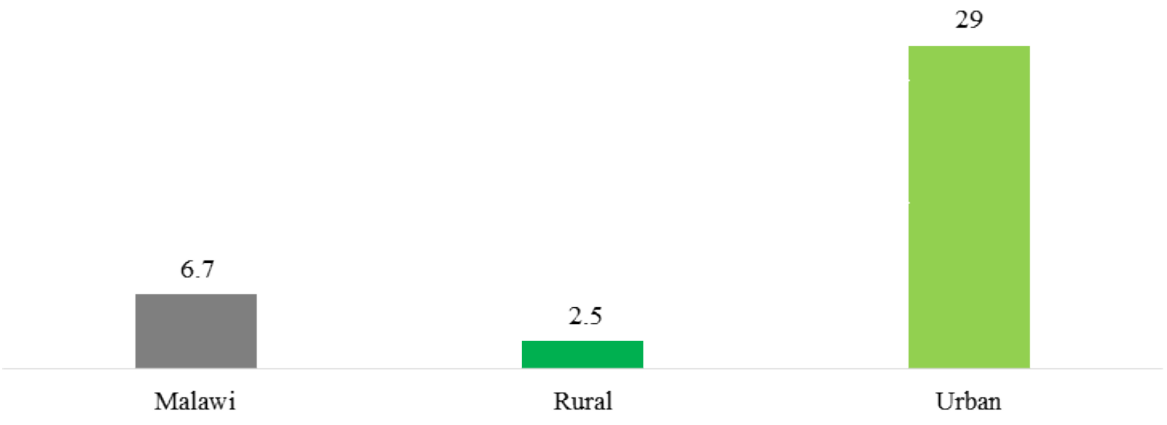



*Source: National Statistical Office: Access and use of ICTs 2019*

### 2.3.5 Access to and Type of Pay TV Services

The results show that 6.7 percent of households had access to pay TV services nationally. Analysis by place of residence shows that a higher proportion of households in urban areas (29.0 percent) had access to pay TV compared to 2.5 percent in rural areas (Figure 2.15).

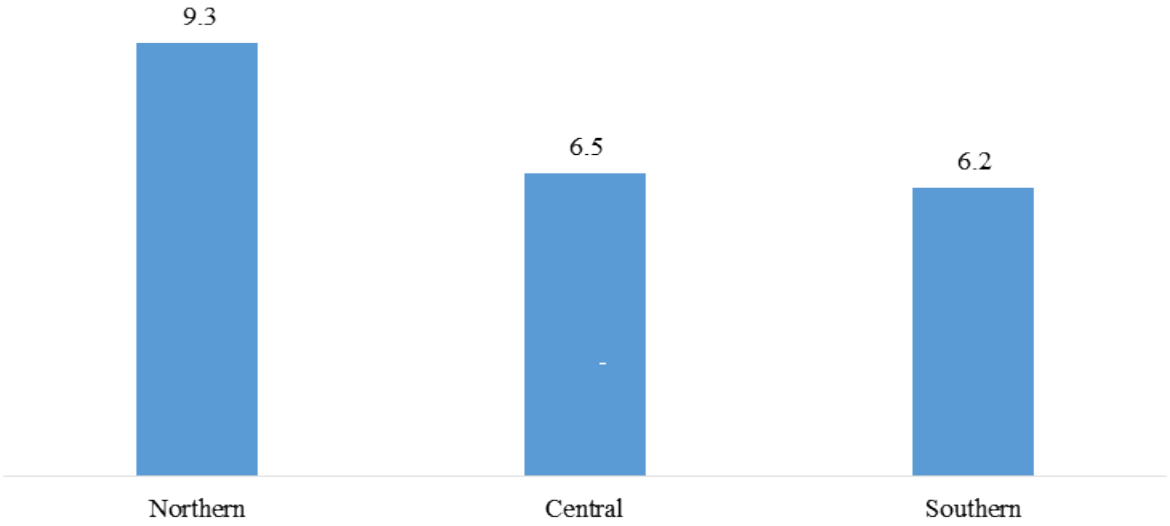
**Figure 2.15: Proportion of Households with Access to Pay TV by Place of Residence, ICT 2019**




*Source: National Statistical Office: Access and use of ICTs 2019*

At regional level, the Northern region had the highest proportion of households with pay TV services (9.3 percent) compared to the Central region (6.5 percent) and Southern region (6.2 percent) (Figure 2.16).

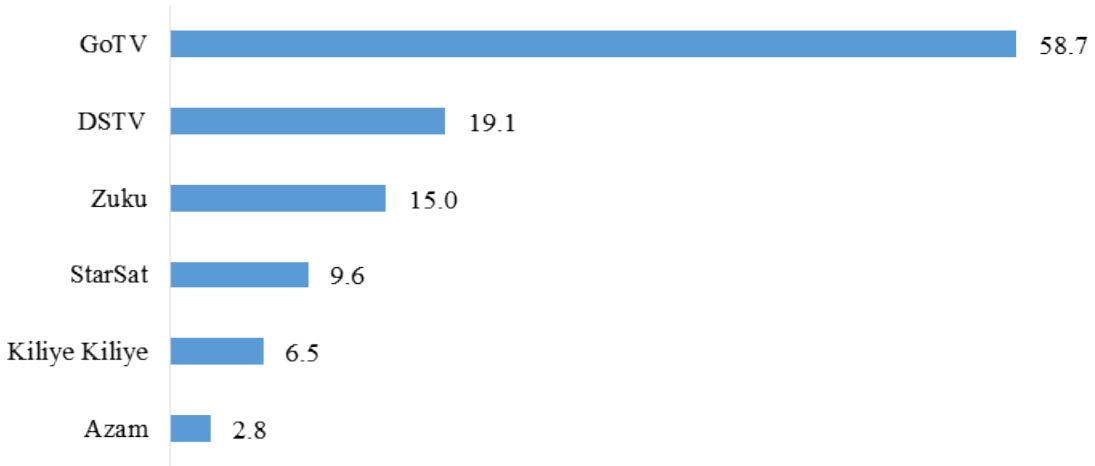
**Figure 2.16: Proportion of Households with Access to Pay TV by Region, ICT 2019**




*Source: National Statistical Office: Access and use of ICTs 2019*

Out of the households that watched pay TVs, 58.7 percent of households reported that they watched GoTV followed by DSTV (19.1 percent) and Zuku (15.0 percent) (Figure 2.17).

**Figure 2.17: Proportion of Households with Pay TV Services by Provider, ICT 2019**



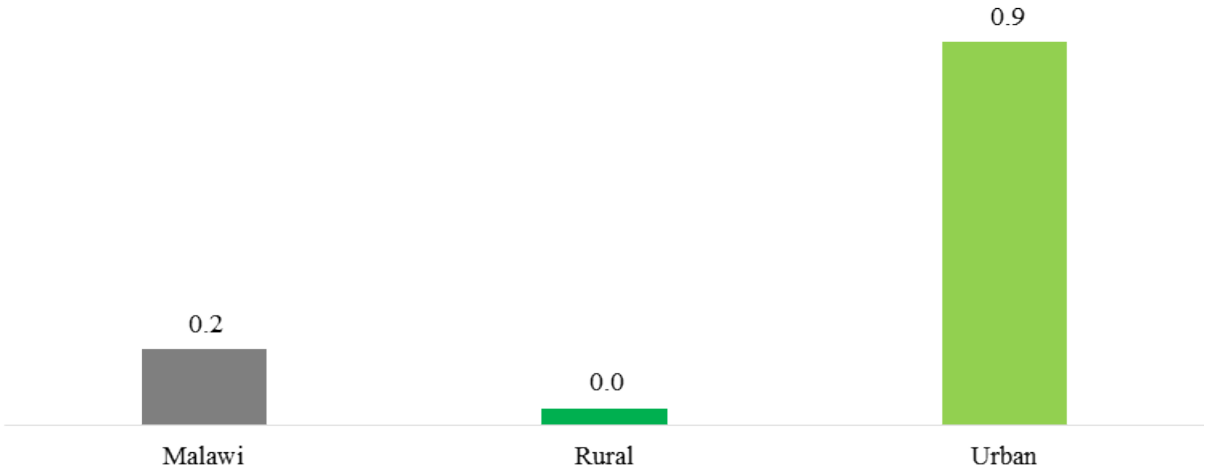

*Source: National Statistical Office: Access and use of ICTs 2019*

## 2.4 Access and Use of Fixed Telephone Lines

### 2.4.1 Ownership of Fixed Telephone Lines

Ownership of fixed telephone lines in the country continues to decline over the years with the development and proliferation of mobile telephone services. The proportion of households with fixed telephone lines nationwide was 0.2 percent with the urban areas reporting 0.9 percent and rural areas reporting almost 0.0 percent (Figure 2.18).

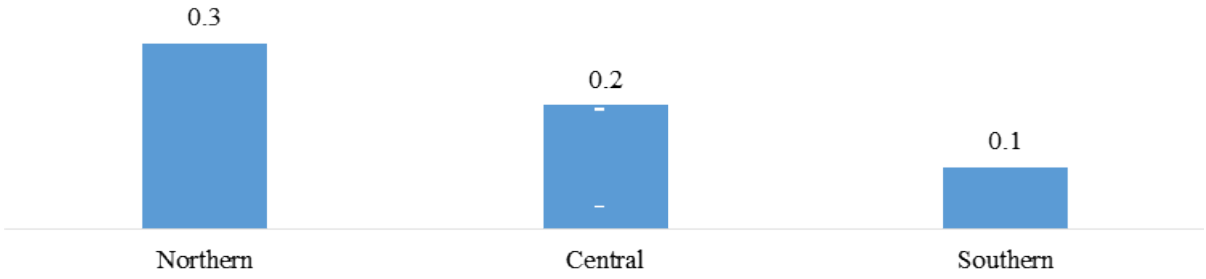
**Figure 2.18: Proportion of Households with Fixed Telephone by Place of Residence, ICT 2019**




*Source: National Statistical Office: Access and use of ICTs 2019*

At regional level, the proportion of households with fixed telephone was high in the Northern region (0.3 percent) followed by the Central region (0.2 percent) and Southern region (0.1 percent) (Figure 2.19).

**Figure 2.19: Proportion of Households with Fixed Telephone by Region, ICT 2019**

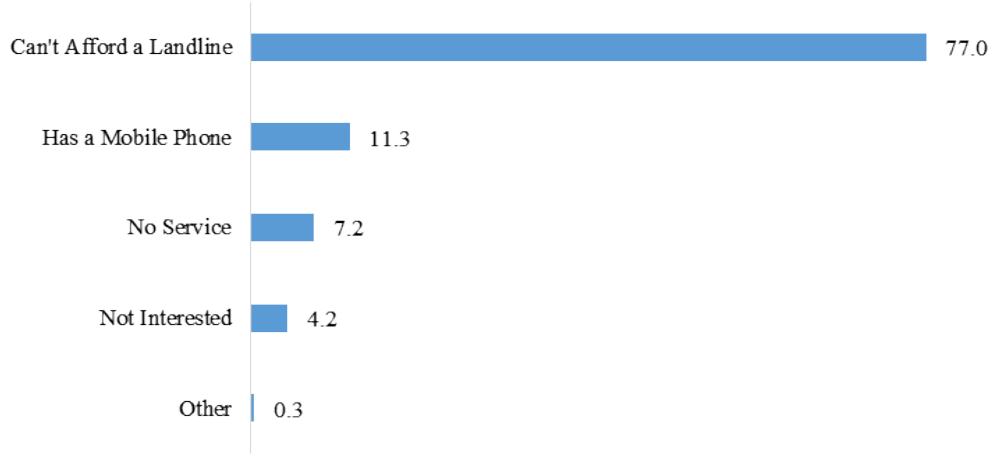



Source: National Statistical Office: Access and use of ICTs 2019

### 2.4.2 Main Reasons for Not Owning a Fixed Telephone Line

Seventy seven percent of the households cited that they could not afford to own a fixed telephone line as the main reason while 11.3 percent reported that they had a mobile telephone as an alternative and 7.2 percent of the households indicated that there were no fixed line services within their localities (Figure 2.20).

**Figure 2.20: Percentage Distribution of Households by Main Reasons for Not Owning a Fixed Telephone Line, ICT 2019**



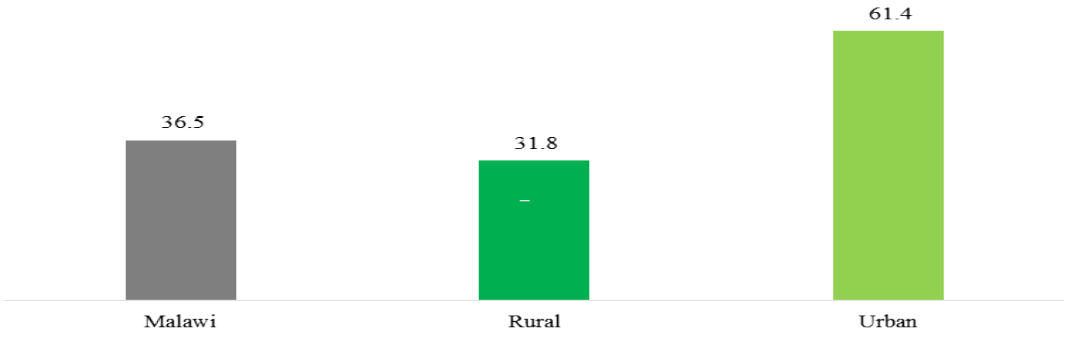

*Source: National Statistical Office: Access and use of ICTs 2019*

## 2.5 Access and Use of Mobile Telephone

### 2.5.1 Ownership of Mobile Telephone by Households

A mobile telephone is a portable telephone subscribing to a public mobile telephone service using cellular technology. Household mobile telephone ownership was simply defined as a household that possessed a fully functioning mobile telephone accessible to every member of the household. The survey results show that 36.5 percent of households in Malawi owned a mobile telephone. Analysis by place of residence shows that 61.4 percent of the households in urban areas owned a household mobile telephone compared to 31.8 percent of households in rural areas (Figure 2.21).

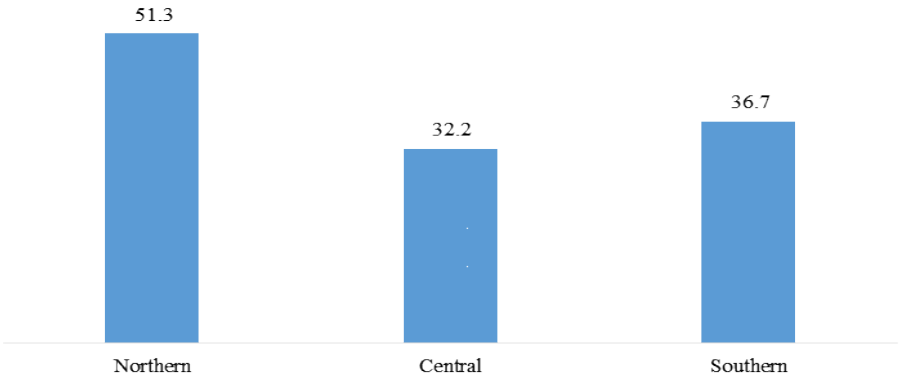
**Figure 2.21: Proportion of Households with Mobile Telephone by Place of Residence, ICT 2019**




*Source: National Statistical Office: Access and use of ICTs 2019*

Analysis by region indicates that 51.3 percent of households in the Northern region reported owning a household mobile telephone followed by households in the Southern region (36.7 percent) and Central region (32.2 percent) (Figure 2.22).

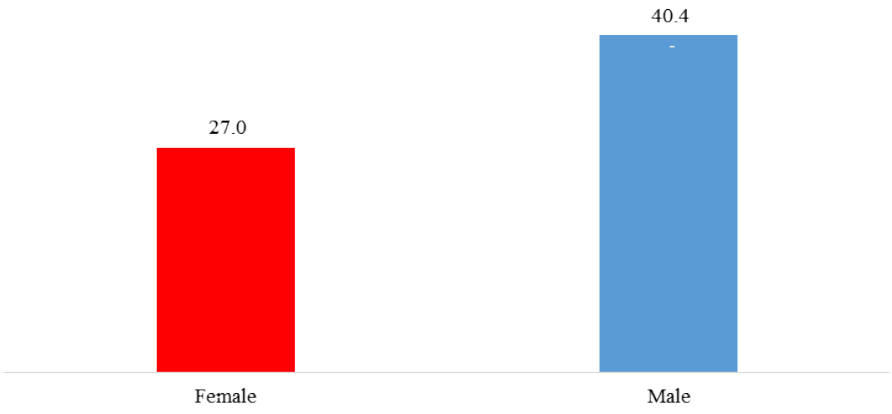
**Figure 2.22: Proportion of Households with a Mobile Telephone by Region, ICT 2019**




*Source: National Statistical Office: Access and use of ICTs 2019*

The proportion of male headed households that reported owning a mobile telephone was higher (40.4 percent) than the proportion of female headed households (27.0 percent) (Figure 2.23).

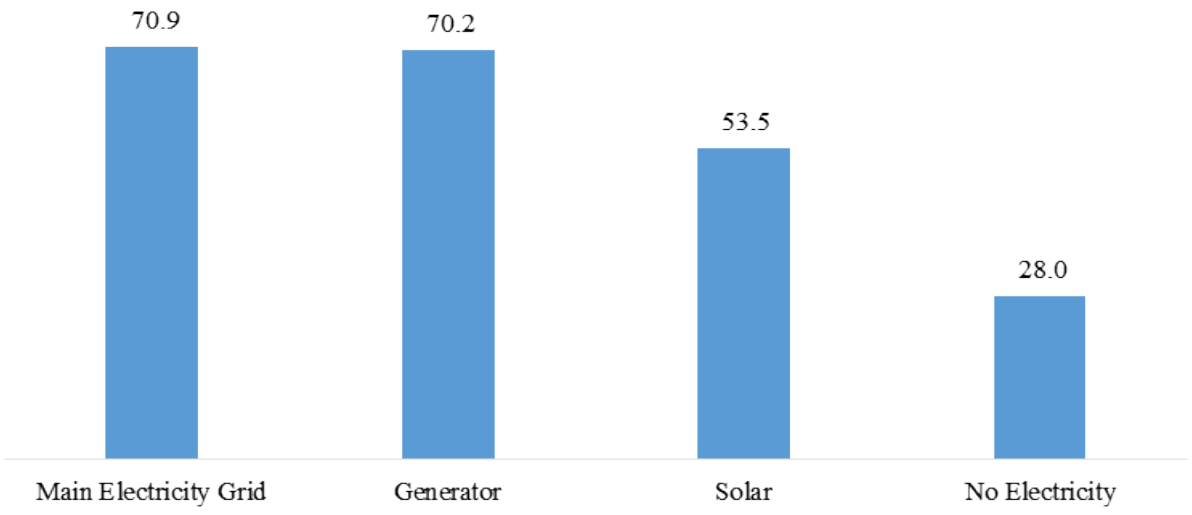
**Figure 2.23: Proportion of Households with Mobile Telephone by Sex of Household Head, ICT 2019**




*Source: National Statistical Office: Access and use of ICTs 2019*

About 71 percent of the households with electricity from the main grid owned a mobile telephone compared to 28.0 percent with no electricity (Figure 2.24).

**Figure 2.24: Proportion of Households with Mobile Telephone by availability of Electricity and Type, ICT 2019**

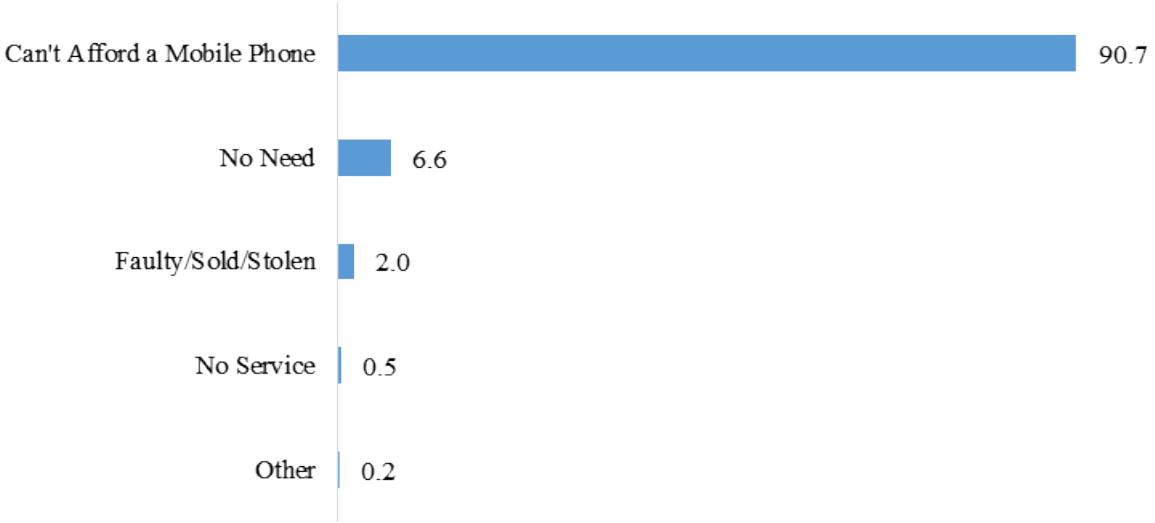



*Source: National Statistical Office: Access and use of ICTs 2019*

## 2.5.2 Main Reasons for Not Owning a Household Mobile Telephone

About 91 percent of households reported that they could not afford to acquire a household mobile telephone while 0.5 percent indicated that there was no service or network in the area they were residing as reasons for not owning a mobile telephone at household level (Figure 2.25).

**Figure 2.25: Percentage Distribution of Households by Main Reasons for Not Owning a Household Mobile Telephone, ICT 2019**




*Source: National Statistical Office: Access and use of ICTs 2019*

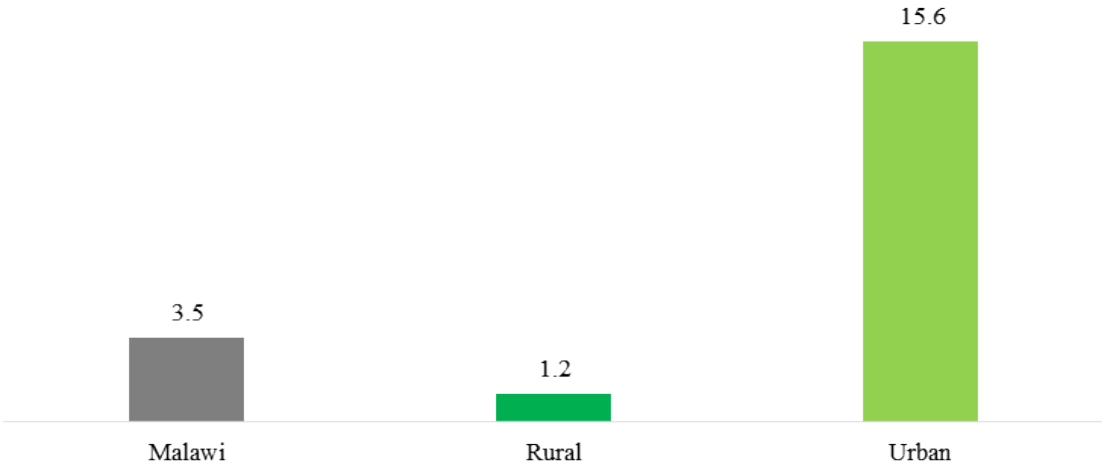
## 2.6 Access and Use of a Computer

A computer refers to a desktop computer, a laptop (portable) computer or a tablet (or similar handheld computer). It does not include equipment with some embedded computing abilities, such as smart TV sets and devices with telephony as their primary function, such as smart phones. The equipment was required to be in working condition at the time of the survey. In this regard, household computer ownership means the household was in possession of a fully functioning computer.

### 2.6.1 Ownership of a Computer

The survey assessed the level of households' computer ownership as well as the type of computers owned. The survey results show that 3.5 percent of households owned a functioning computer. By place of residence, 15.6 percent of urban households owned computers compared to 1.2 percent of households in the rural areas (Figure 2.26).

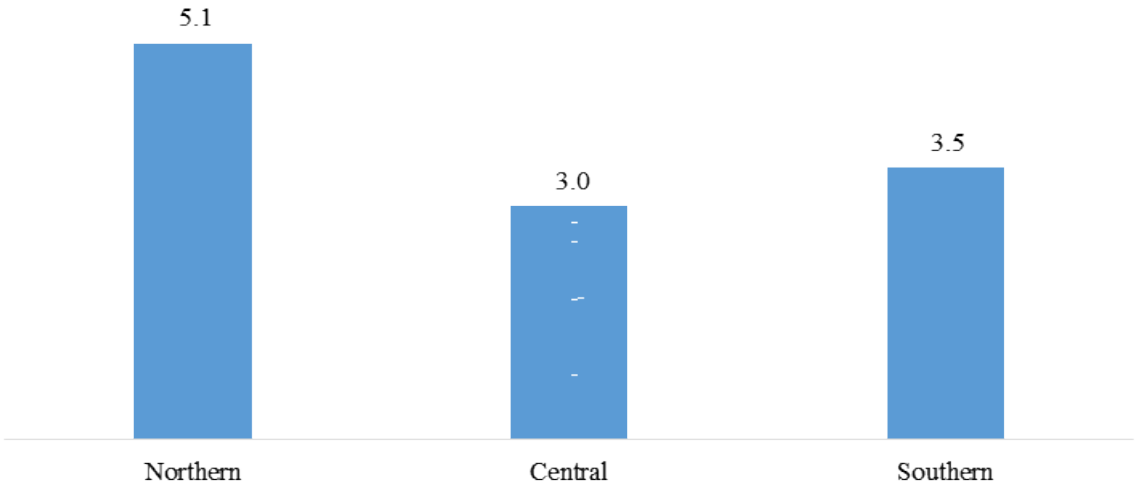
**Figure 2.26: Proportion of Households with Computer by Place of Residence, ICT 2019**




*Source: National Statistical Office: Access and use of ICTs 2019*

Among the households that reported owning a computer, the Northern region had the highest proportion of households (5.1 percent) followed by the Southern region (3.5 percent) and then Central region (3.0 percent) (Figure 2.27).

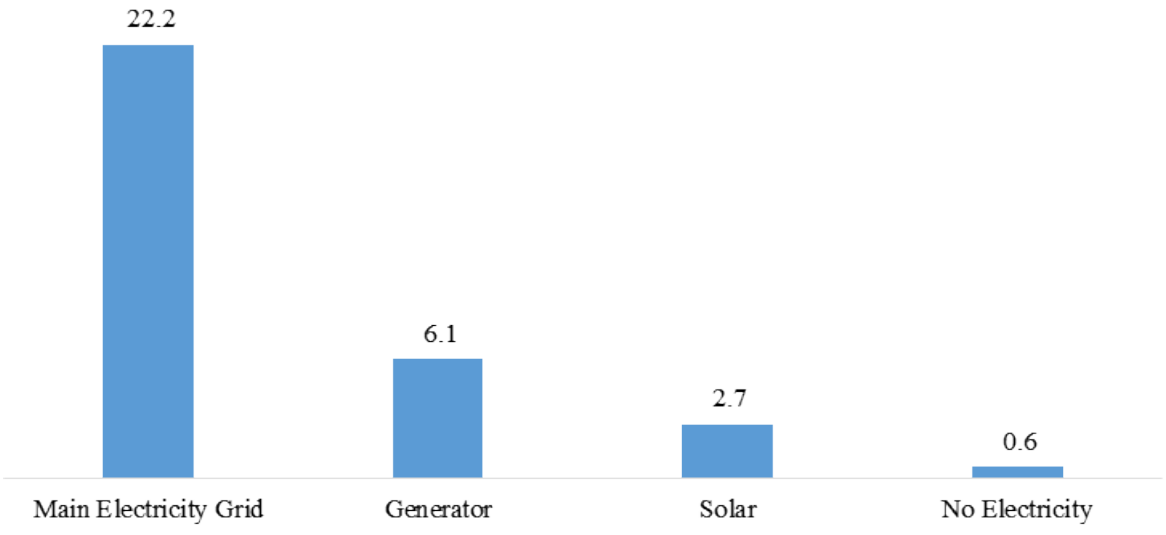
**Figure 2.27: Proportion of Households with a Computer by Region, ICT 2019**




*Source: National Statistical Office: Access and use of ICTs 2019*

The distribution of computer ownership by whether a household had electricity or not and type of electricity shows that 22.2 percent of the households with electricity from the main grid owned a computer followed by 6.1 percent that used solar then 2.7 percent that used generators (Figure 2.28).

**Figure 2.28: Proportion of Households with a Computer by availability of Electricity and Type, ICT 2019**

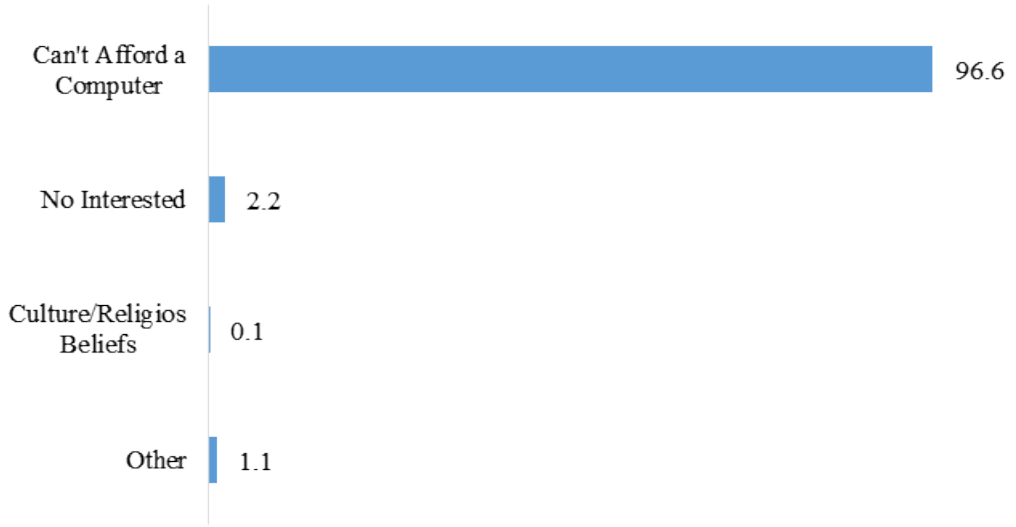



*Source: National Statistical Office: Access and use of ICTs 2019*

### 2.6.2 Main Reasons for Not Owning a Computer

About 97 percent of households cited that they could not afford to own a computer while 2.2 percent reported that they were not interested in owning a computer and 0.1 percent reported cultural or religious beliefs as the reason for not owning a computer (Figure 2.29).

**Figure 2.29: Percentage Distribution of Households by Reasons for Not Owning a Household Computer, ICT 2019**




*Source: National Statistical Office: Access and use of ICTs 2019*

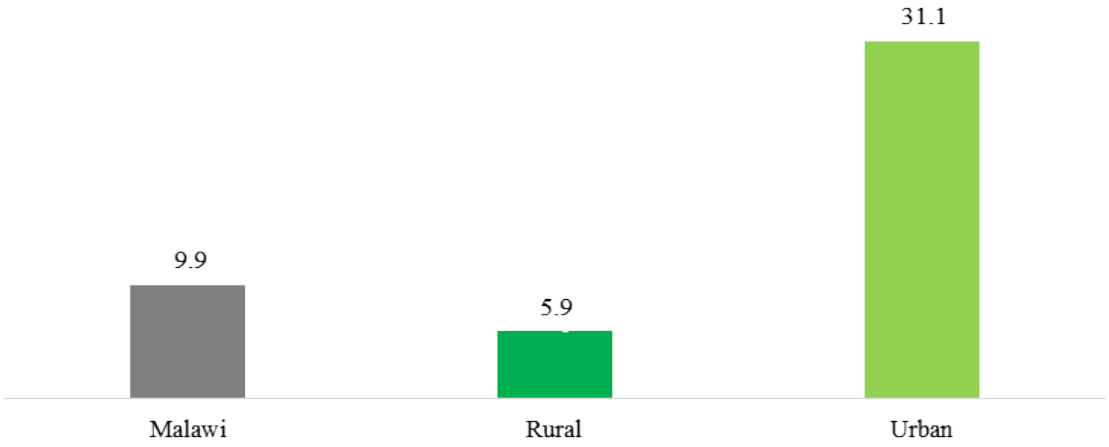
### 2.7 Access and Use of Internet Services

Internet is a world-wide public computer network. It provides access to a number of communication services including the World Wide Web and carries e-mail, news, entertainment and data files, irrespective of the device used (not assumed to be only via a computer - it may also be by mobile telephone, tablet, PDA, games machine, digital TV etc.).
Access to internet means the household is able to get on the internet at any time. In this case, internet access could be via a fixed or mobile network.

### 2.7.1 Access to Internet Services

Access and use of internet services has grown over the past decade at both household and individual levels. While access to internet has increased over the period, there is relatively low proportion of households accessing internet services in Malawi with 10.0 percent of the households reporting that they had access to internet services. The proportion of households with access to internet in urban areas was 31.1 percent while in rural areas it was 5.9 percent (Figure 2.30).

**Figure 2.30: Proportion of Households with Internet Access by Place of Residence, ICT 2019**

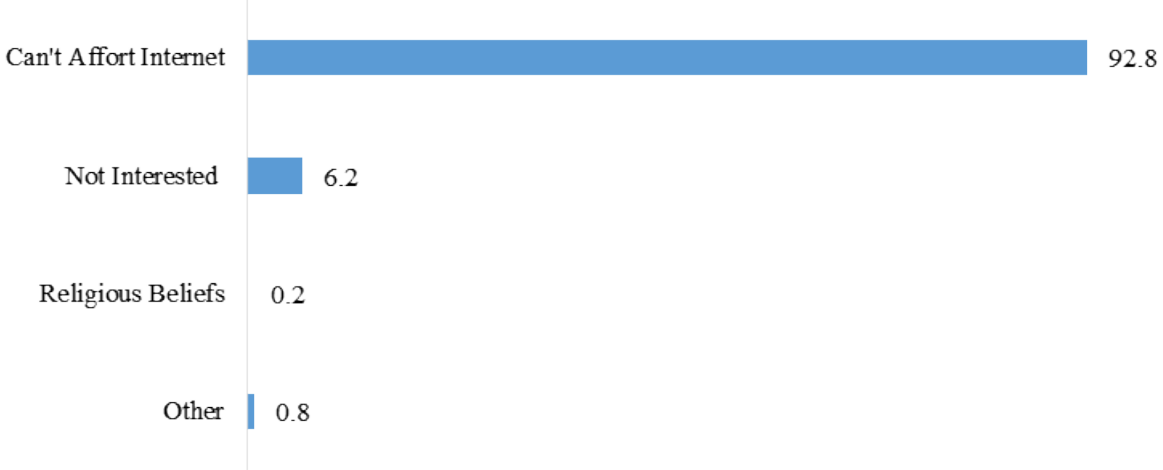



*Source: National Statistical Office: Access and use of ICTs 2019*

### 2.7.2 Main Reasons for Not Accessing Internet Services

About 93 percent of households cited that they could not afford to have internet connection as the main reason for not accessing internet services while 0.2 percent reported that they did not access internet services due to cultural or religious beliefs (Figure 2.31).

**Figure 2.31: Percentage Distribution of Households by Main Reasons for Not Accessing Internet Services, ICT 2019**




*Source: National Statistical Office: Access and use of ICTs 2019*

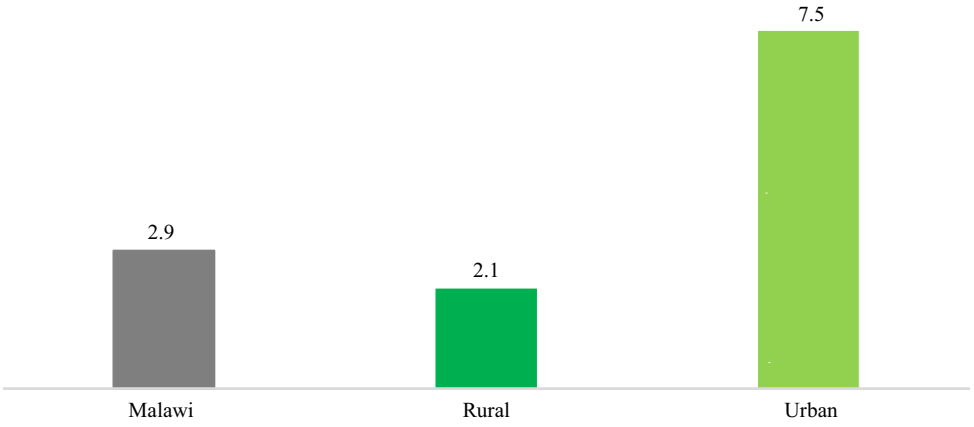
## 2.8 Access and Use of Postal Services

Postal products and services continue to serve the masses mainly through the Malawi Postal Corporation and a number of courier operators in the country. In order to assess the role postal services play, the survey asked a question on the number of households that owned at least a postal box or had a postal address in the country.

### 2.8.1 Ownership of Postal Address or Mail Box

The proportion of households that owned a postal address or a mail box across the country was 2.9 percent. Analysis by place of residence shows that 7.5 percent households in urban areas owned a postal address or mail box compared to 2.1 percent in rural areas (Figure 2.32).

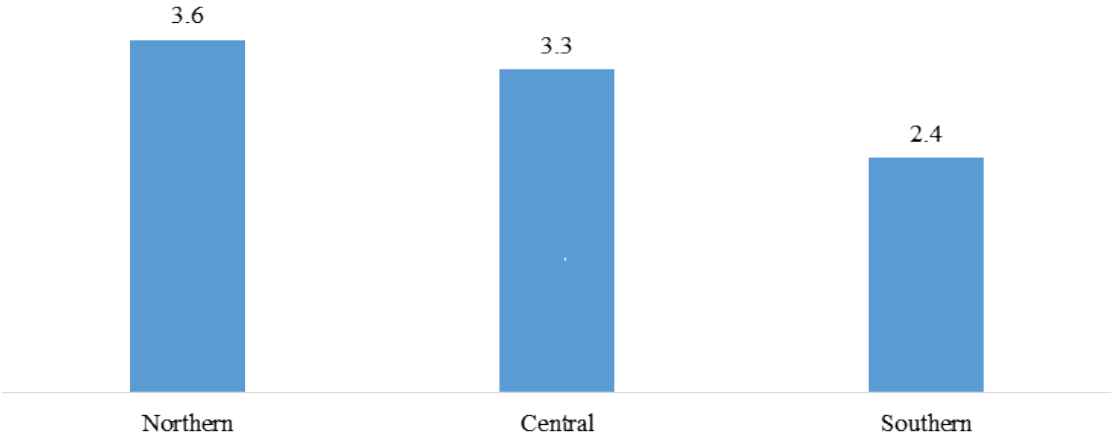
**Figure 2.32: Proportion of Households with a Postal Address or Mail Box by Place of Residence, ICT 2019**




*Source: National Statistical Office: Access and use of ICTs 2019*

The proportion of households that owned a postal address or mail box by region was 3.6 percent in the Northern region, 3.3 percent in the Central region and 2.4 percent in the Southern region (Figure 2.33).

**Figure 2.33: Proportion of Households with a Postal Address or Box by Region, ICT 2019**

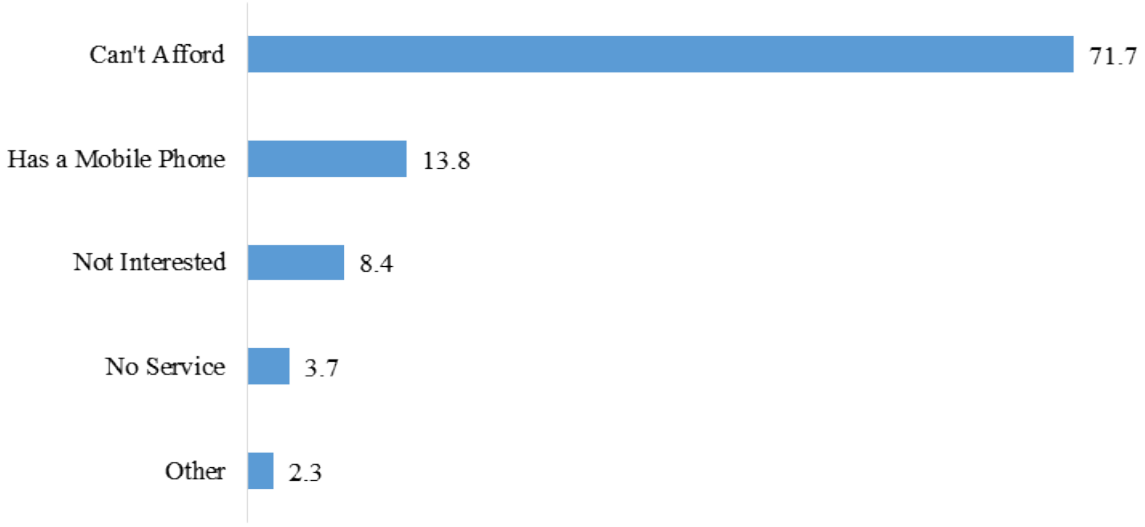



*Source: National Statistical Office: Access and use of ICTs 2019*

### 2.8.2 Main Reasons for Households not Accessing Postal Services

About 72 percent of households indicated that they could not afford a Post Office mail box as the main reason for not using postal services while 13.8 percent reported using a mobile telephone as means of communication (Figure 2.34).

**Figure 2.34: Percentage Distribution of Households by Main Reasons for Households for Not Accessing Postal Services, ICT 2019**




*Source: National Statistical Office: Access and use of ICTs 2019*

# CHAPTER 3
## ACCESS AND USE OF ICT SERVICES AND PRODUCTS BY INDIVIDUALS

### 3.1 Introduction

This chapter discusses the level of access and use of different ICT services and products by individuals in Malawi. Information presented in this chapter is disaggregated by region and in some instances further analysis is provided across various demographic and socio-economic characteristics.

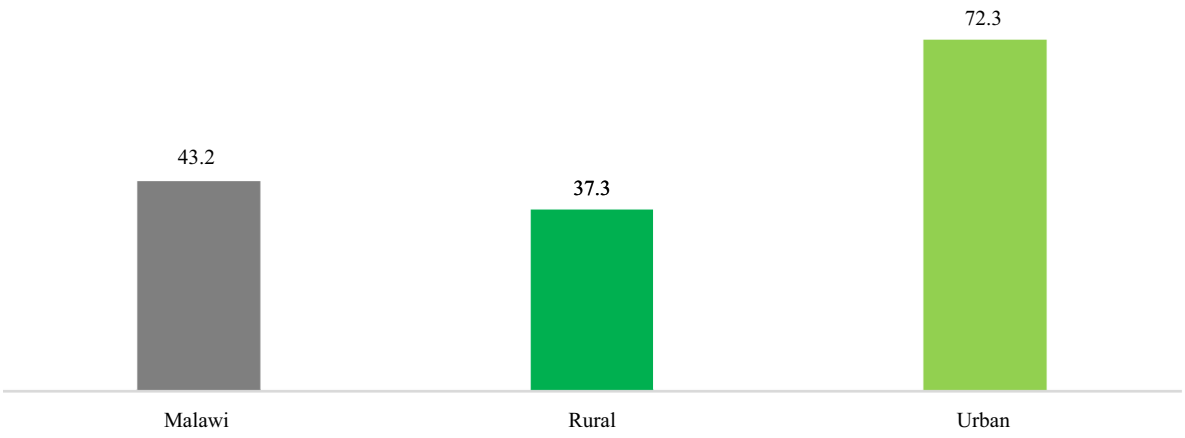
### 3.2 Ownership and Use of Mobile Telephone by Individuals

This section presents the findings on the ownership as well as use of mobile telephone services by individuals in the country.

#### 3.2.1 Ownership of Mobile Telephones

Ownership of mobile telephonesby individuals across the country was 43.2 percent. There was a disparity in ownership of mobile telephones by individuals by place of residence with a higher proportion of individuals in urban areas (72.3 percent) compared to 37.3 percent of individuals in rural areas (Figure 3.1).

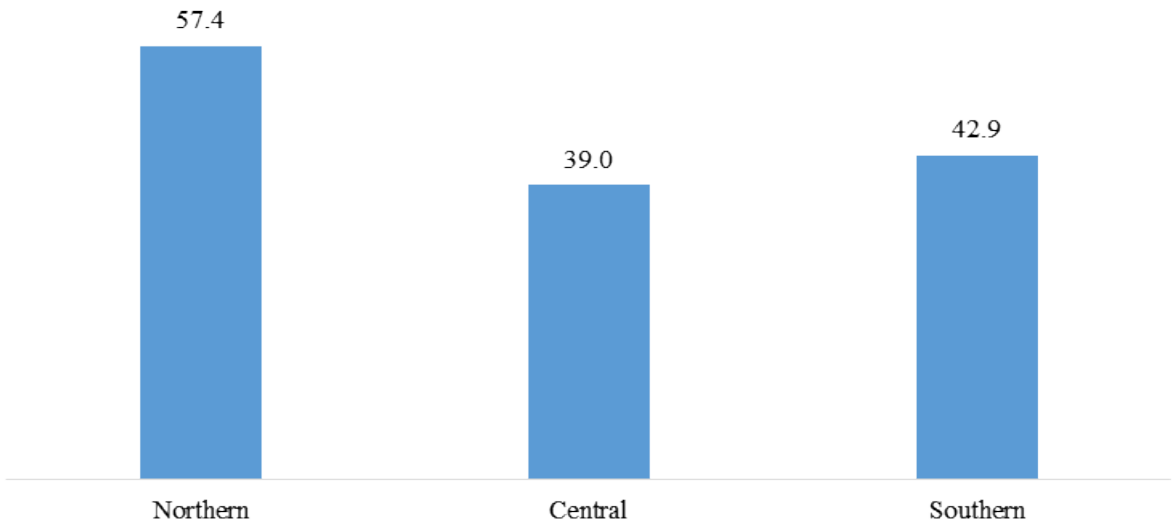
**Figure 3.1: Proportion of Individuals Owning a Mobile Telephone by Place of Residence, ICT 2019**




*Source: National Statistical Office: Access and use of ICTs 2019*

Analysis by region shows that the highest proportion (57.4 percent) of individuals that owned a mobile telephone was in the Northern region followed by the Southern region (42.8 percent) and Central region (39.0 percent) (Figure 3.2).

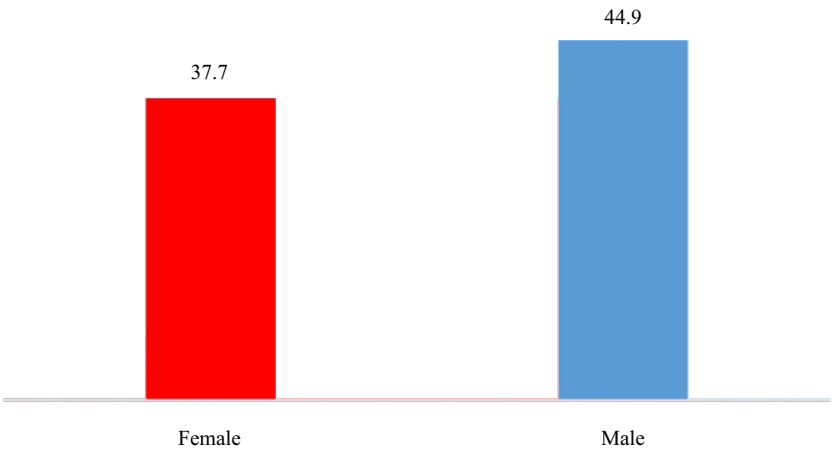
**Figure 3.2: Proportion of Individuals Owning a Mobile Telephone by Region, ICT 2019**




*Source: National Statistical Office: Access and use of ICTs 2019*

In terms of sex, a higher proportion of males (44.9 percent) indicated that they owned a mobile telephone compared to 37.7 percent of females (Figure 3.3).

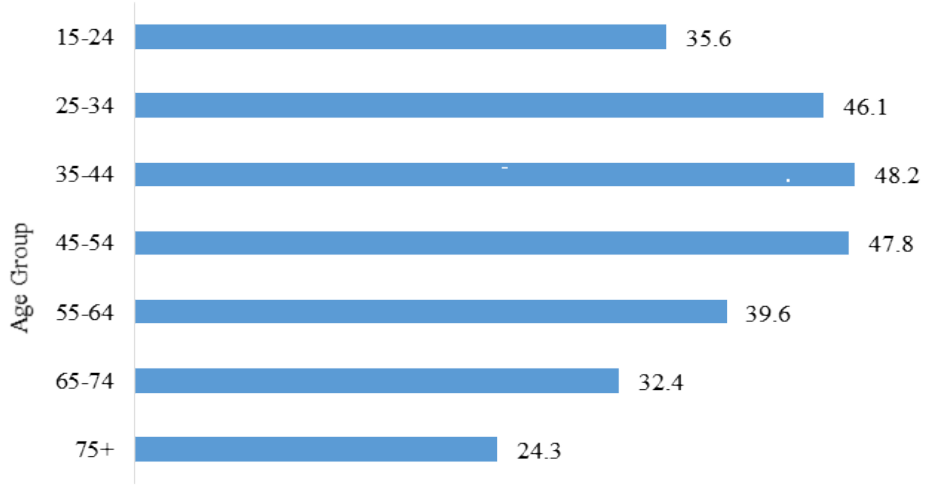
**Figure 3.3: Proportion of Individuals Owning a Mobile Telephone by Sex, ICT 2019**




*Source: National Statistical Office: Access and use of ICTs 2019*

The survey also established ownership of a mobile telephone by age groups. The highest proportion (48.2 percent) of individuals owning a mobile telephone was in the age group of 35-44 years followed by the age group of 45-54 years at 47.8 percent. The age group with the least proportion of individuals owning a mobile telephone was 75 years and above at 24.3 percent (Figure 3.4).

**Figure 3.4: Proportion of Individuals Owning a Mobile Telephone by Age Group, ICT 2019**



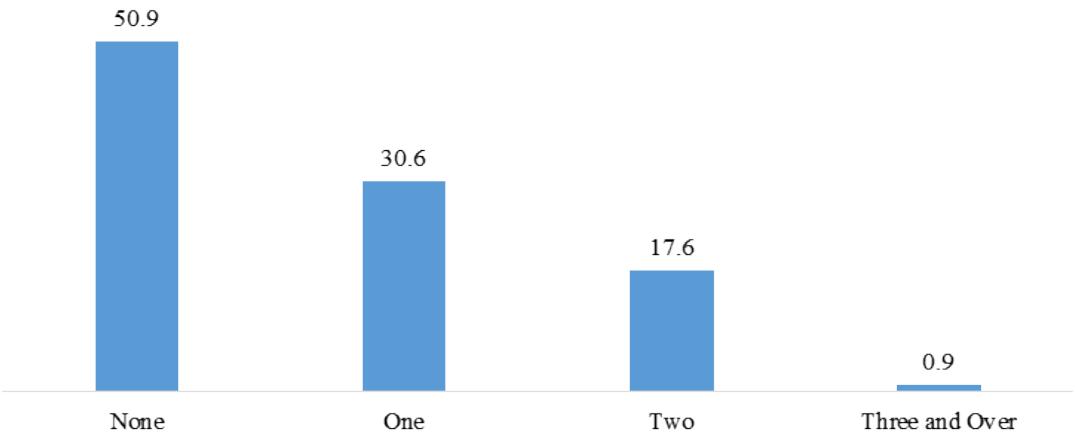

*Source: National Statistical Office: Access and use of ICTs 2019*

### 3.2.2 Ownership of Active SIM Card

Apart from owning the actual mobile telephone, some individuals only own a SIM card which they use by borrowing the actual handset from friends or family members. The survey looked at the ownership of an active SIM card by individuals.

About 51 percent of individuals did not own an active SIM card while 30.6 percent of individuals owned one active SIM card and more than 18 percent owned at least two active SIM cards (Figure 3.5).

**Figure 3.5: Percentage Distribution of Individuals Owning an Active SIM Card, ICT 2019**



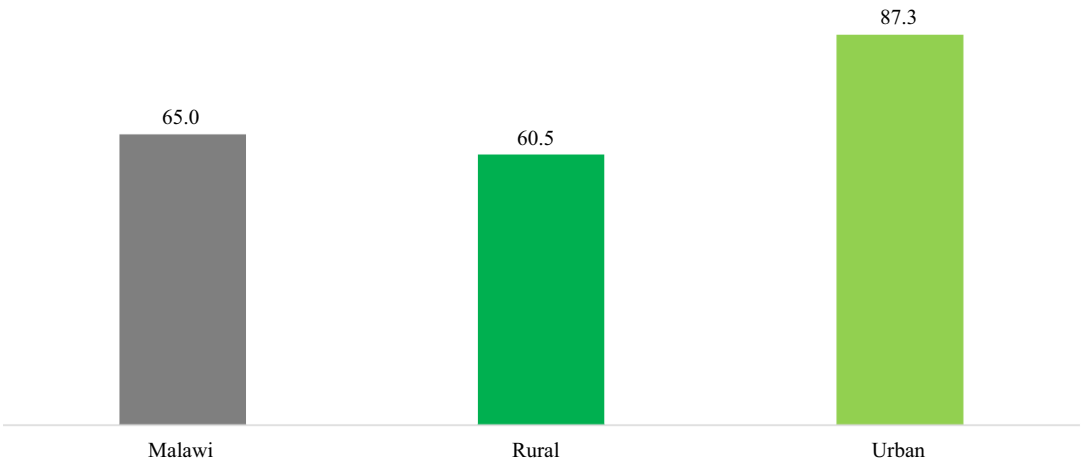

*Source: National Statistical Office: Access and use of ICTs 2019*

### 3.2.3 Use of Mobile Telephones

Use of a mobile telephone does not necessarily mean that the telephone is owned or paid for by the individual. It could also be available through work, a friend or family member.

The survey findings show that 65.0 percent of individuals in Malawi used a mobile telephone. In terms of place of residence, urban areas had the highest proportion of individuals using a mobile telephone (87.3 percent) compared to 60.5 percent in rural areas (Figure 3.6).

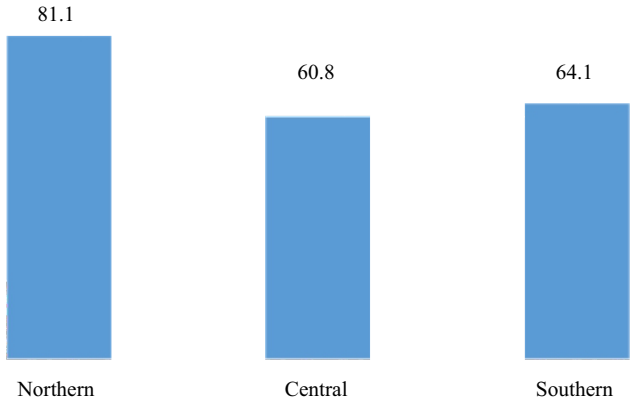
**Figure 3.6: Proportion of Individuals Using a Mobile Telephone by Place of Residence, ICT 2019**




*Source: National Statistical Office: Access and use of ICTs 2019*

Analysis by region indicates that the highest proportion of individuals who used a mobile telephone were from the Northern region (81.1 percent) followed by the Southern region (64.1 percent) and 60.8 percent from the Central region (Figure 3.7).

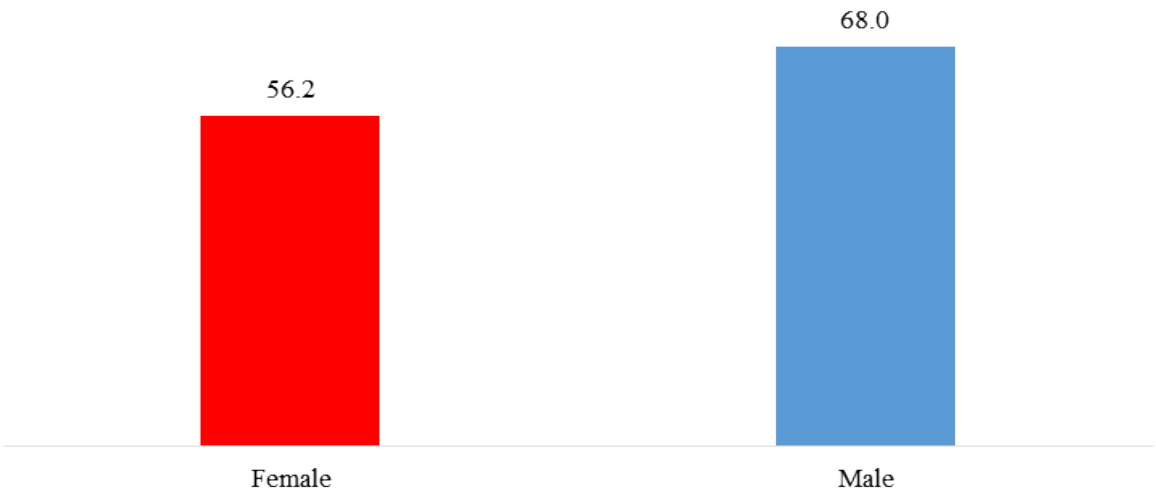
**Figure 3.7: Proportion of Individuals Using a Mobile Telephone by Region, ICT 2019**




*Source: National Statistical Office: Access and use of ICTs 2019*

In terms of sex, 68.0 percent of individual males used a mobile telephone compared to 56.2 percent of the females (Figure 3.8).

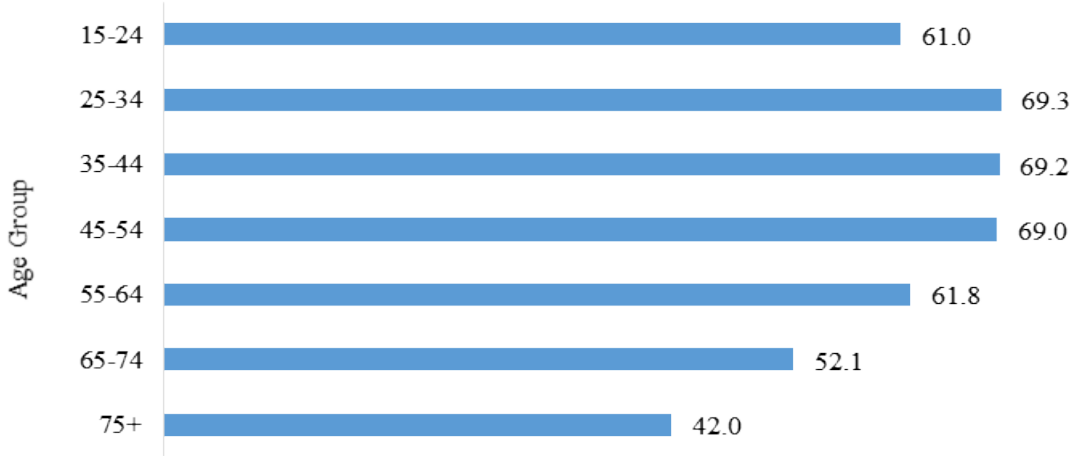
**Figure 3.8: Proportion of Individuals Using a Mobile Telephone by Sex, ICT 2019**




*Source: National Statistical Office: Access and use of ICTs 2019*

The highest proportion of individuals that used a mobile telephone by age group was between the age group of 25-34 years (69.3 percent) followed by age group 35-44 years (69.2 percent) and 45-54 years age group (69.0 percent). The least proportion of individuals who used a mobile telephone was in the age group 75 years and above (42.0 percent) (Figure 3.9).

**Figure 3.9: Proportion of Individuals Using a Mobile Telephone by Age Group, ICT 2019**

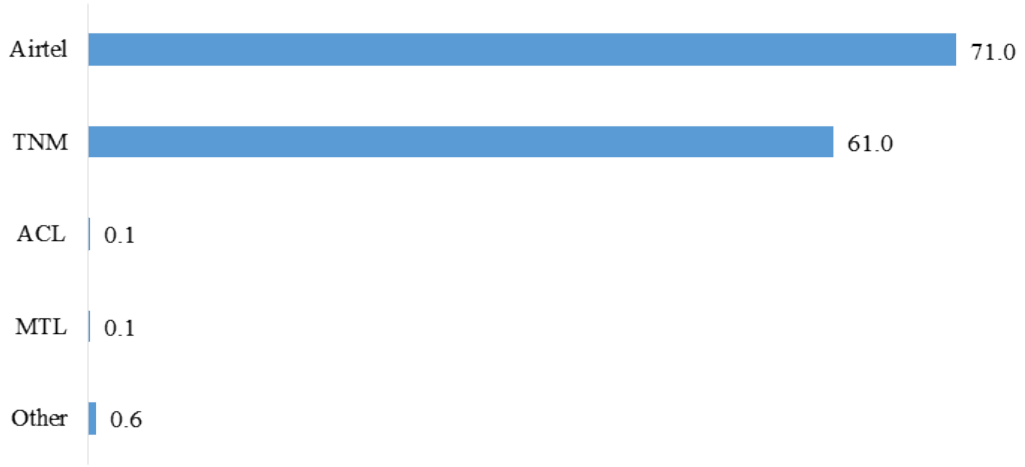



*Source: National Statistical Office: Access and use of ICTs 2019*

### 3.2.4 Mobile Telephone Network Subscription

Malawi currently has four operational mobile telephone licensees providing both voice and data services. The survey assessed the network service providers as used by the individuals with some subscribing to more than one service provider. Of the total subscribers in the mobile network services, 71.0 percent were on Airtel, 61.0 percent were on TNM, 0.1 percent were on Access and another 0.1 percent were on MTL. Individuals especially around boarder areas subscribed to foreign networks as denoted by other which accounts for 0.6 percent (Figure 3.10).

**Figure 3.10: Proportion of Individuals Subscribing to Mobile Network Operators, ICT 2019**

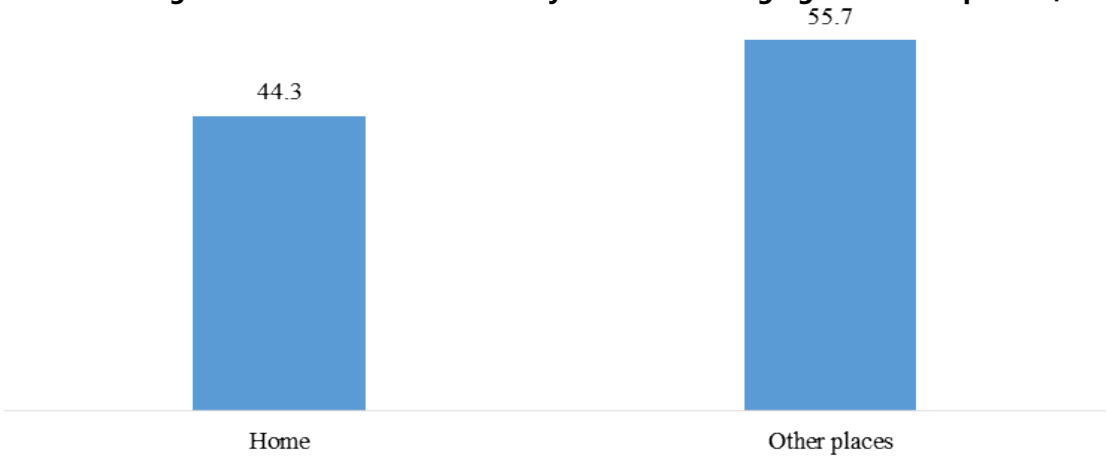



*Source: National Statistical Office: Access and use of ICTs 2019*

### 3.2.5 Source of Charging Mobile telephone

The survey also sought to establish the source of charging individual mobile telephones. The proportion of individuals that charged their phones at home was 44.3 percent while 55.7 percent charged their phones in other places like shops and workplace (Figure 3.11).

**Figure 3.11: Percentage Distribution of Individuals by Sources of Charging Mobile Telephones, ICT 2019**

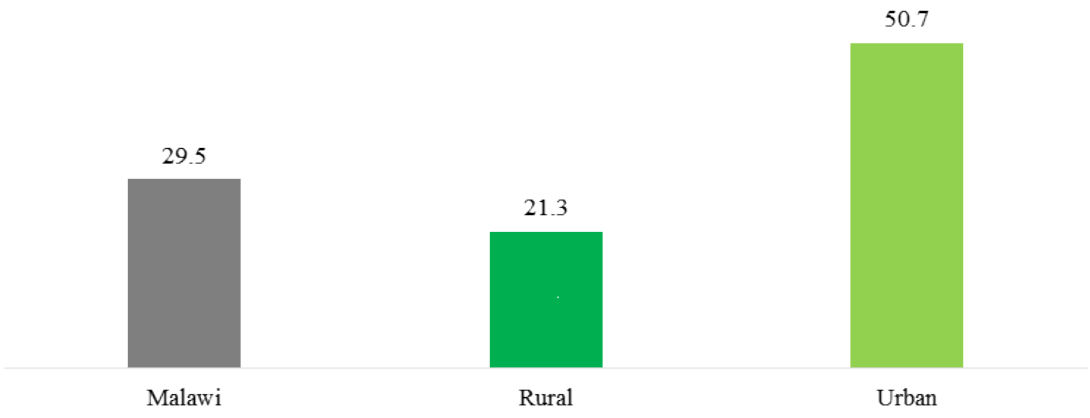



*Source: National Statistical Office: Access and use of ICTs 2019*

### 3.2.6 Ownership of Mobile Telephones Capable of Browsing the Internet

Among the individuals that owned a mobile telephone, 29.5 percent owned a phone that was capable of browsing the internet. Analysis by place of residence indicates that 50.7 percent of individuals in urban areas had a phone capable of browsing the internet compared to 21.3 percent in rural areas (Figure 3.12).

**Figure 3.12: Proportion of Individuals Owning a Mobile Telephone Capable of Browsing the Internet, ICT 2019**

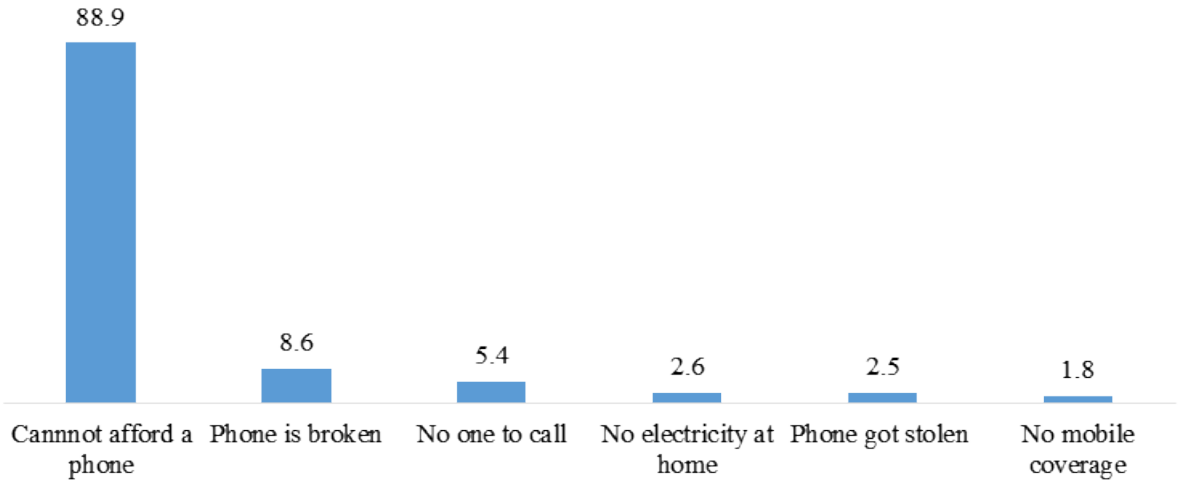



*Source: National Statistical Office: Access and use of ICTs 2019*

### 3.2.7 Reasons for Not Owning or Using a Mobile Telephone

The survey also sought to establish the reasons for not owning and using a mobile telephone among individuals that reported not to have used or owned one. The main reason cited by 88.9 percent of the individuals was that they could not afford a mobile telephone. Other reasons included the phone was broken (8.6 percent) and that they had no one to call (5.4 percent), among others (Figure 3.13).

**Figure 3.13: Proportion of Individuals by Reasons for Not Owning or Using a Mobile Telephone, ICT 2019**




*Source: National Statistical Office: Access and use of ICTs 2019*

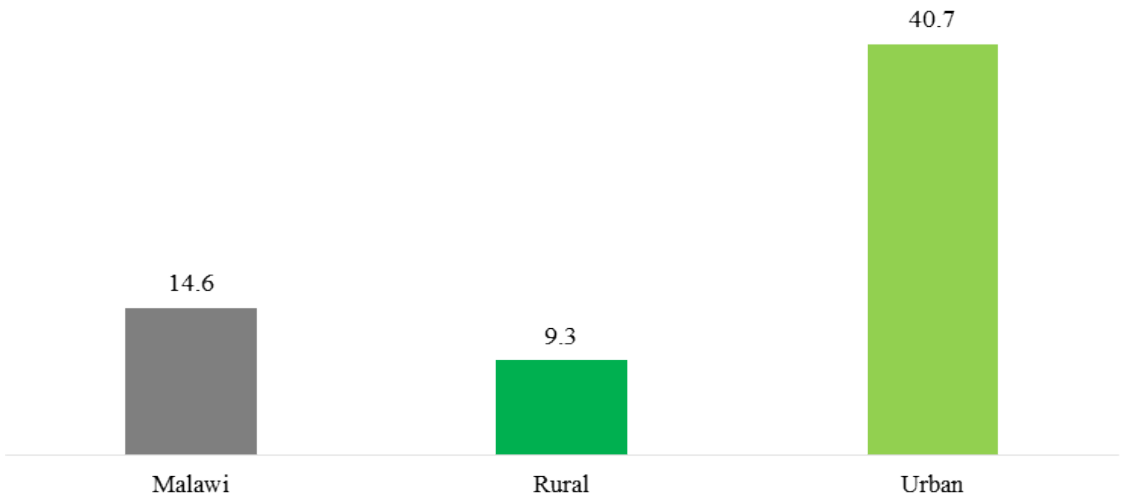
### 3.3 Access and Use of Internet Services by Individuals

The survey assessed the use of internet services by individuals from different locations or devices. This information may inform targeted policies to promote internet use among low-use groups and thus, contribute to a more inclusive information society.

#### 3.3.1 Internet Use

Overall, 14.6 percent of individuals used the internet. Analysis by place of residence shows that 40.7 percent of the population in urban areas used internet compared to 9.3 percent in rural areas (Figure 3.14).

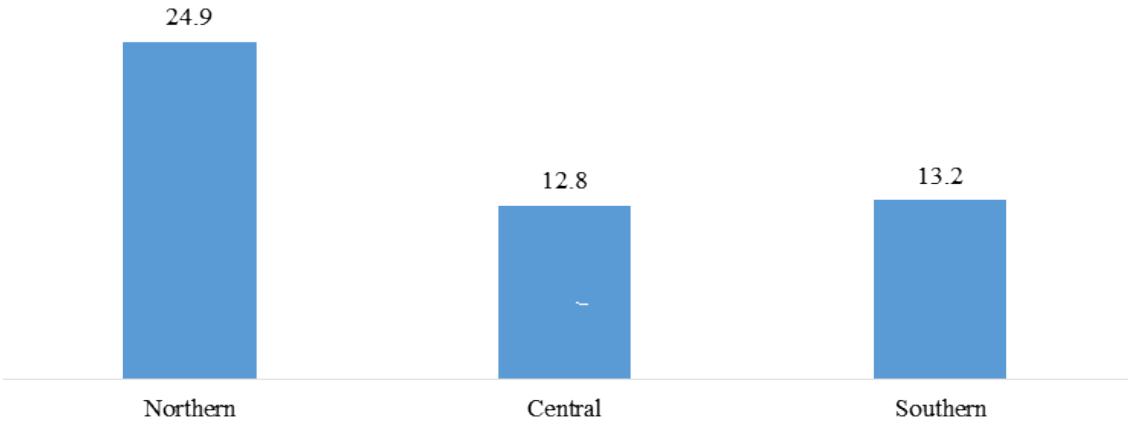
**Figure 3.14: Proportion of Individuals Using the Internet by Place of Residence, ICT 2019**




*Source: National Statistical Office: Access and use of ICTs 2019*

Analysis by region shows that the highest proportion (24.9 percent) of individuals that used the internet were in the Northern region followed by the Southern region (13.2 percent) and 12.8 percent in the Central region (Figure 3.15).

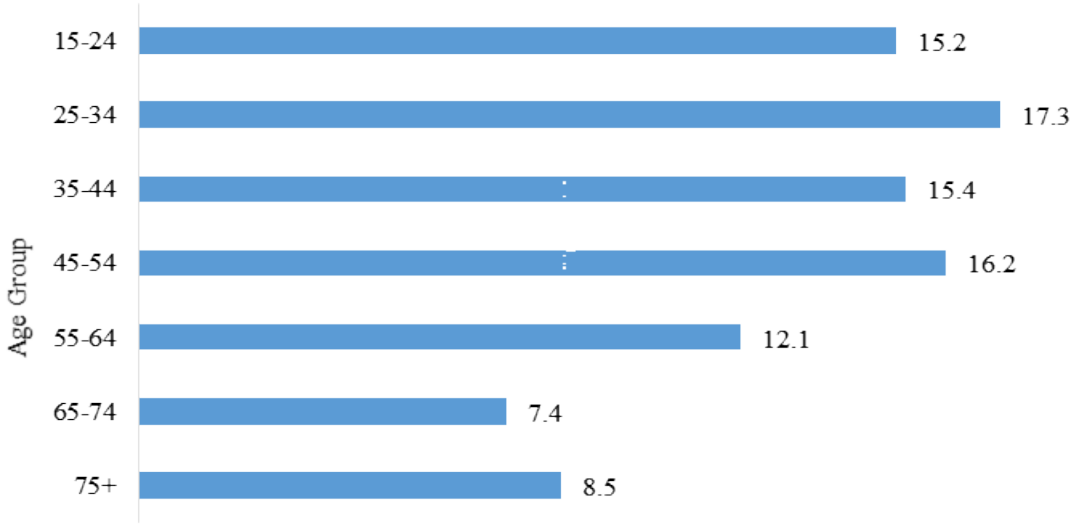
**Figure 3.15: Proportion of Individuals Using the Internet by Region, ICT 2019**




*Source: National Statistical Office: Access and use of ICTs 2019*

Analysis by age shows that individuals aged between 25-34 years reported the highest proportion of individuals that used the internet (17.3 percent) while individuals aged between 65-74 years reported the lowest proportion (7.4 percent) of individuals that used the internet (Figure 3.16).

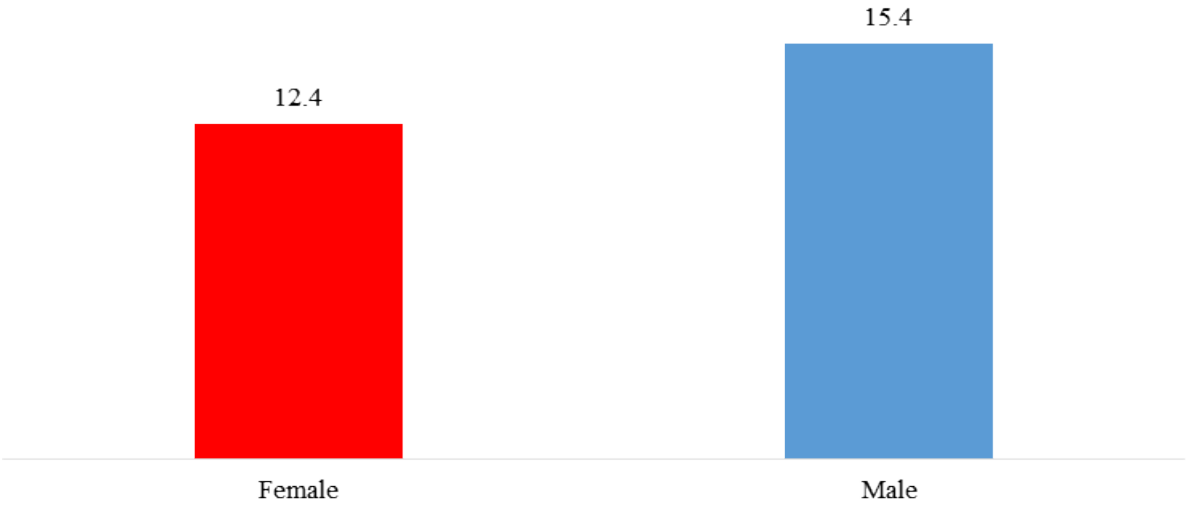
**Figure 3.16: Proportion of Individuals Using the Internet by Age Group, ICT 2019**




*Source: National Statistical Office: Access and use of ICTs 2019*

The survey further looked at internet use among males and females. Internet use was 15.4 percent among males compared to 12.4 percent for females (Figure 3.17**).**

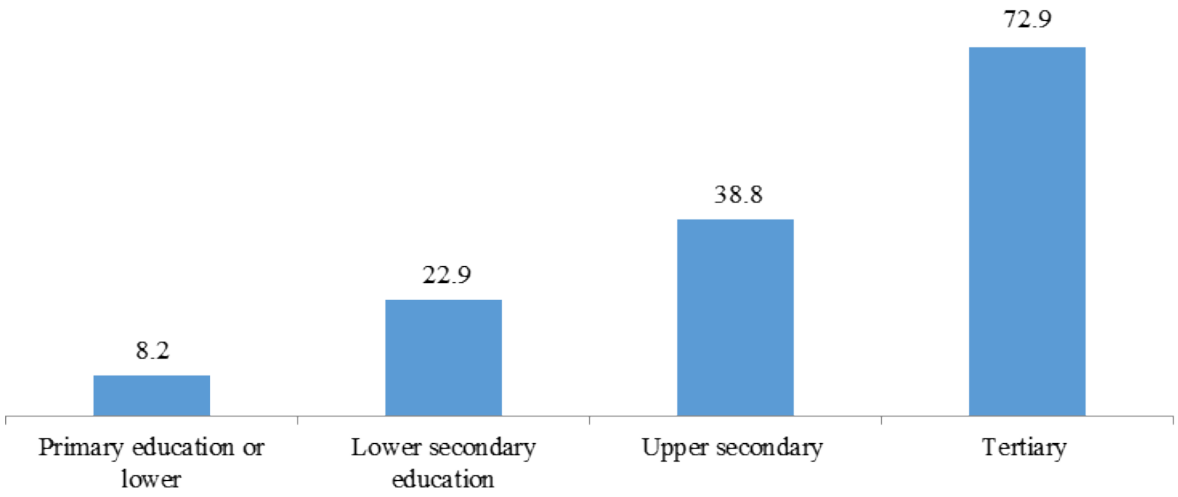
**Figure 3.17: Proportion of Individuals Using the Internet by Sex, ICT 2019**




*Source: National Statistical Office: Access and use of ICTs 2019*

The survey further looked at internet use by individuals at different levels of education. Internet use was high among individuals that had attained tertiary education (72.9 percent) followed by 38.8 percent for upper secondary education. The least proportion of individuals (8.2 percent) that used the internet was for those with primary or no education (Figure 3.18).

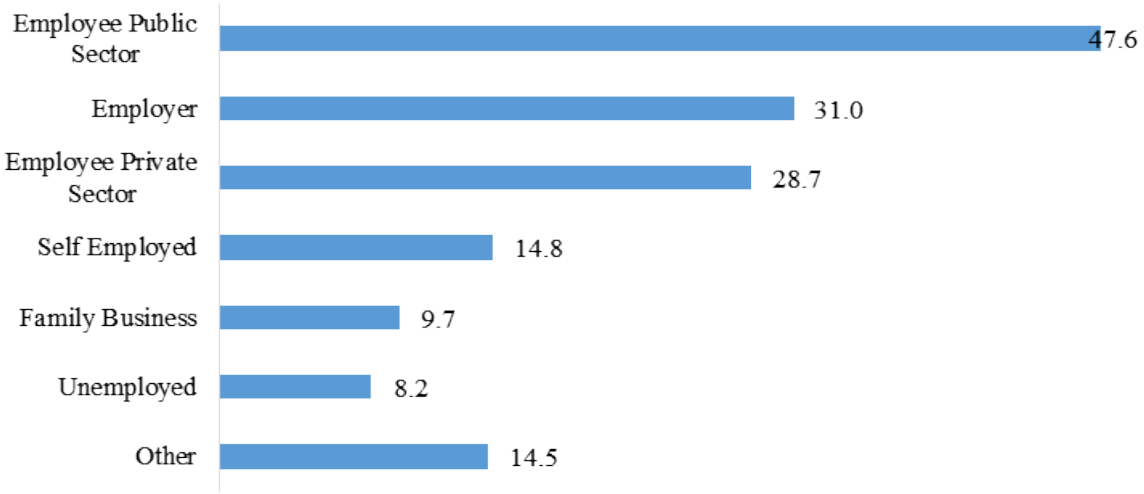
**Figure 3.18: Proportion of Individuals Using the Internet by Level of Education, ICT 2019**




*Source: National Statistical Office: Access and use of ICTs 2019*

The survey also sought to establish individuals' use of internet by occupation. Individuals employed in the public service reported the highest proportion of internet use (47.6 percent) followed by employers (31.0 percent). The lowest proportion of internet use (8.2 percent) was amongst the unemployed individuals (Figure 3.19).

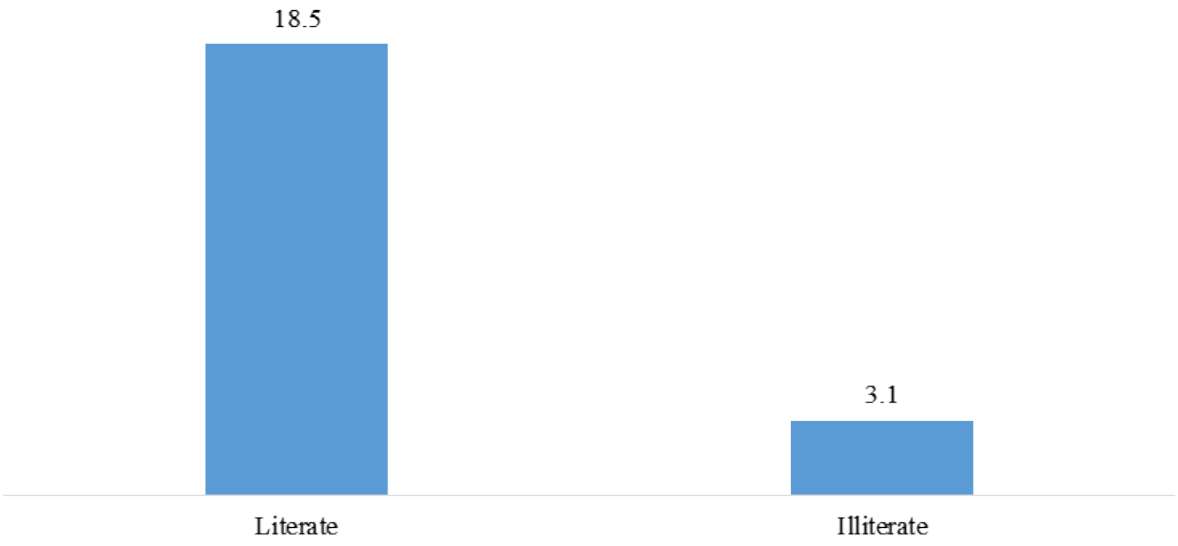
**Figure 3.19: Proportion of Individuals Using the Internet by Occupation, ICT 2019**




*Source: National Statistical Office: Access and use of ICTs 2019*

Analysis of internet use by literacy level shows that the use of internet was higher (18.5 percent) among literate individuals than 3.1 percent of illiterate individuals (Figure 3.20).

**Figure 3.20: Proportion of Individuals Using the Internet by Literacy Level, ICT 2019**

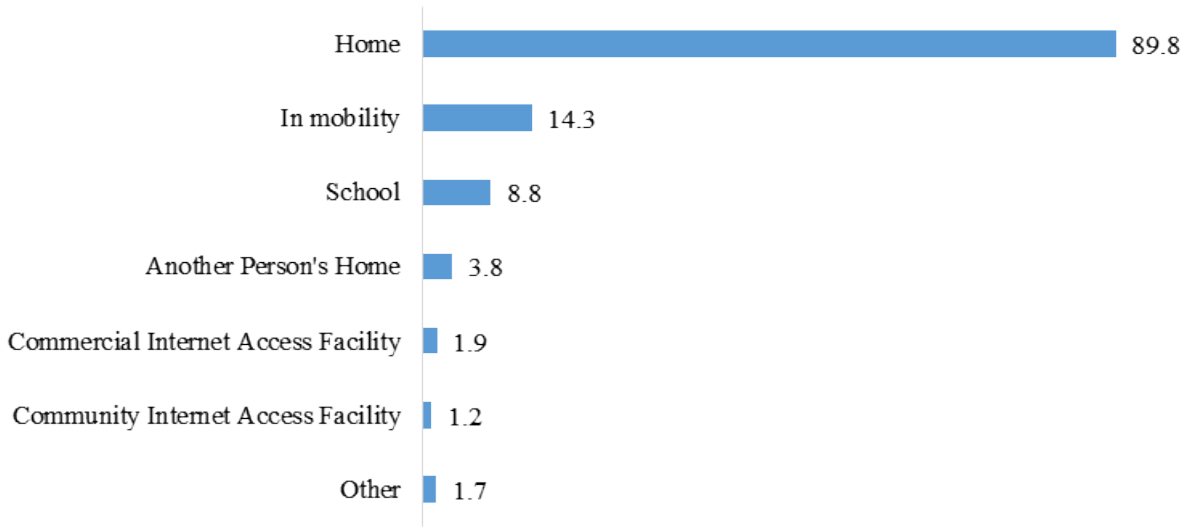



*Source: National Statistical Office: Access and use of ICTs 2019*

### 3.3.2 Location of Internet Access

About 90 percent of internet users accessed the internet at home followed by in mobility (14.3 percent). The least proportion of individuals (1.2 percent) accessed internet at community facilities (Figure 3.21).

**Figure 3.21: Proportion of Individuals Using the Internet by Location, ICT 2019**

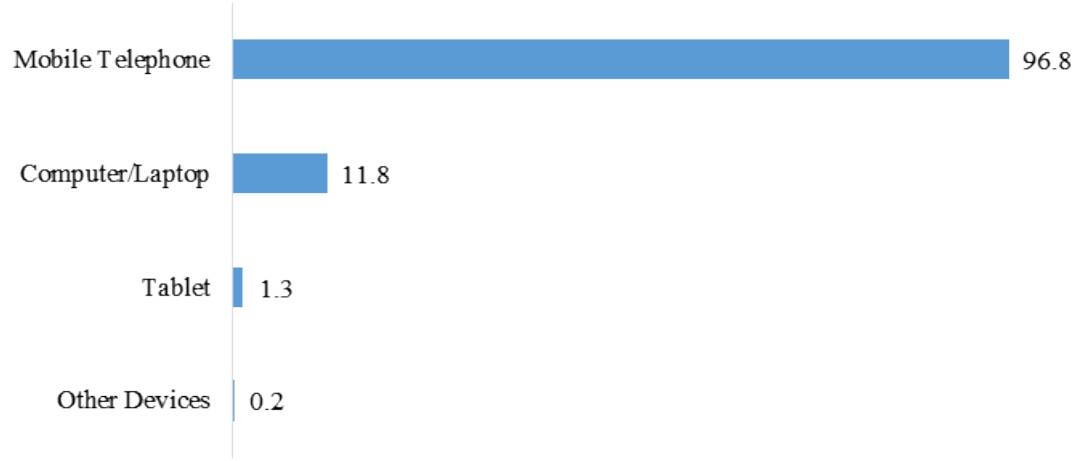



*Source: National Statistical Office: Access and use of ICTs 2019*

### 3.3.3 Devices Used to Access Internet Services

A question was asked in the survey on the devices individuals used to access internet services. The results show that the most used device to access internet was a mobile telephone (96.8 percent) followed by computers (11.8 percent) and 1.8 percent for tablets (Figure 3.22).

**Figure 3.22: Proportion of Individuals Using the Internet by Type of Devices, ICT 2019**

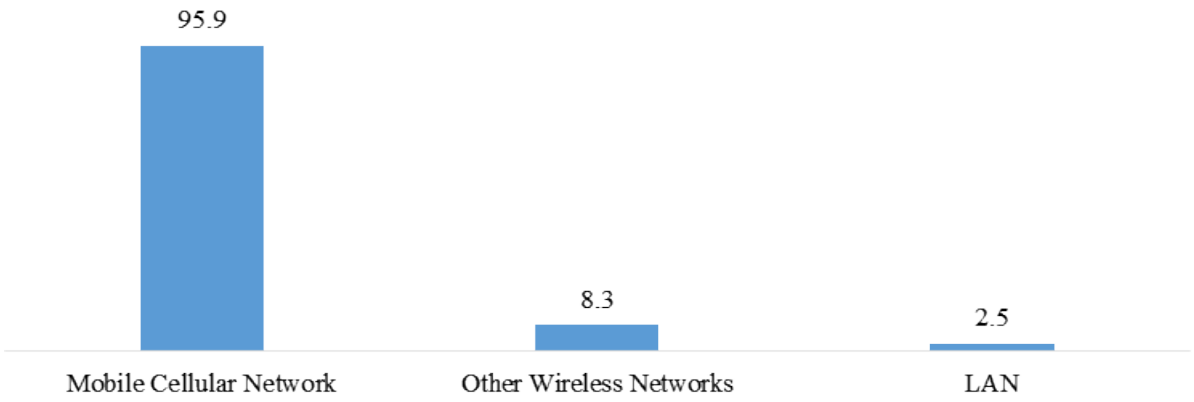



*Source: National Statistical Office: Access and use of ICTs 2019*

### 3.3.4 Type of Internet Services Used

The most commonly used type of internet service network by individuals was mobile cellular network (95.9 percent) followed by other wireless networks like Wi-Fi (8.3 percent) (Figure 3.23).

**Figure 3.23: Proportion of Individuals Using the Internet by Type of Internet Services Network, ICT 2019**

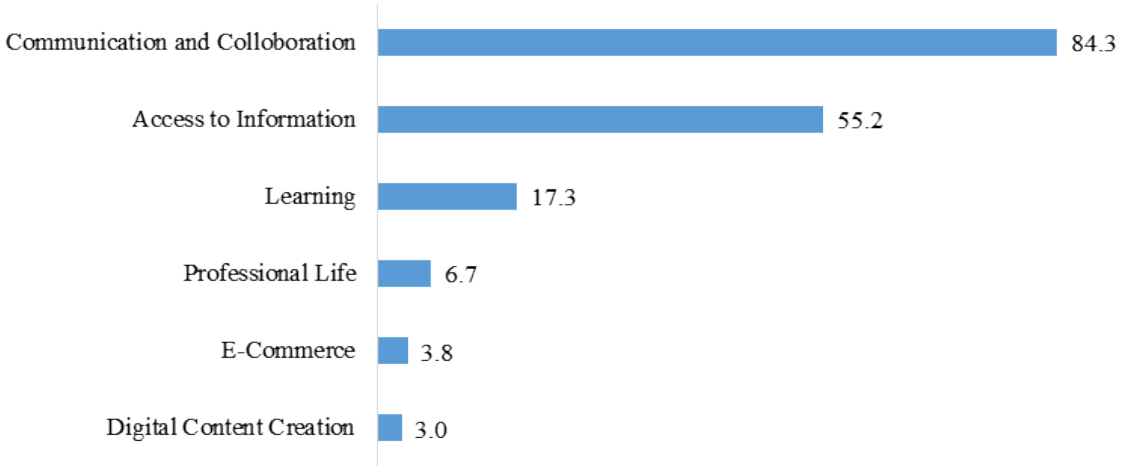



*Source: National Statistical Office: Access and use of ICTs 2019*

### 3.3.5 Activities Undertaken Online

The survey further sought to establish the activities that individuals undertook on the internet. The most common activity undertaken online by individuals that used the internet was communication and collaboration (84.3 percent) followed by access to information (55.2 percent). About 17 percent used the internet for learning activities (Figure 3.24).

**Figure 3.24: Proportion of Individuals by Activities Undertaken, ICT 2019**

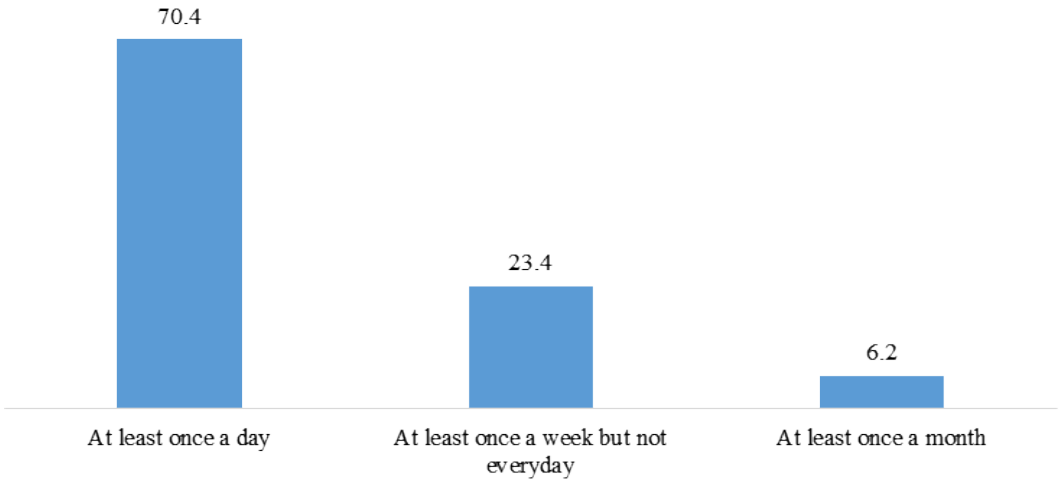



*Source: National Statistical Office: Access and use of ICTs 2019*

### 3.3.6 Frequency of use of Internet Services

Analysis of the frequency of internet use by individuals shows that 70.4 percent of individuals used the internet at least once a day while 23.4 percent used the internet at least once a week but not every day and lastly, 6.2 percent reported that they used internet at least once a month (Figure 3.25).

**Figure 3.25: Percentage Distribution of Individuals using the Internet by Frequency of use, ICT 2019**

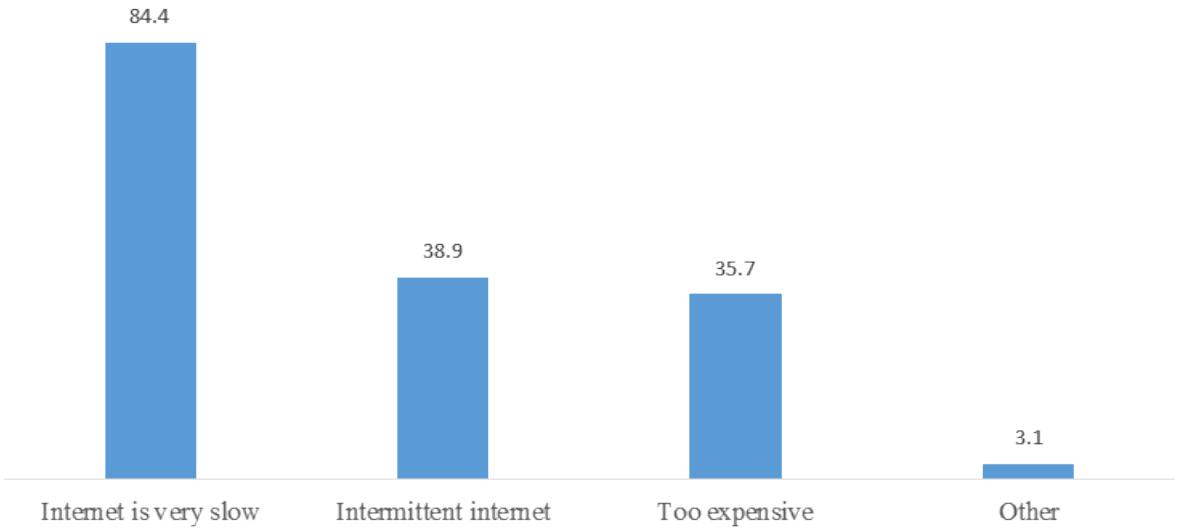



*Source: National Statistical Office: Access and use of ICTs 2019*

### 3.3.7 Main Challenges Faced when using Internet

About 84 percent of individuals reported slow internet as their major challenge when using the internet followed by intermittent internet connection (38.9 percent) and that internet was expensive (35.7 percent) (Figure 3.26).

**Figure 3.26: Proportion of Individuals Facing Challenges when using Internet Services, ICT 2019**

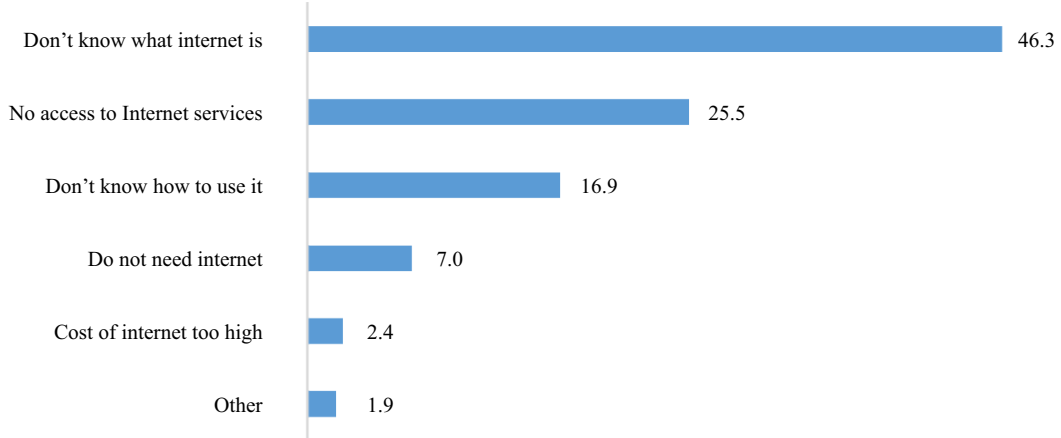



*Source: National Statistical Office: Access and use of ICTs 2019*

### 3.3.8 Main Reasons for not using the Internet

The survey also sought to establish the reasons for not using the internet among individuals that reported not to have used the internet. The main reason cited by individuals was lack of knowledge on what the internet is with a proportion of 46.3 percent followed by no access to the internet services (25.5 percent). The least proportion (2.4 percent) of individuals cited high cost of internet as the reason for not using the internet (Figure 3.27).

**Figure 3.27: Proportion of Individuals not using the Internet by Reasons, ICT 2019**




*Source: National Statistical Office: Access and use of ICTs 2019*

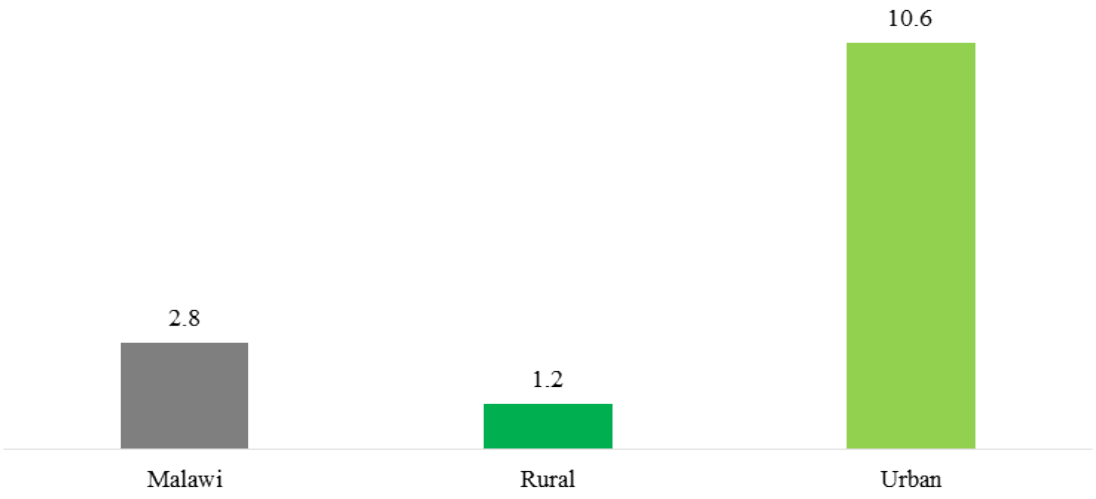
### 3.4 Access and Use of the Computer by Individuals

This section presents findings from the survey on access and use of computer devices by individuals in Malawi.

#### 3.4.1 Ownership of Computer

In Malawi 2.8 percent of individuals owned a computer. Analysis by place of residence indicates that the proportion of individuals owning a computer was higher (10.6 percent) in urban areas than 1.2 percent in rural areas (Figure 3.28).

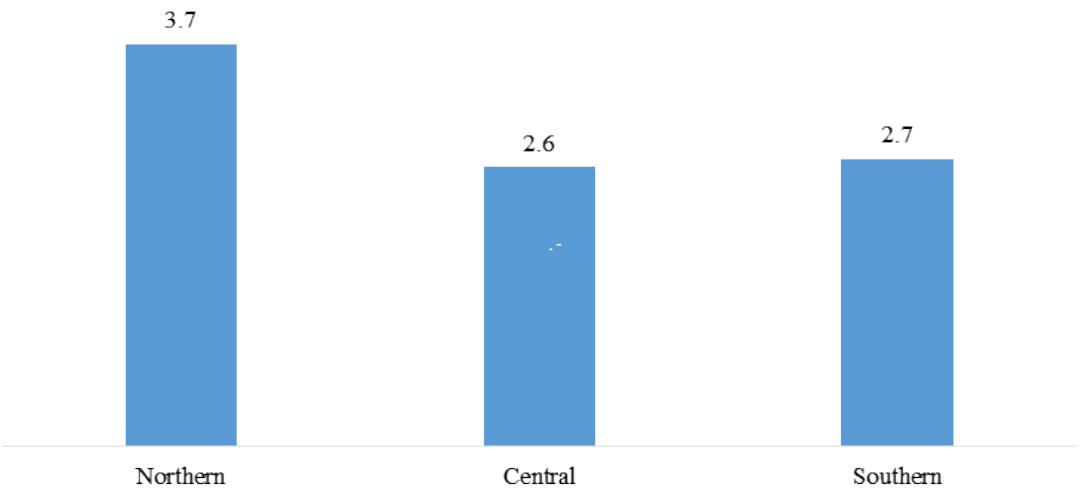
**Figure 3.28: Proportion of Individuals Owning a Computer by Place of Residence, ICT 2019**




*Source: National Statistical Office: Access and use of ICTs 2019*

Analysis by region shows that the Northern region had the highest proportion of individuals owning a computer (3.7 percent) followed by the Southern region (2.7 percent) and Central region (2.6 percent) (Figure 3.29).

**Figure 3.29: Proportion of Individuals Owning a Computer by Region, ICT 2019**

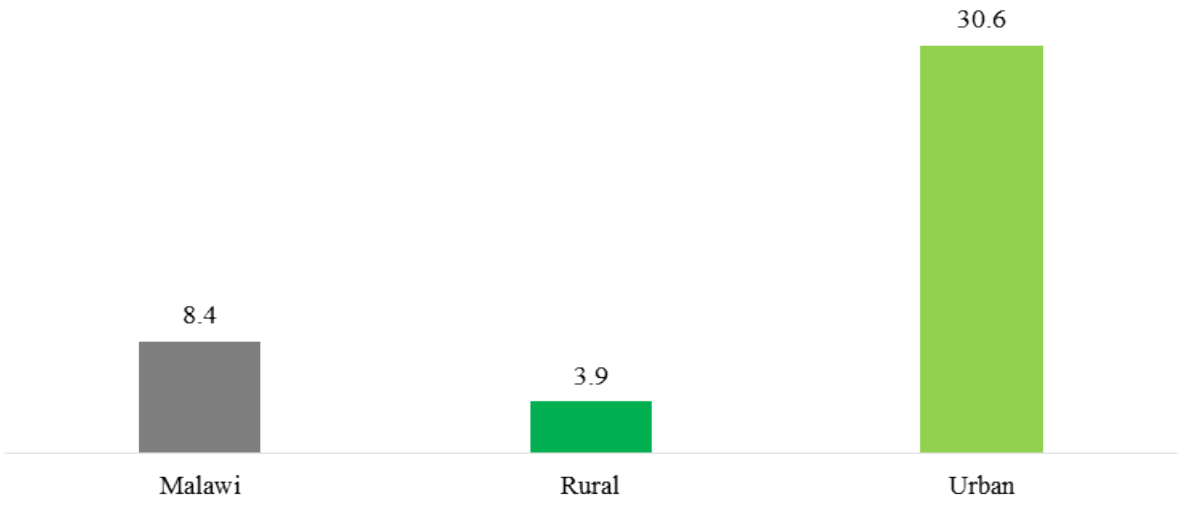



*Source: National Statistical Office: Access and use of ICTs 2019*

### 3.4.2 Use of Computer

The survey also looked at the level of computer use by individuals. Nationally, 8.4 percent of individuals used a computer. The proportion of individuals that used a computer was higher in urban areas (30.6 percent) than 3.9 percent in rural areas (Figure 3.30).

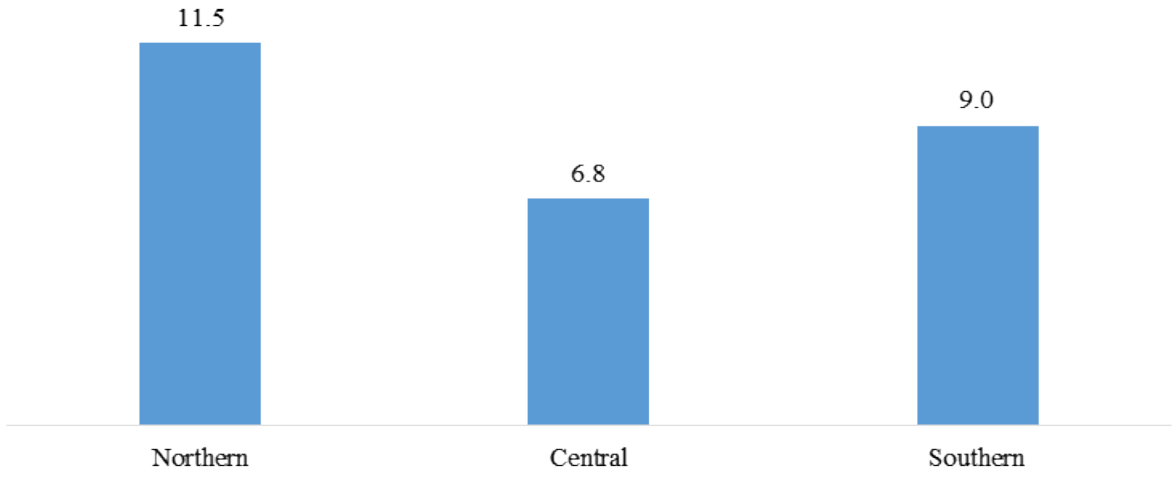
**Figure 3.30: Proportion of Individuals Using Computer by Place of Residence, ICT 2019**




*Source: National Statistical Office: Access and use of ICTs 2019*

Analysis by region established that 11.5 percent of individuals in the Northern region used a computer, 9.0 percent in the Southern region and6.8 percent in the Central region (Figure 3.31).

**Figure 3.31: Proportion of Individuals Using Computer by Region, ICT 2019**

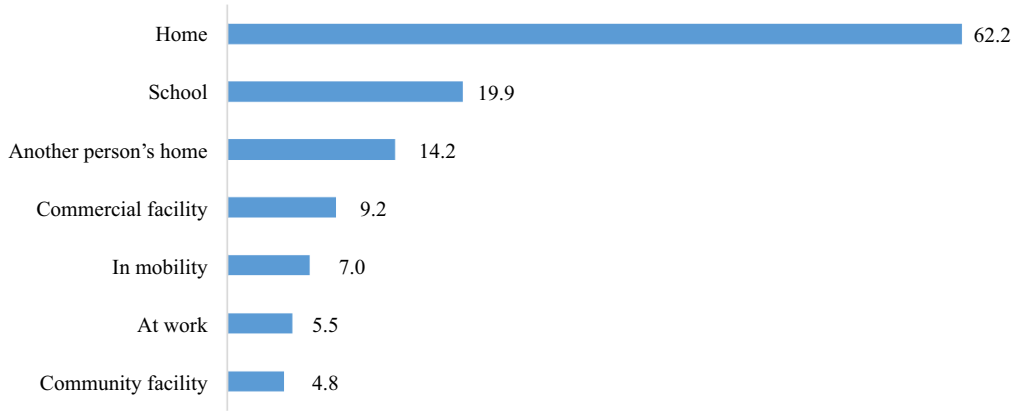



*Source: National Statistical Office: Access and use of ICTs 2019*

### 3.4.3 Place of Use of Computer

The survey results show that home was the most common place where individuals used a computer (62.2 percent). This was followed by 19.9 percent who used a computer at school and 14.2 percent used a computer at another person's home. The least used place was a community facility with 4.8 percent followed by 5.5 percent work place (Figure 3.32).

**Figure 3.32: Proportion of Individuals Using Computer by Place of Use, ICT 2019**

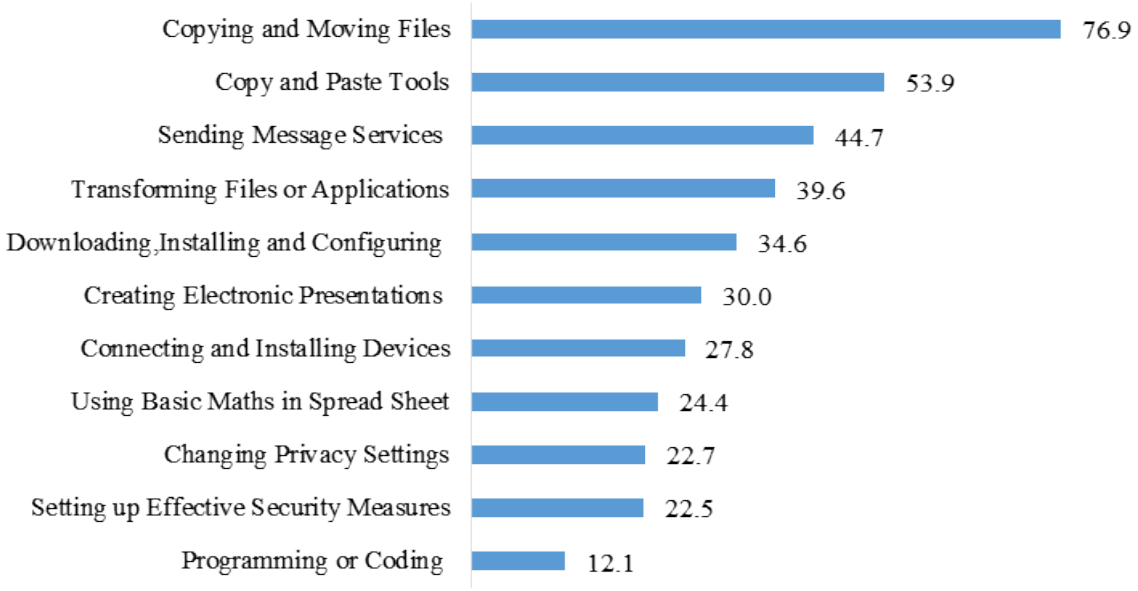



*Source: National Statistical Office: Access and use of ICTs 2019*

### 3.4.4 Proficiency/Skill in Using a Computer

Among individuals that used a computer, 76.9 percent reported that they were able to copy and move files on a computer. The least proportion of individuals (12.1 percent) indicated knowledge of programming or coding in digital environments like computer software and app development (Figure 3.33).

**Figure 3.33: Proportion of Individuals Using a Computer by Type of Computer Skill, ICT 2019**






*Source: National Statistical Office: Access and use of ICTs 2019*

### 3.4.5 Reasons for Not Using a Computer

About 93 percent of individuals reported not to have used a computer because they had no access to a computer while 0.4 percent of individuals reported that their computers were damaged (Figure 3.34).

**Figure 3.34: Percentage Distribution of Individuals not using a Computer by Reason, ICT 2019**


*Source: National Statistical Office: Access and use of ICTs 2019*

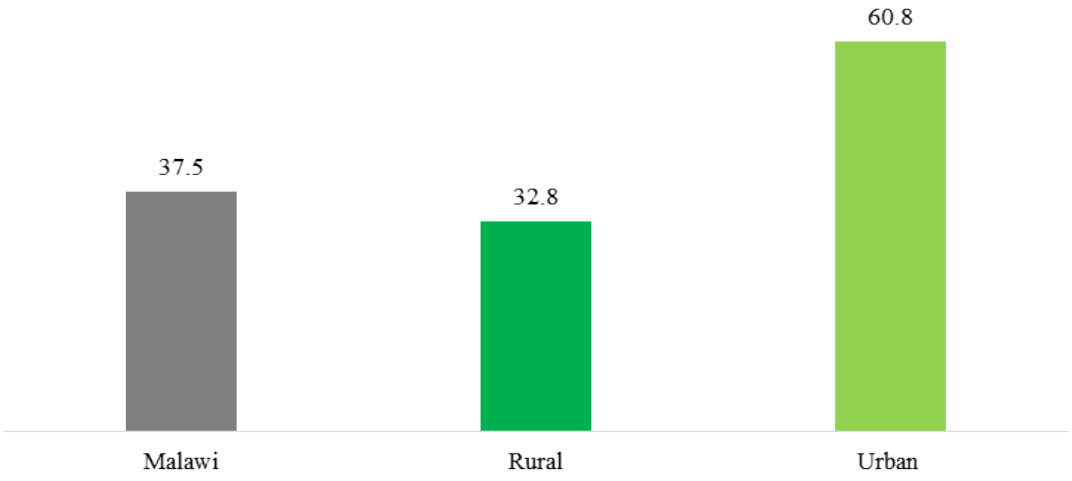
### 3.5 Access and Use of Radio by Individuals

This section discusses survey findings on ownership, access and use of radio by individuals in the country by region, place of residence, literacy levels and sex among other things.

3.5.1 Ownership of Functioning Radios

The proportion of individuals across the country with a functioning radio was 37.5 percent. Analysis by place of residence indicates that 60.8 percent of individuals in urban areas had a working radio compared to 32.8 percent in rural areas (Figure 3.35).

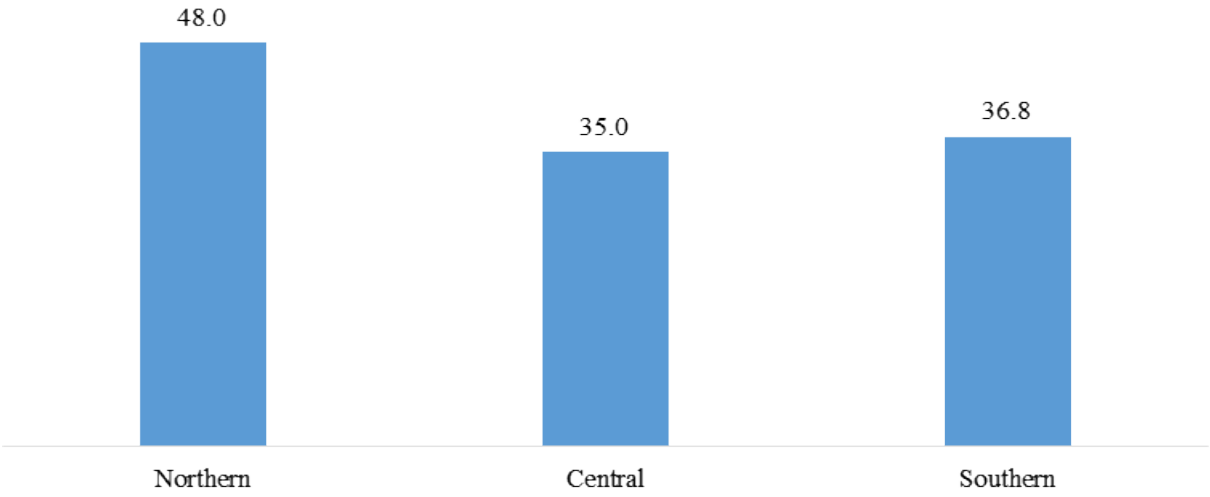
**Figure 3.35: Proportion of Individual Owning a Radio by Place of Residence, ICT 2019**




*Source: National Statistical Office: Access and use of ICTs 2019*

Analysis by region indicates that the highest proportion of individuals (48.0 percent) that owned a radio was from the Northern region followed by 36.8 percent in the Southern region and 35.0 percent in the Central region (Figure 3.36).

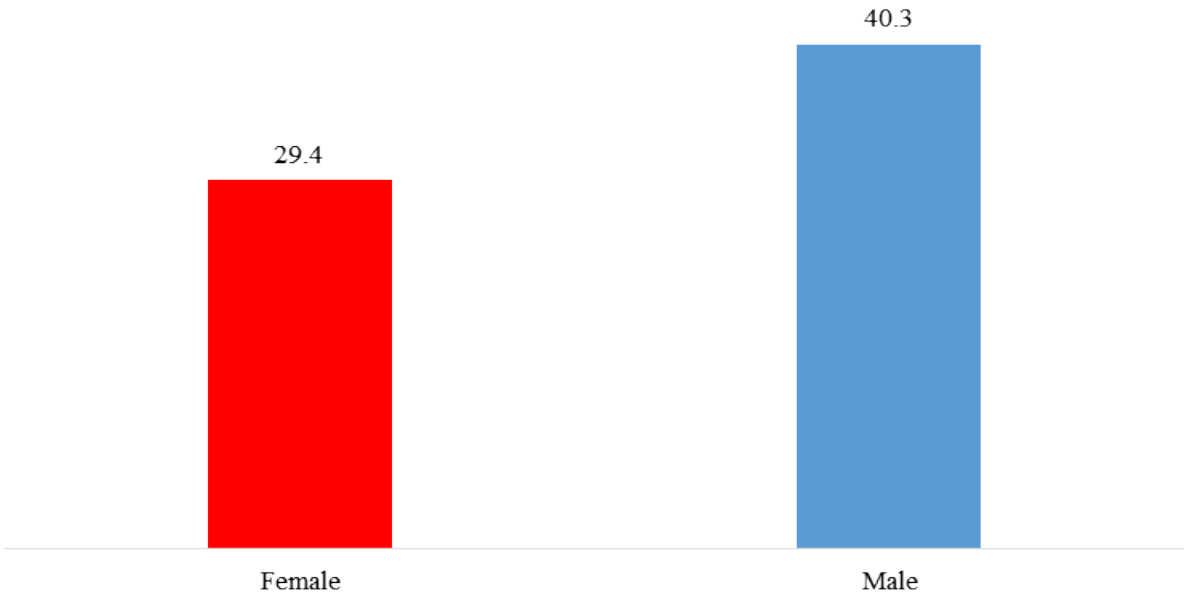
**Figure 3.36: Proportion of Individuals Owning a Radio by Region, ICT 2019**




*Source: National Statistical Office: Access and use of ICTs 2019*

The proportion of males that owned a functioning radio was higher (40.3 percent) than females (29.4 percent) (Figure 3.37).

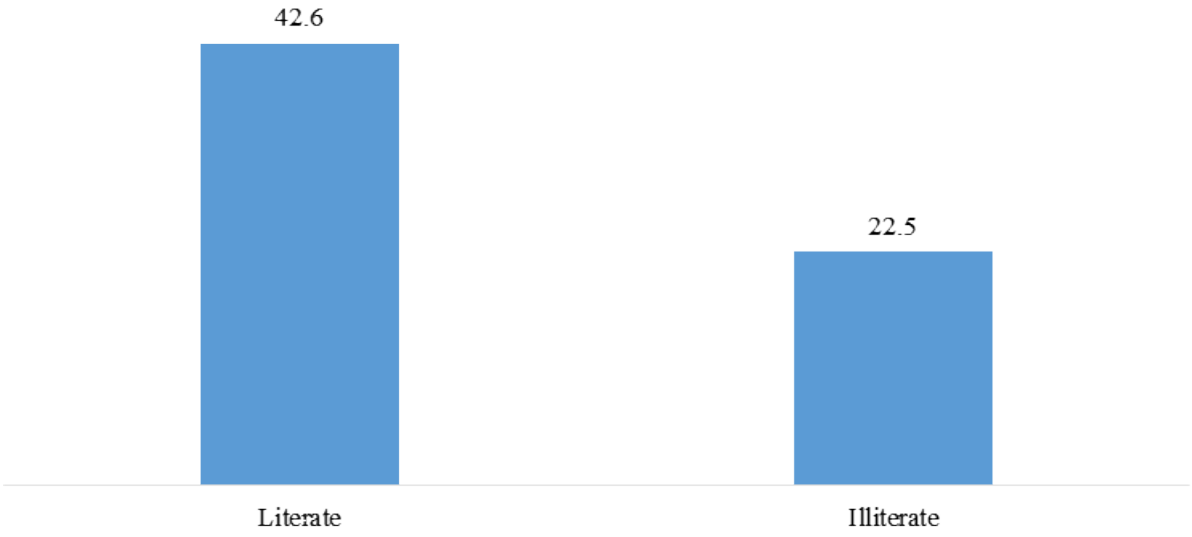
**Figure 3.37: Proportion of Individuals Owning a Radio by Sex, ICT 2019**




*Source: National Statistical Office: Access and use of ICTs 2019*

The analysis further looked at the ownership of a radio by literacy levels. About 43 percent of individuals who were literate owned a functioning radio compared to 22.5 percent who were illiterate (Figure 3.38).

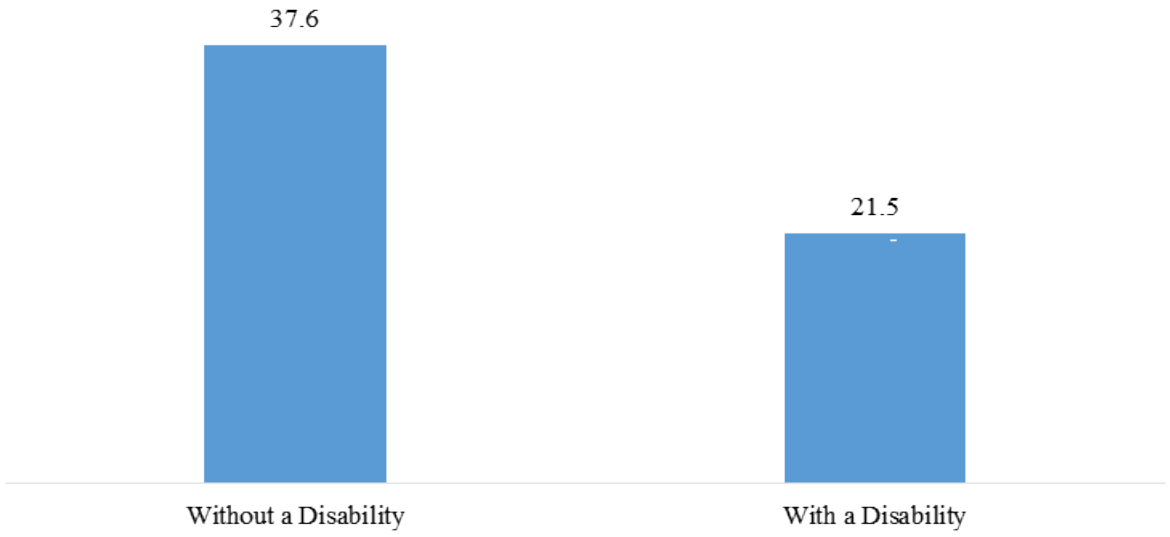
**Figure 3.38: Proportion of Individuals Owning a Radio by Literacy Levels, ICT 2019**




*Source: National Statistical Office: Access and use of ICTs 2019*

The proportion of individuals with a disability owning a radio was 21.5 percent while for those without a disability was 37.5 percent (Figure 3.39).

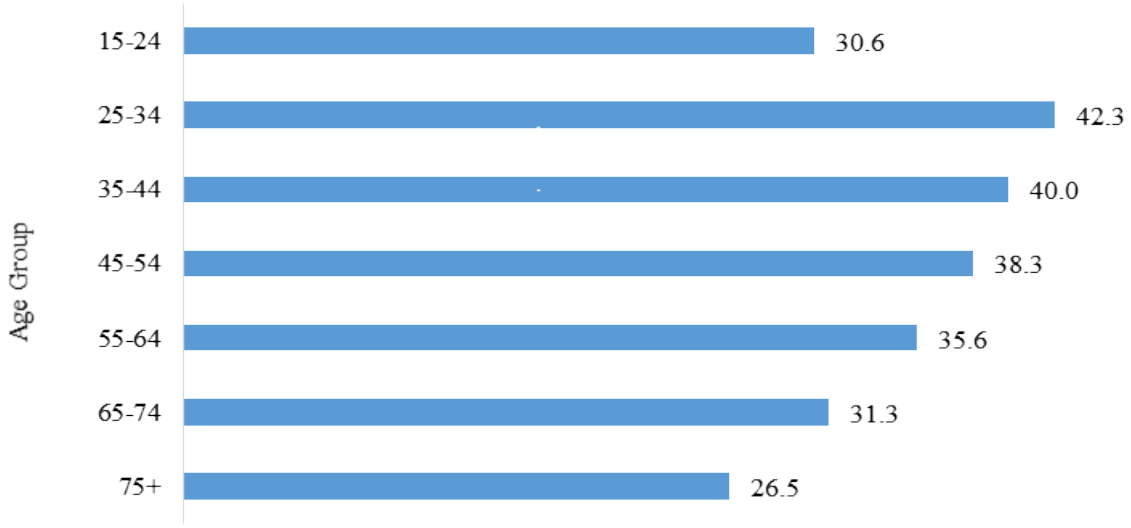
**Figure 3.39: Proportion of Individuals with or without a Disability Owning a Radio, ICT 2019**




*Source: National Statistical Office: Access and use of ICTs 2019*

The proportion of individuals owning a functioning radio by age group was highest among individuals in the age group 25-34 years (42.3 percent) followed by age group 35-44 years at 40.0 percent. The lowest proportion (26.5 percent) was among individuals in the age group 75 years and above (Figure 3.40).

**Figure 3.40: Proportion of Individual Owing a Radio by Age Groups, ICT 2019**

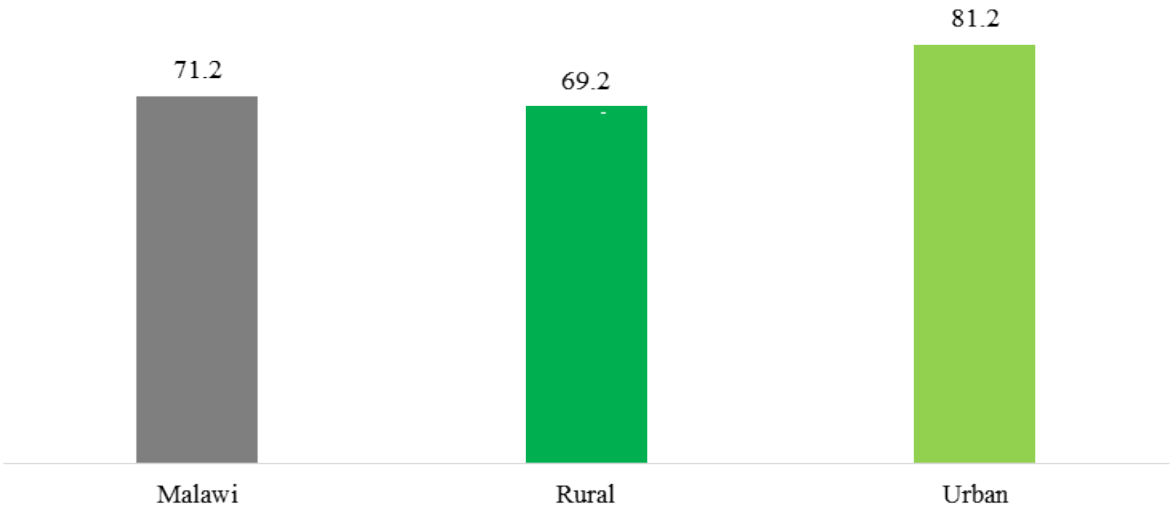



*Source: National Statistical Office: Access and use of ICTs 2019*

### 3.5.2 Individuals Listening to the Radio

The proportion of individuals listening to the radio across the country was 71.1 percent. Analysis by place of residence shows that the proportion of individuals listening to the radio was higher in urban areas (81.2 percent) than in rural areas (69.2 percent) (Figure 3.41).

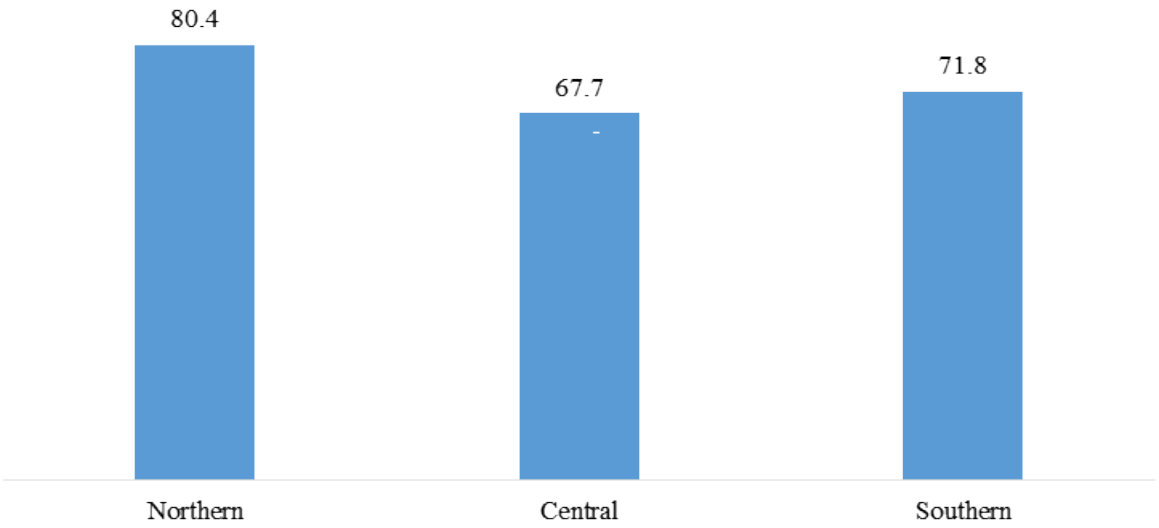
**Figure 3.41: Proportion of Individuals Listening to the Radio by Place of Residence, ICT 2019**




*Source: National Statistical Office: Access and use of ICTs 2019*

At regional level, the highest proportion of individuals listening to the radio was from the Northern region (80.4 percent) followed by Southern region (71.8 percent) and Central region (67.7 percent) (Figure 3.42).

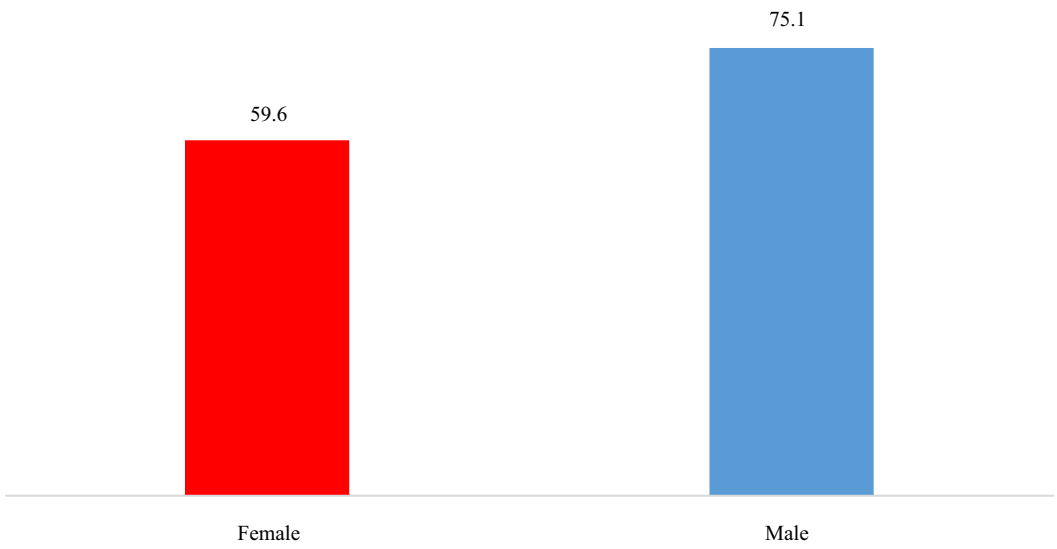
**Figure 3.42: Proportion of Individuals Listening to the Radio by Region, ICT 2019**




*Source: National Statistical Office: Access and use of ICTs 2019*

Analysis by sex shows that the proportion of individuals listening to the radio was higher among male respondents (75.1 percent) than 59.6 percent among female respondents (Figure 3.43).

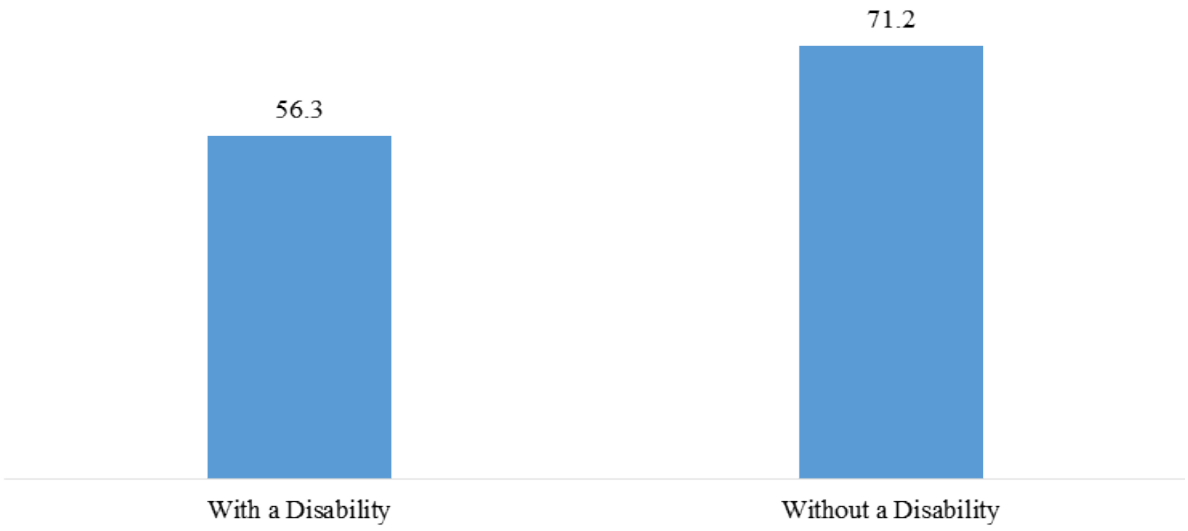
**Figure 3.43: Proportion of Individuals Listening to the Radio by Sex, ICT 2019**




*Source: National Statistical Office: Access and use of ICTs 2019*

Looking at disability, 56.3 percent of the individuals with a disability listened to the radio compared to 71.2 percent for those without a disability (Figure 3.44).

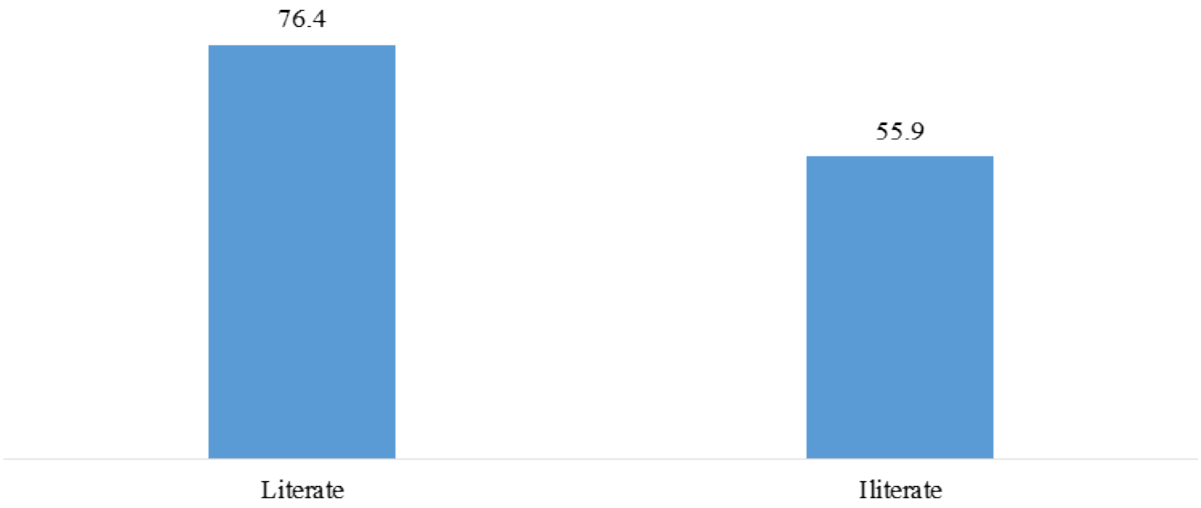
**Figure 3.44: Proportion of Individuals Listening to the Radio by Disability Status, ICT 2019**




*Source: National Statistical Office: Access and use of ICTs 2019*

Analysis by literacy levels shows that 76.4 percent of the individuals who were literate listened to the radio compared to 55.9 percent of the illiterate people (Figure 3.45)

**Figure 3.45: Proportion of Individuals Listening to the Radio by Literacy Levels, ICT 2019**

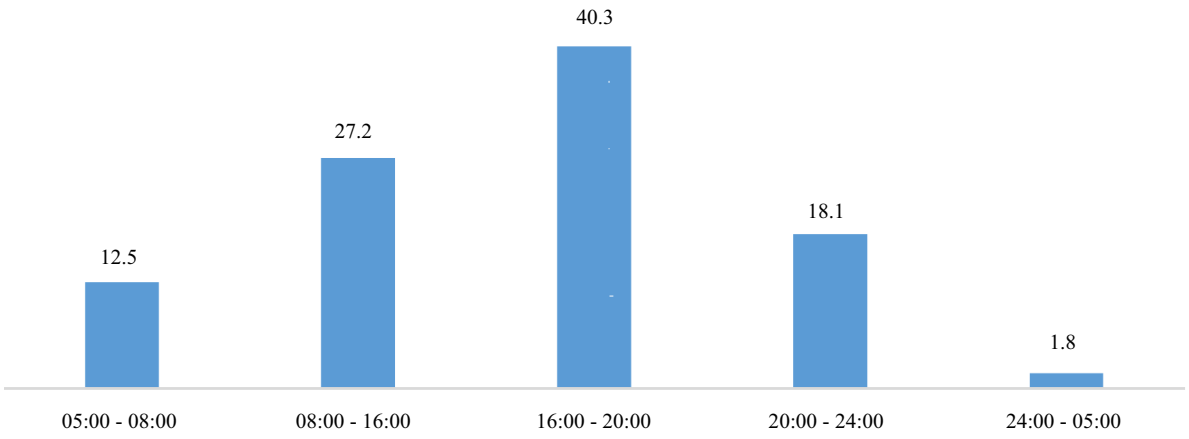



*Source: National Statistical Office: Access and use of ICTs 2019*

### 3.5.3 Times Individuals Listen to the Radio

The survey results show the different times at which individuals usually listened to the radio. The highest proportion of individuals (40.3 percent) listened to the radio from 16:00-20:00 hours followed by 27.2 percent from 08:00-16:00 hours. The least proportion of individuals (1.8 percent) listened to the radio from 24:00-05:00 hours (Figure 3.46).

**Figure 3.46: Proportion of Individuals Listening to the Radio at Specific Times of the Day, ICT 2019**

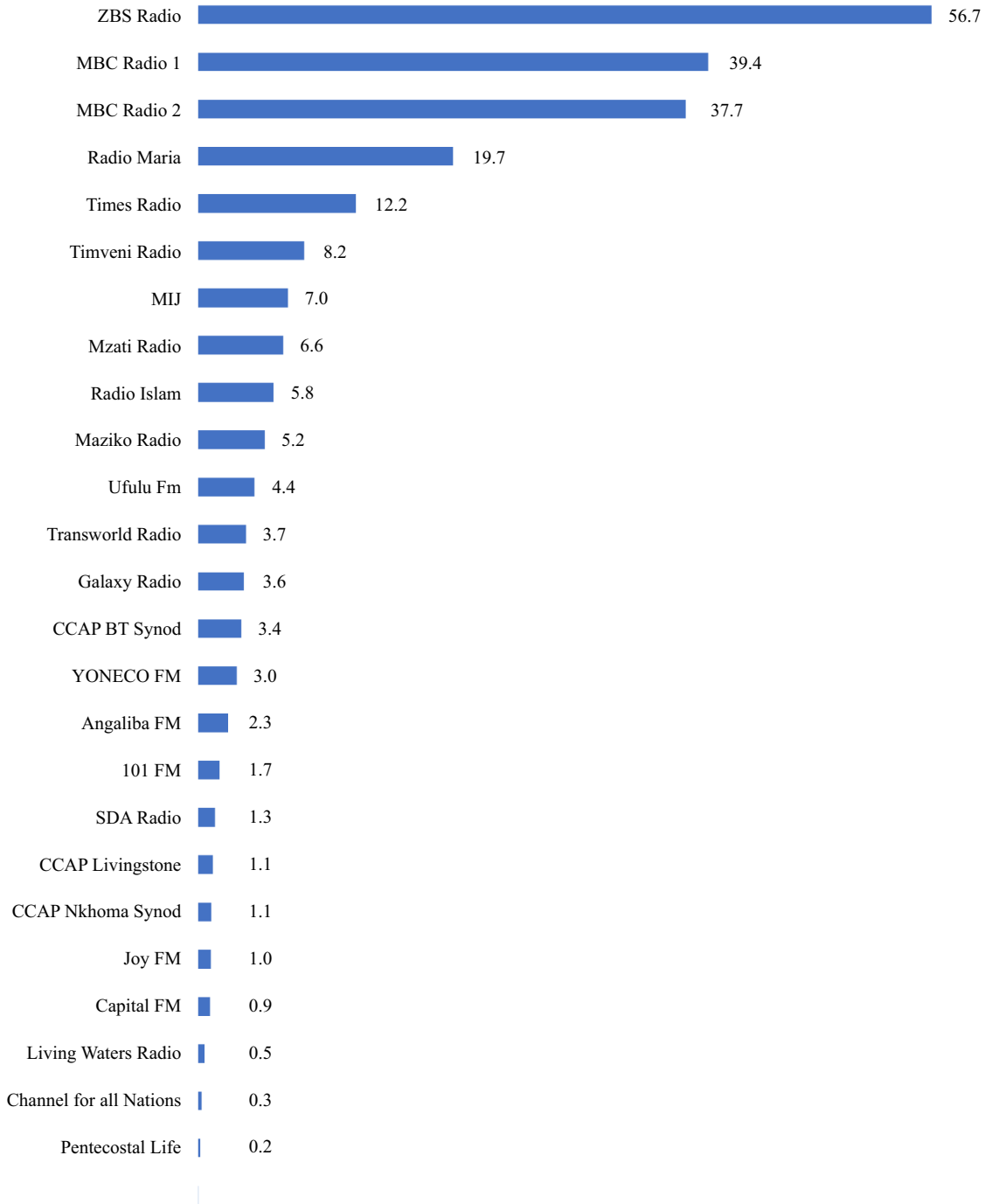



*Source: National Statistical Office: Access and use of ICTs 2019*

### 3.5.4 Radio listenership – Radio Stations with National Coverage

A national radio station is a radio station which is obliged to broadcast throughout the country as stipulated in its license. During the survey individuals were asked to mention which national radio stations they listened to. It is important to note that the survey allowed an individual to mention more than one radio station in their responses. About 57 percent of individuals were usually listening to Zodiak Broadcasting Station, 39.4 percent were listening to MBC Radio 1, and 37.7 percent were listening to MBC Radio 2 (Figure 3.47).

**Figure 3.47: Proportion of Individuals Listening to Specific National Radio Stations, ICT 2019**



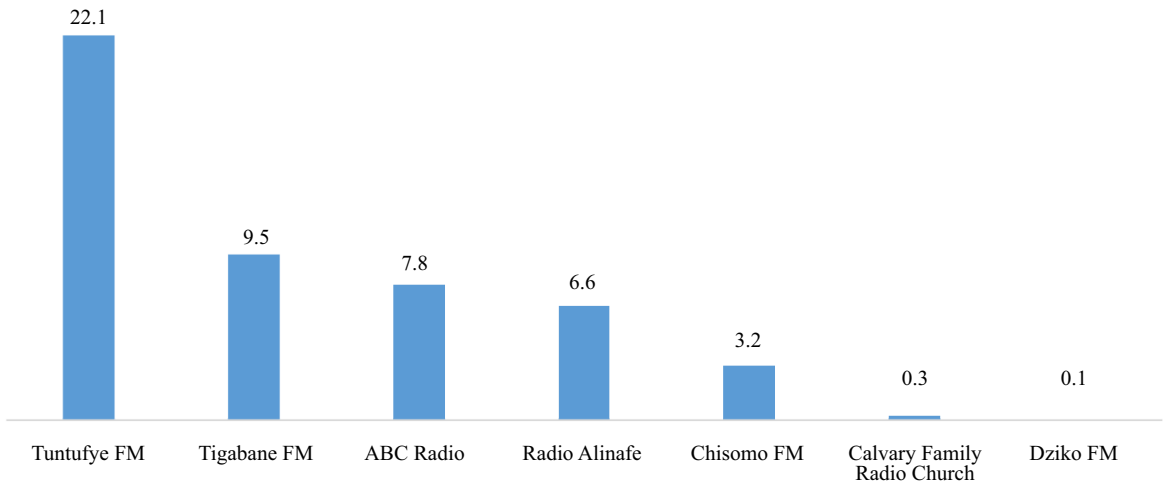

*Source: National Statistical Office: Access and use of ICTs 2019*

### 3.5.5 Radio listenership – Radio Stations with Regional and Community Coverage

Individuals were also asked to mention regional and community radio stations they listened to. It is important to note that the survey allowed an individual to mention more than one radio station in their responses. Radio stations with regional coverage are those stations that are obliged to broadcast in any of the three regions. Community radio stations are those stations that are obliged to broadcast within a perimeter of 100 kilometres.

Among individuals who listened to regional broadcasting stations, Tuntufye FM had 22.1 percent of individuals listening to it followed by Radio Tigabane (9.5 percent) and the lowest was Dziko FM (0.1 percent) (Figure 3.48).

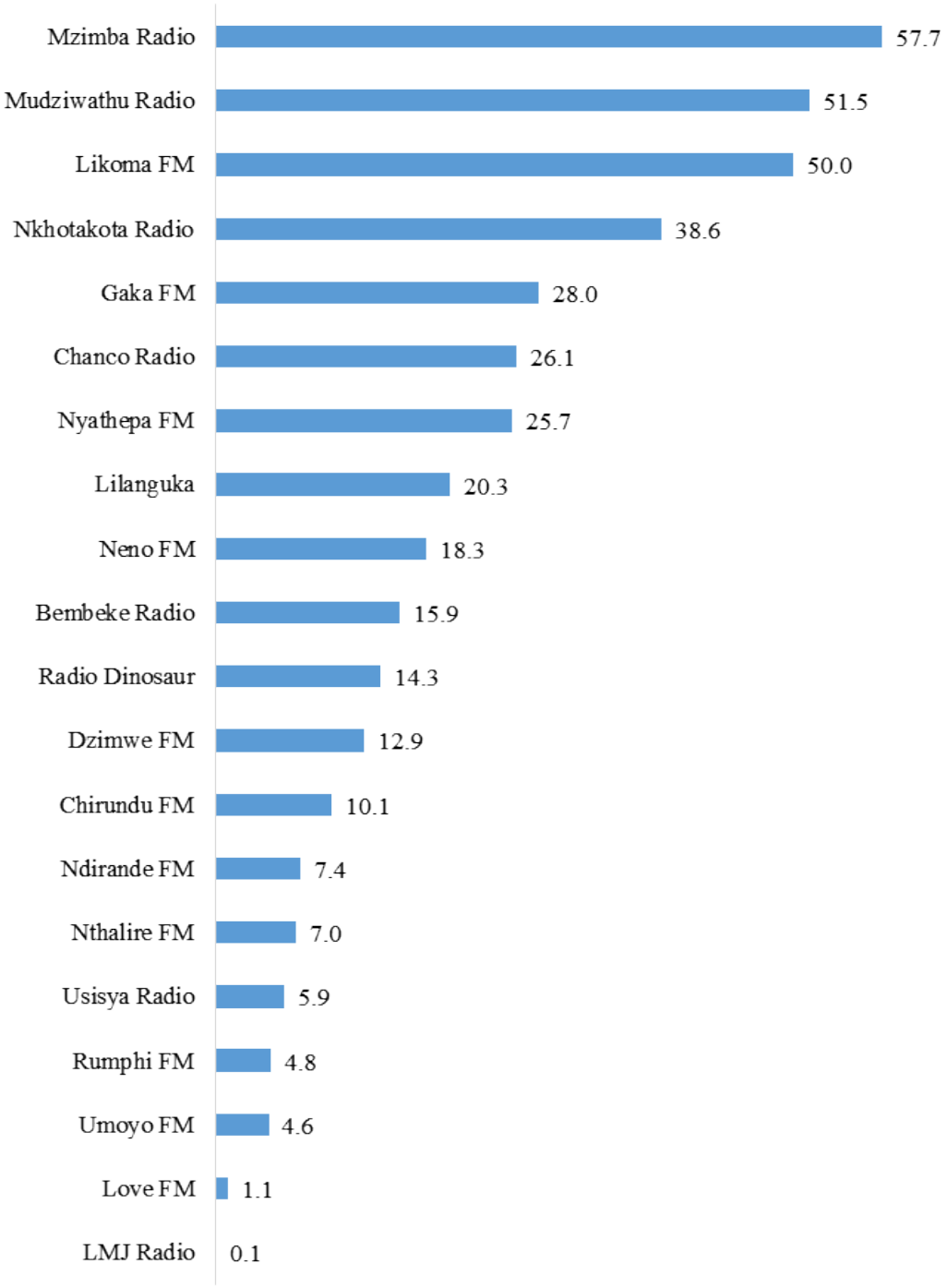
**Figure 3.48: Proportion of Individuals Listening to Specific Regional Radio Stations, ICT 2019**




*Source: National Statistical Office: Access and use of ICTs 2019*

Among the community radio stations, Mzimba community radio had the highest proportion of individuals listening to community radios (57.7 percent) followed by Mudziwathu community radio (51.5 percent) and the lowest was LMJ (0.1 percent) (Figure 3.49).

**Figure 3.49: Proportion of Individuals Listening to Specific Community Radio Stations, ICT 2019**

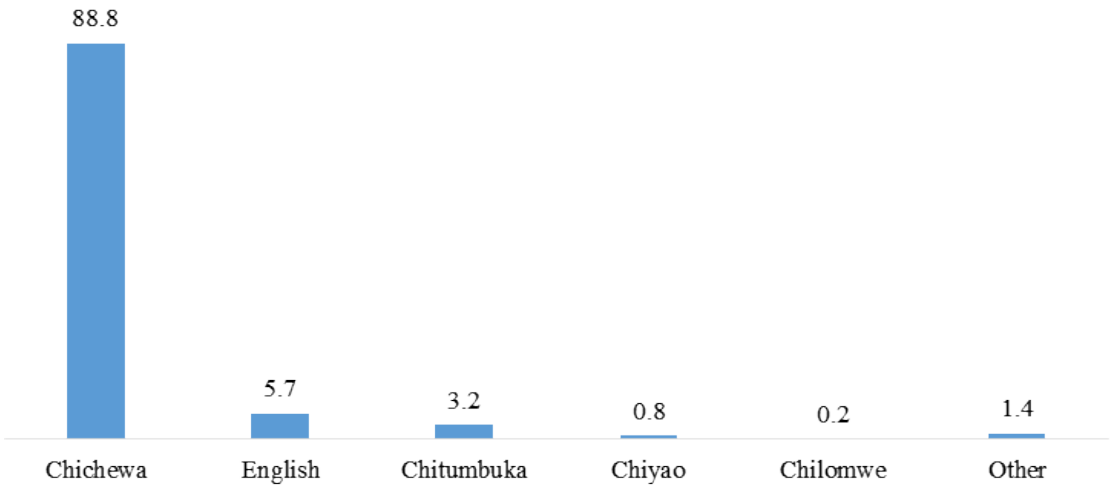



*Source: National Statistical Office: Access and use of ICTs 2019*

### 3.5.6 Most Listened Languages on Radio Stations

The survey looked at the languages which individuals listened to on radio. About 89 percent of individuals listened to programs in Chichewa followed by English (5.7 percent) and Chitumbuka (3.2 percent). The least proportion of individuals listened to programs in Chiyao (0.8 percent) and Chilomwe (0.2 percent) (Figure 3.50).

**Figure 3.50: Percentage Distribution of Languages Listened to by Individuals, ICT 2019**

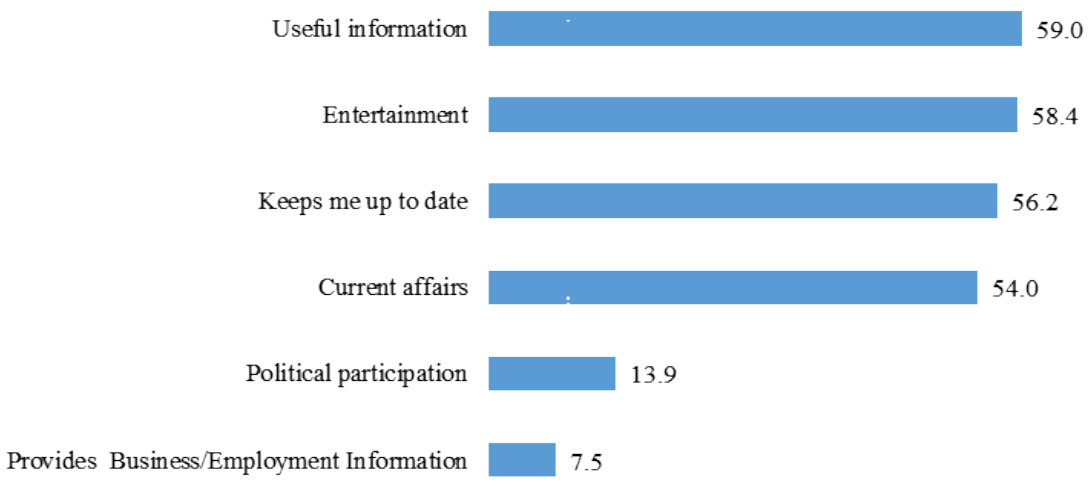



*Source: National Statistical Office: Access and use of ICTs 2019*

### 3.5.7 Reasons for Listening to the Radio

According to the survey results, 59.0 percent of individuals cited provision of useful information as the reason for listening to the radio, 58.4 percent mentioned entertainment and the least (7.5 percent) mentioned seeking business and employment information (Figure 3.51).

**Figure 3.51: Proportion of Individuals by Reasons for Listening to the Radio, ICT 2019**

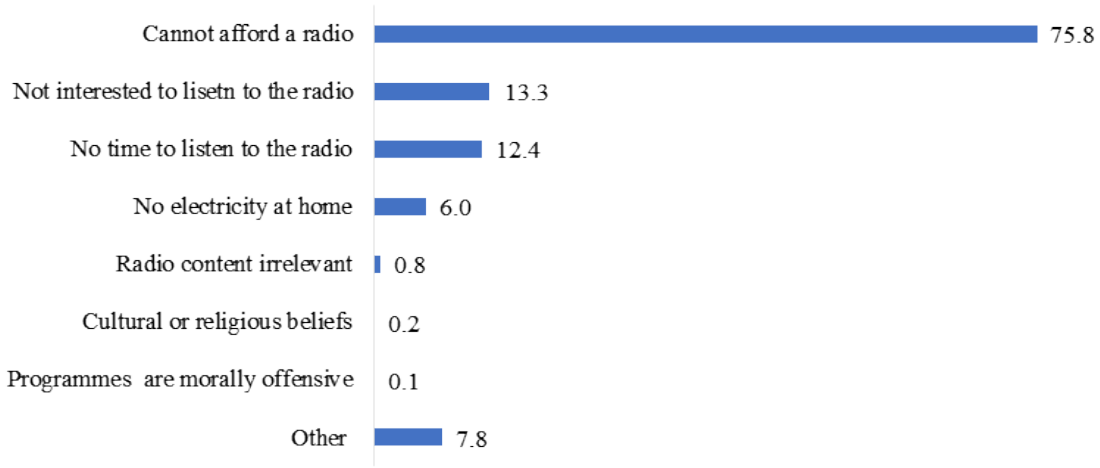



*Source: National Statistical Office: Access and use of ICTs 2019*

### 3.5.8 Reasons for not Listening to the Radio

The highest proportion (75.8 percent) of individuals cited that they could not afford to have a radio, 13.3 percent indicated that they were not interested and the least proportion (0.1 percent) said they found the programmes to be morally offensive as reasons for not listening to the radio (Figure 3.52).

**Figure 3.52: Proportion of Individuals by Reasons for not Listening to the Radio, ICT 2019**




*Source: National Statistical Office: Access and use of ICTs 2019*

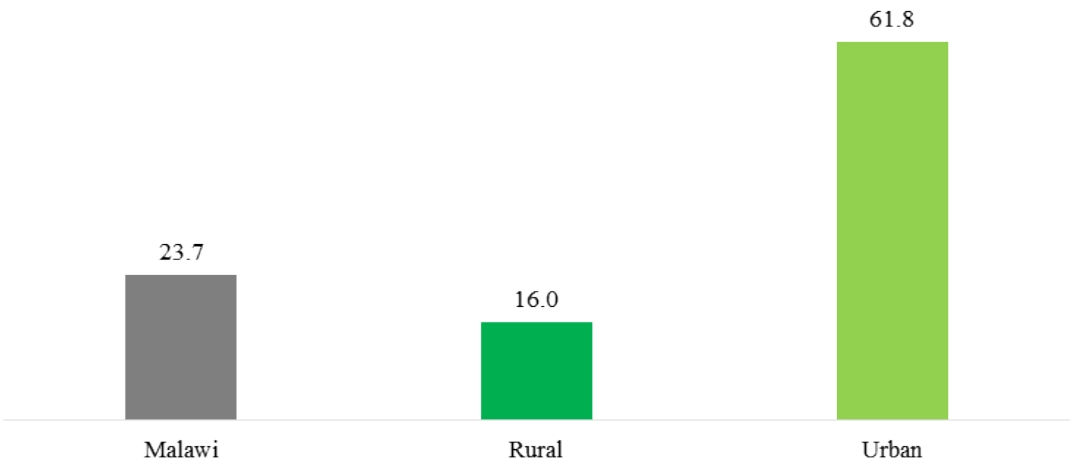
## 3.6 Access and Use of TV by Individuals

This section discusses survey findings on ownership, access and use of television by individuals in the country by region, place of residence, literacy levels and sex among other things.

### 3.6.1 Individuals Watching Television

In Malawi 23.7 percent of individuals watched television (TV). Analysis by place of residence established that individuals in urban areas had a higher proportion (61.8 percent) of TV viewership than individuals in rural areas (16.0 percent) (Figure 3.53).

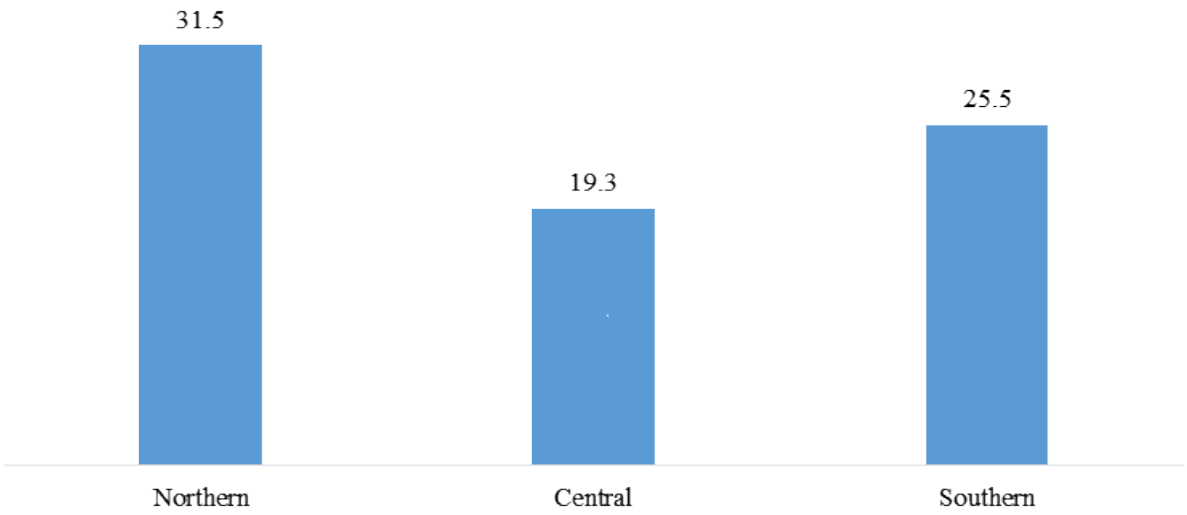
**Figure 3.53: Proportion of Individuals Watching Television by Place of Residence, ICT 2019**




*Source: National Statistical Office: Access and use of ICTs 2019*

Analysis by region shows that 31.5 percent of individuals in the Northern region watched TV followed by Southern region (25.5 percent) and Central region (19.3 percent) (Figure 3.54).

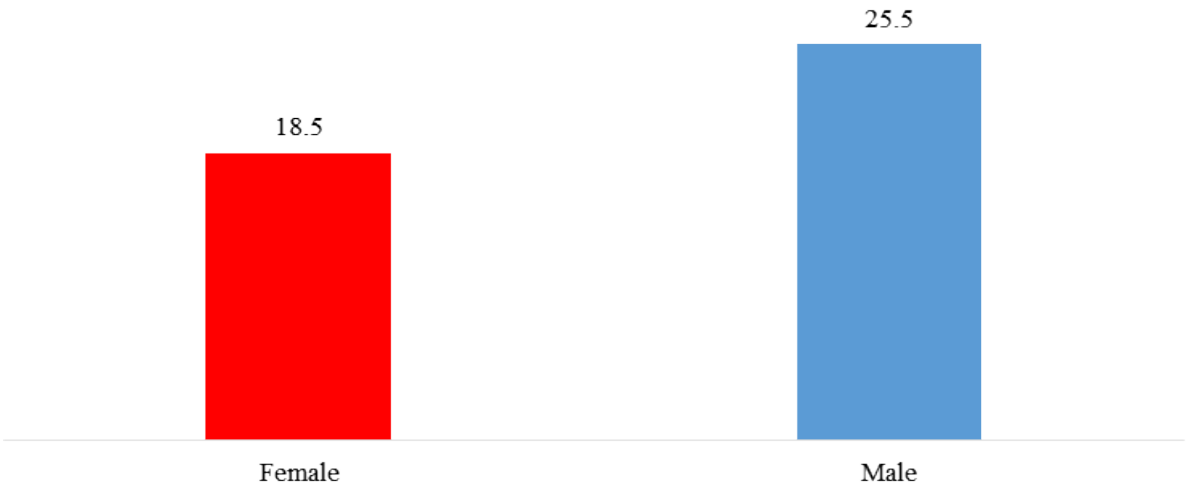
**Figure 3.54: Proportion of Individuals Watching Television by Region, ICT 2019**




*Source: National Statistical Office: Access and use of ICTs 2019*

Analysis by sex shows that a higher proportion (25.5 percent) of males watched TV than females (18.5 percent) (Figure 3.55).

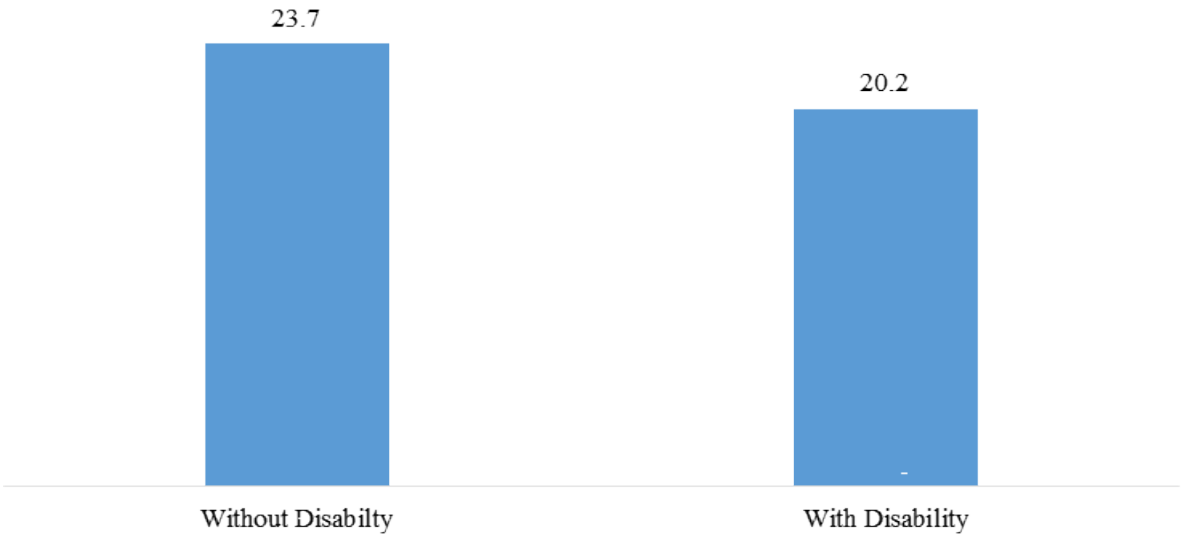
**Figure 3.55: Proportion of Individuals Watching Television by Sex, ICT 2019**




*Source: National Statistical Office: Access and use of ICTs 2019*

About 20 percent of individuals with a disability watched TV compared to 23.7 percent for those without a disability (Figure 3.56).

**Figure 3.56: Proportion of Individuals Watching TV with or without Disability, ICT 2019**

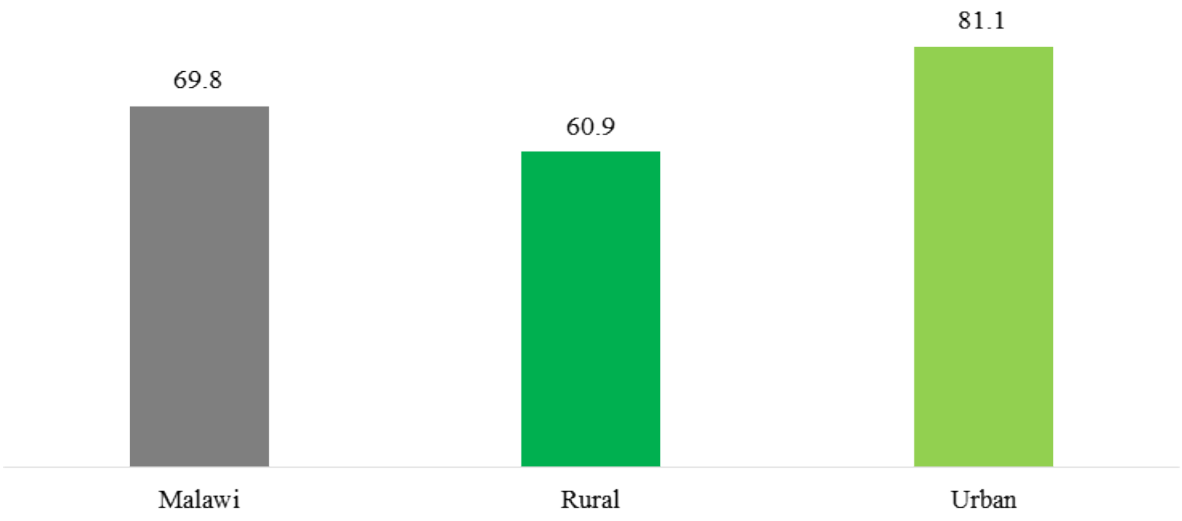



*Source: National Statistical Office: Access and use of ICTs 2019*

### 3.6.2 Individuals Watching Local TV stations

The survey results show that viewership for local TV stations was at 69.8 percent. By place of residence, 81.1 percent of the individuals in urban areas watched local TV compared to 60.9 percent in rural areas (Figure 3.57).

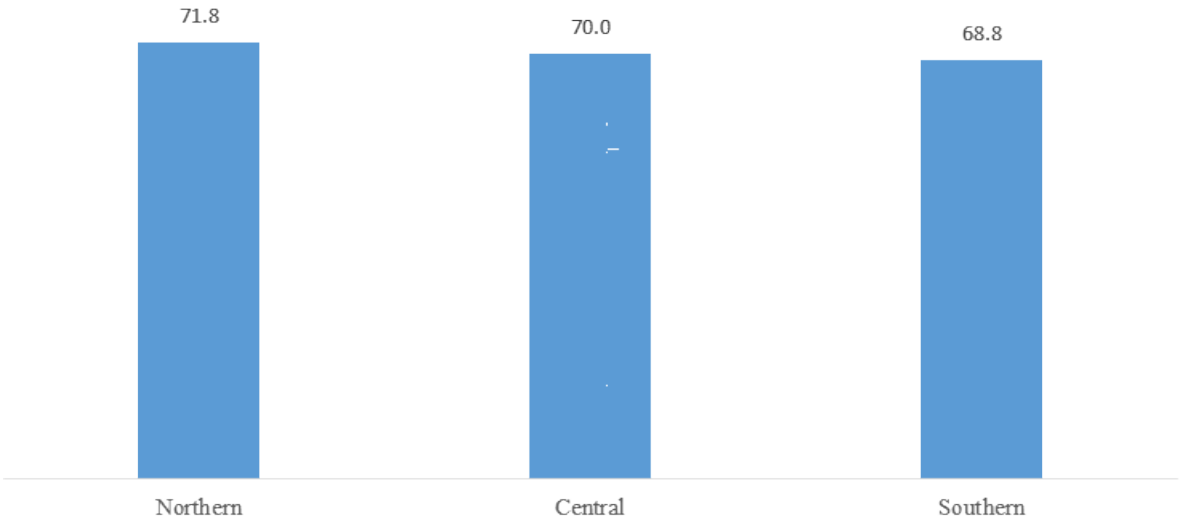
**Figure 3.57: Proportion of Individuals Watching Local TV Stations by Place of Residence, ICT 2019**




*Source: National Statistical Office: Access and use of ICTs 2019*

At regional level, Northern region had the highest proportion of individuals that watched local TV stations (71.8 percent) followed by Central region (70.0 percent) and Southern region (68.8 percent) (Figure 3.58).

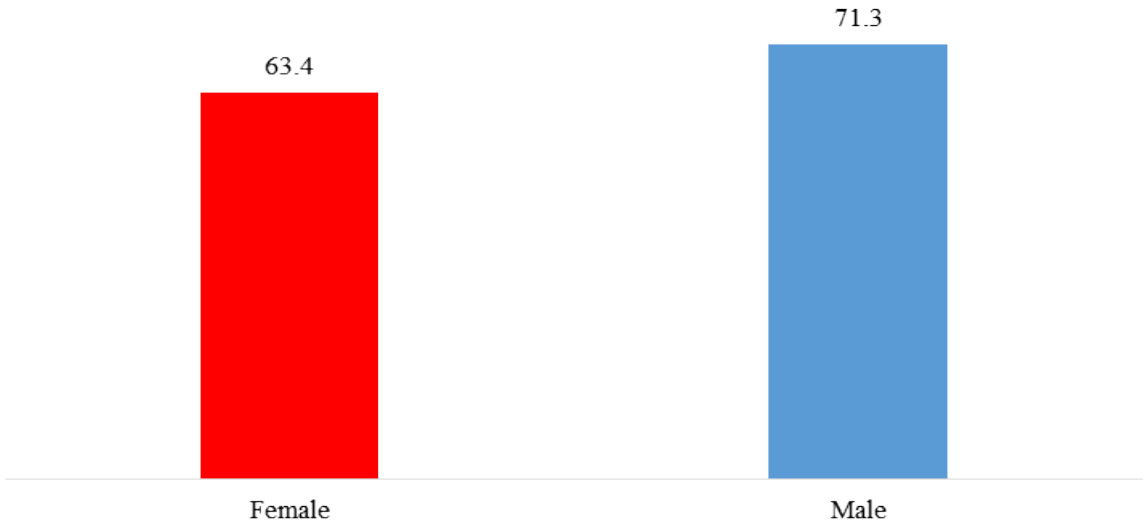
**Figure 3.58: Proportion of Individuals Watching Local TV Stations by Region, ICT 2019**




*Source: National Statistical Office: Access and use of ICTs 2019*

Analysis by sex shows that 71.3 percent of males watched local TV stations compared to 63.4 percent of females (Figure 3.59).

**Figure 3.59: Proportion of Individuals Watching Local TV Stations by Sex, ICT 2019**

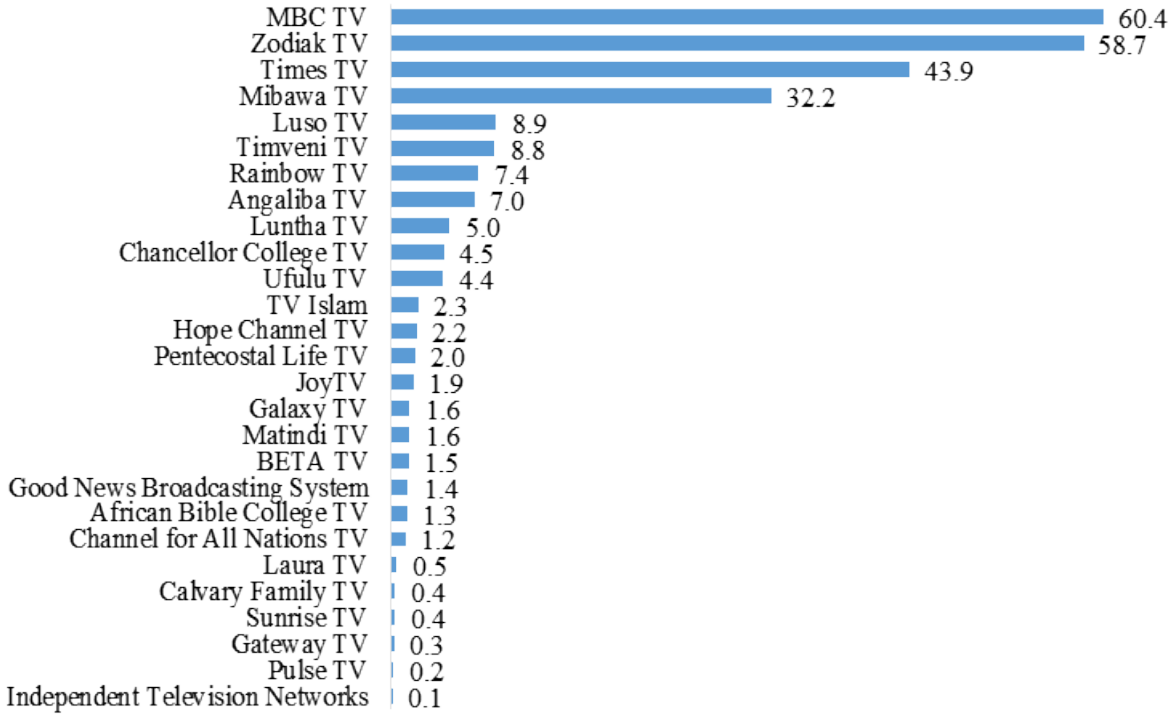



*Source: National Statistical Office: Access and use of ICTs 2019*

### 3.6.3 Television Viewership by TV Station

Individuals were asked to mention which local TV stations they watched. It is important to note that the survey allowed an individual to mention more than one local TV station in their responses. The survey results show that MBC TV was the most watched station (60.4 percent) followed by Zodiak TV (58.7 percent), Times TV (43.9 percent) and Mibawa TV (32.2 percent) (Figure 3.60).

**Figure 3.60: Proportion of Individuals Watching Specific Local TV Stations, ICT 2019**



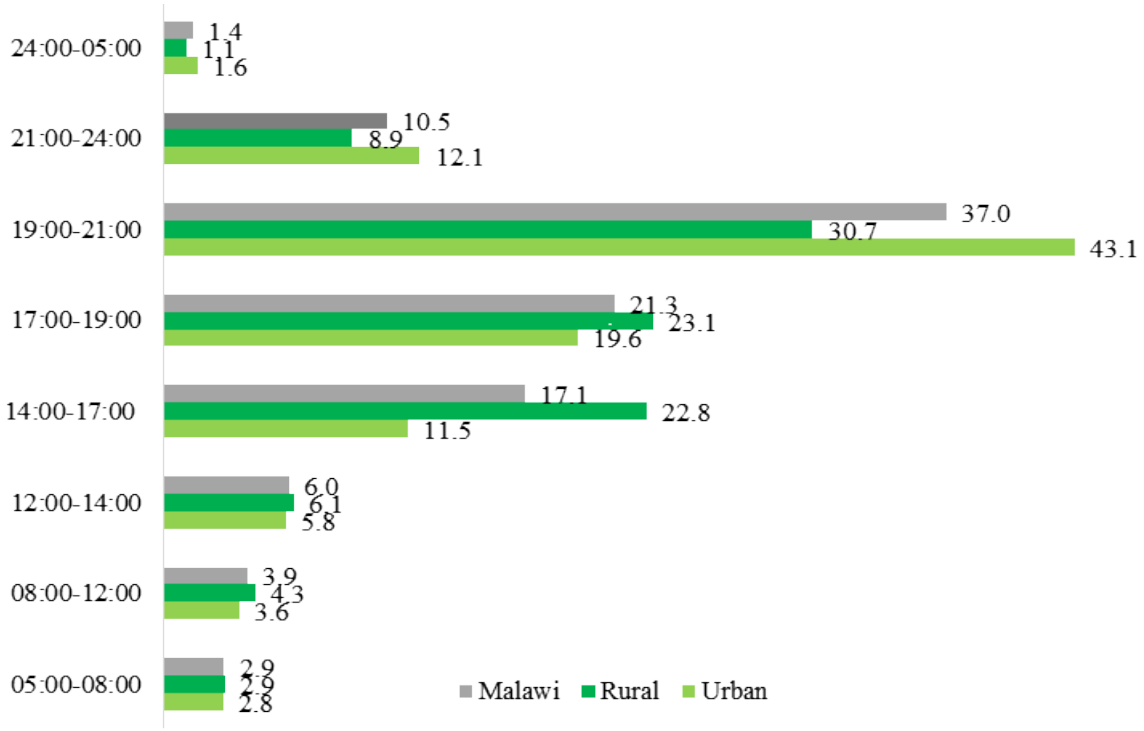

*Source: National Statistical Office: Access and use of ICTs 2019*

### 3.6.4 Times Individuals Watch TV

The survey collected information on the times at which individuals usually watch TV. The highest proportion of individuals (37.0 percent) watched TV from 19:00-21:00 hours followed by 21.3 percent from 17:00-19:00 hours. The least proportion of individuals (1.4 percent) watched TV from 24:00-05:00 hours.

Analysis by place of residence reveals that the highest proportion (43.1 percent) of individuals in urban areas watched TV from 19:00-21:00 hours compared to 30.7 percent of individuals in rural areas (Figure 3.61).

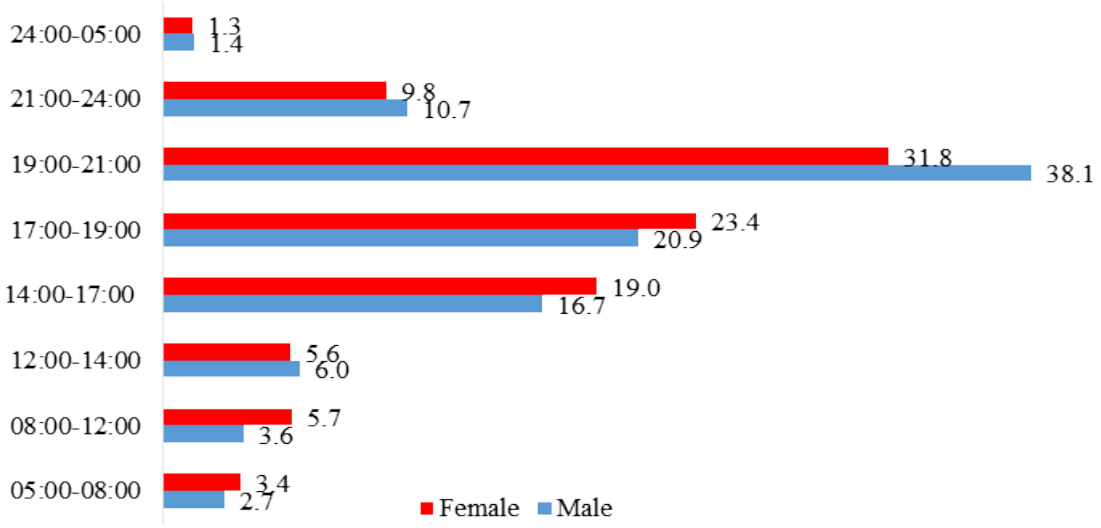
**Figure 3.61: Proportion of Individuals watching TV at Specific Times by Place of Residence, ICT 2019**




*Source: National Statistical Office: Access and use of ICTs 2019*

Analysis by sex shows that TV viewership peaked from 19:00 to 21:00 hours with a higher proportion (38.1 percent) of males who reported having watched TV compared to 31.8 percent of females during this time (Figure 3.62).

**Figure 3.62: Proportion of Individuals Watching TV at Specific Times Sex, ICT 2019**

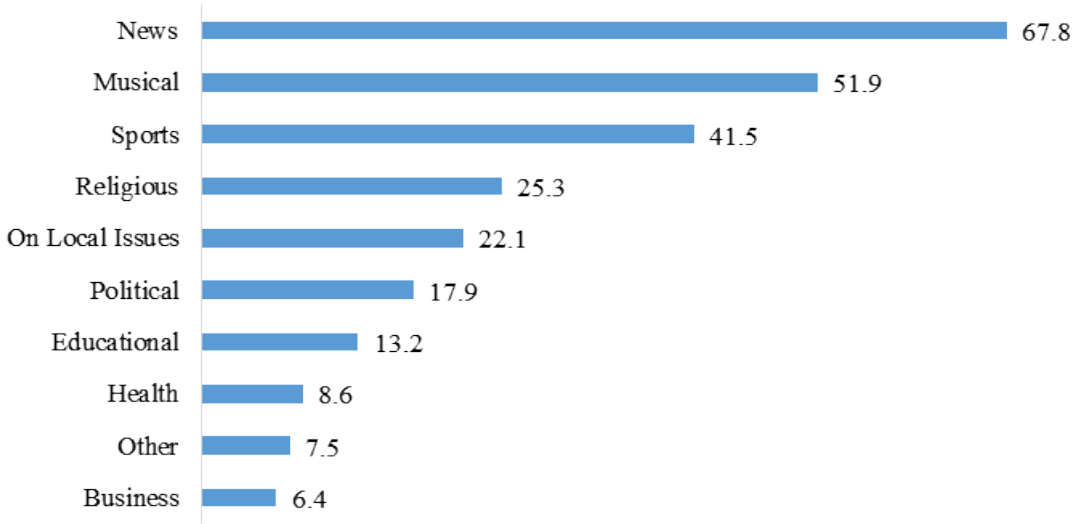



*Source: National Statistical Office: Access and use of ICTs 2019*

### 3.6.5 Most Viewed TV programs

The most viewed TV program by individuals was news (67.8 percent) followed by musical programs (51.9 percent) and sports (41.5 percent). The least viewed TV program was business (6.4 percent) (Figure 3.63).

**Figure 3.63: Proportion of Individuals Watching TV by Programs, ICT 2019**

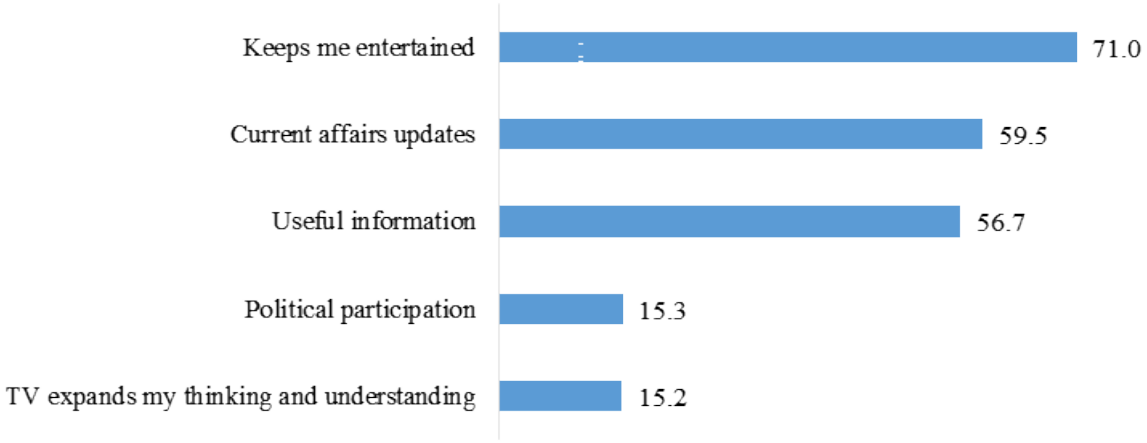



*Source: National Statistical Office: Access and use of ICTs 2019*

### 3.6.6 Reasons for Watching TV

The survey results show that individuals mostly watched TV to be entertained with a proportion of 71.0 percent followed by the need to get current affairs updates (59.5 percent) and to get useful information (56.7 percent). The least proportion (15.2 percent) mentioned that they watched TV to expand their thinking and understanding (Figure 3.64).

**Figure 3.64: Proportion of Individual by Reasons for watching TV, ICT 2019**

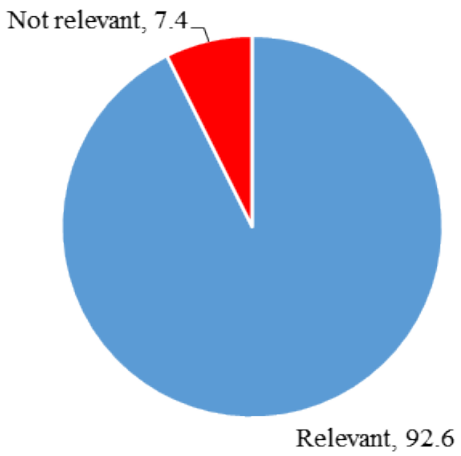



*Source: National Statistical Office: Access and use of ICTs 2019*

### 3.6.7 Perception on TV Content

The survey looked at the perception of individuals on relevance of TV content. About 93 percent of individuals reported that the content on TV was relevant (Figure 3.65).

**Figure 3.65: Percentage Distribution of Individuals' Perception on TV Content, ICT 2019**

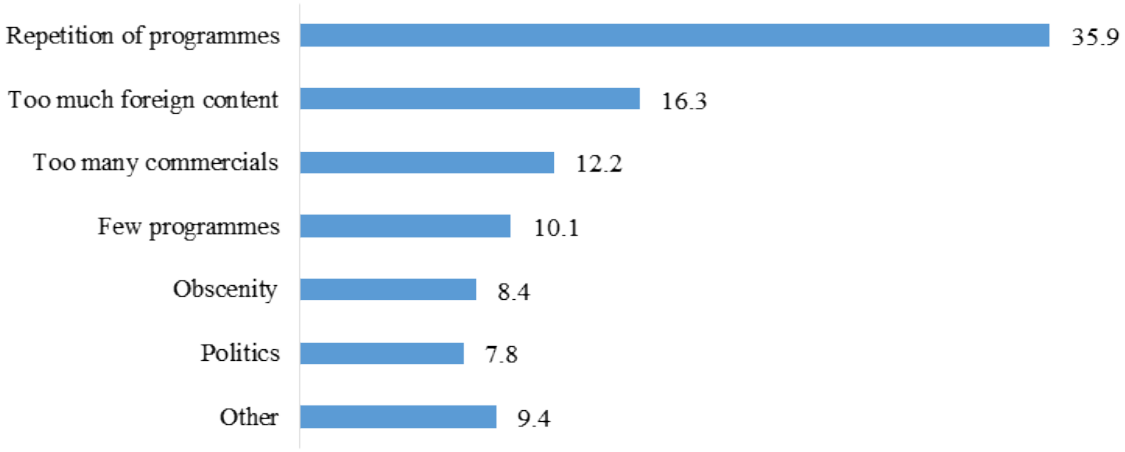



*Source: National Statistical Office: Access and use of ICTs 2019*

### 3.6.8 Reasons TV Content Not Relevant

The survey wanted to find out why TV content was not relevant to some individuals. About 36 percent of individuals cited repetition of programmes as the main reason TV content was irrelevant followed by 16.3 percent who cited too much foreign content. The least proportion (7.8 percent) indicated politics as a reason for finding TV content to be irrelevant (Figure 3.66).

**Figure 3.66: Proportion of Individuals' Reasons Why TV Content is Irrelevant, ICT 2019**

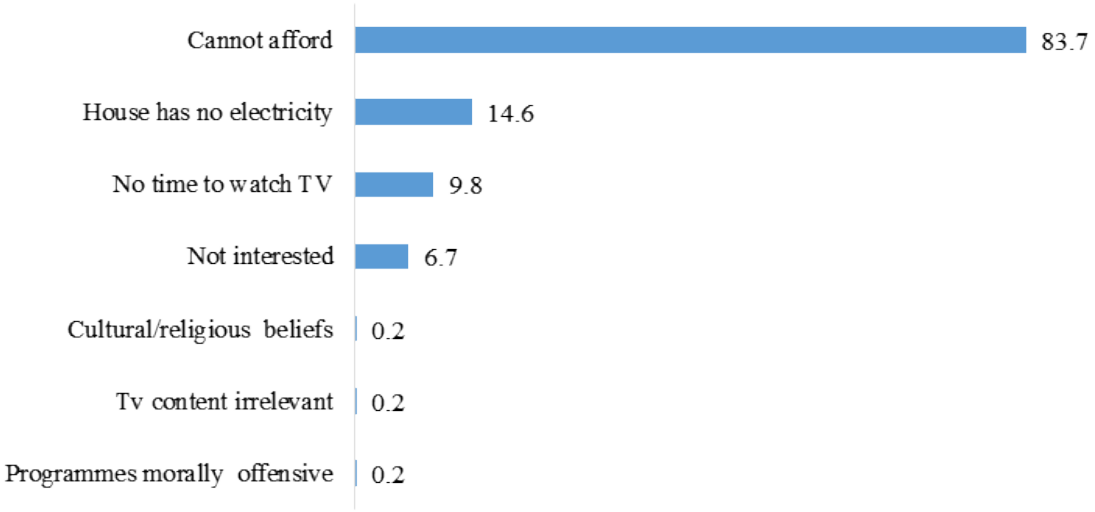



*Source: National Statistical Office: Access and use of ICTs 2019*

### 3.6.9 Reasons for not watching TV

The survey looked at the reasons for not watching TV as reported by individuals who did not watch TV. The results show that the most common reason was that they could not afford to buy a TV set (83.7 percent) followed by lack of electricity (14.6 percent), then 9.8 percent of individuals had no time to watch TV (Figure 3.67).

**Figure 3.67: Proportion of Individual Reasons for not Watching TV, ICT 2019**




*Source: National Statistical Office: Access and use of ICTs 2019*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# CHAPTER 4
## ACCESS AND USE OF POSTAL SERVICES BY INDIVIDUALS

### 4.1 Introduction

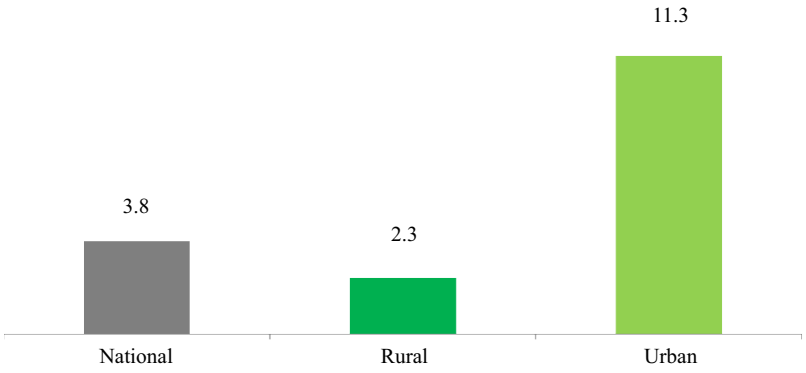
This chapter presents information on the access and use of postal services in Malawi. The survey defined postal services as any system for the collection, dispatch, conveyance, handling and delivery of letters, postcards, printed papers, commercial papers, samples, parcels or other similar articles. Unlike postal services, courier services refer to the fast or quick, door to door pickup and delivery service for goods or documents. The survey sought to establish if individuals accessed or used postal services in the last twelve months prior to the survey.

### 4.2 Access and Use of Postal Services by Individuals

#### 4.2.1 Individual Use of Postal Services

Overall results show that 3.8 percent of individuals accessed any postal services. Analysis by place of residence shows a higher proportion (11.3 percent) of individuals who accessed postal services was from urban areas than the proportion from rural areas (2.3 percent) (Figure 4.1).

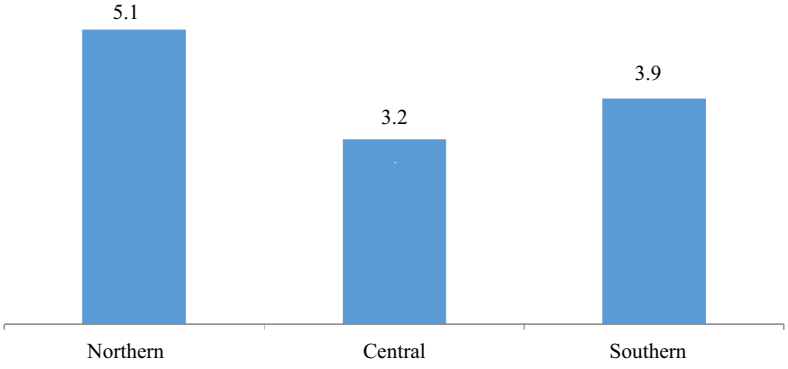
**Figure 4.1: Proportion of Individuals Accessing Postal Services by Place of Residence, ICT 2019**




*Source: National Statistical Office: Access and use of ICTs 2019*

At regional level, 5.1 percent of individuals in the Northern region reported to have accessed postal services followed by 3.9 percent in the Southern region and 3.2 percent in the Central region (Figure 4.2).

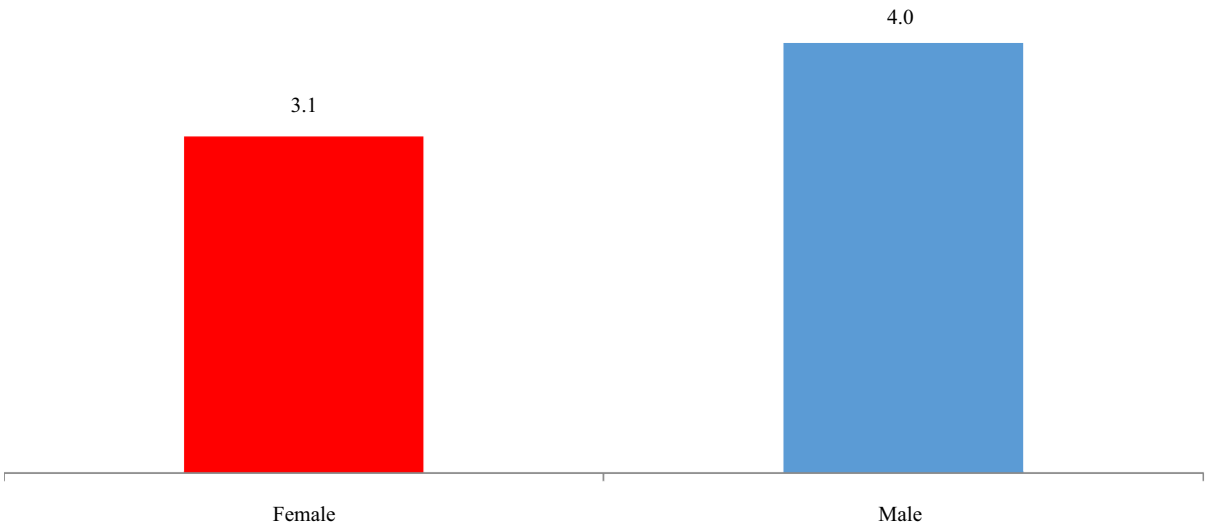
**Figure 4.2: Proportion of Individuals Accessing Postal Services by Region, ICT 2019**




*Source: National Statistical Office: Access and use of ICTs 2019*

Analysis by sex shows that 3.1 percent of females reported to have accessed postal services compared to 4.0 percent of males (Figure 4.3).

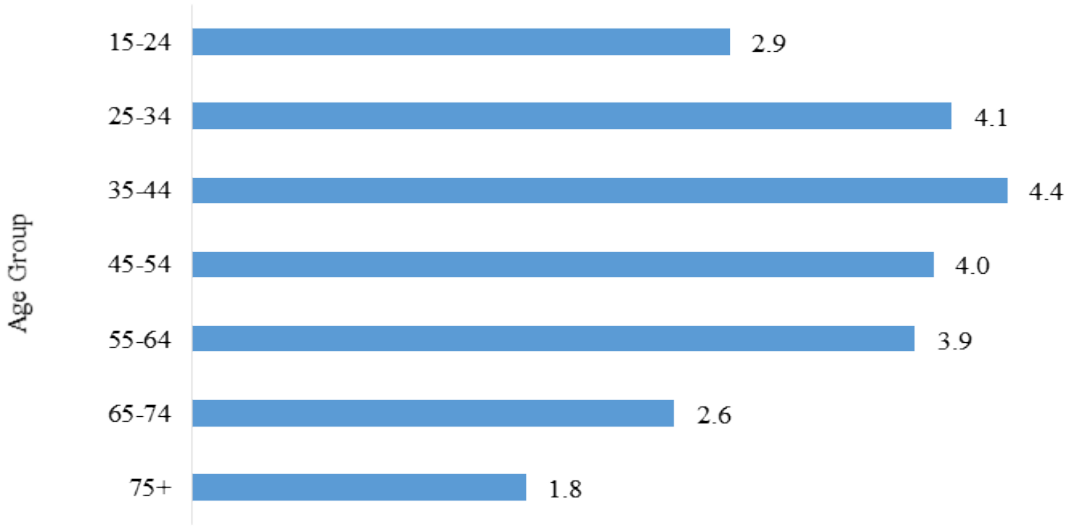
**Figure 4.3: Proportion of Individuals Accessing Postal Services by Sex, ICT 2019**




*Source: National Statistical Office: Access and use of ICTs 2019*

In terms of age, 4.4 percent of the individuals who accessed postal services were in the age group 35-44 years followed by those in the age groups 25-34 years (4.1 percent) and 45-54 years (4.0 percent). Individuals in the age group of 75 years and above reported the lowest proportion (1.8 percent) (Figure 4.4).

**Figure 4.4: Proportion of Individuals Accessing Postal Services by Age Group, ICT 2019**

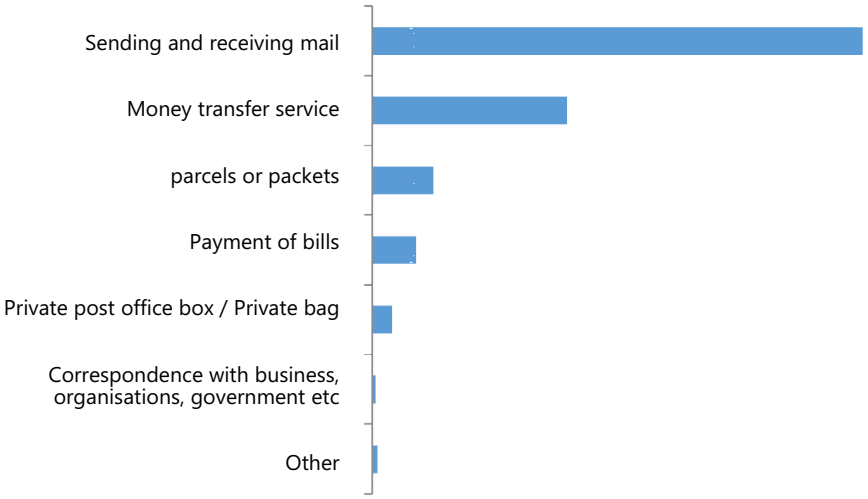



*Source: National Statistical Office: Access and use of ICTs 2019*

### 4.2.2 Type of Postal Services Accessed

The analysis indicates that of those individuals that accessed postal services, 67 percent sent and received mail followed by 26.7 percent who used money transfer services. The least proportion (0.5 percent) of individuals accessed postal services for business correspondence (Figure 4.5).

**Figure 4.5: Proportion of Individuals Accessing Postal Services by Type of Service, ICT 2019**

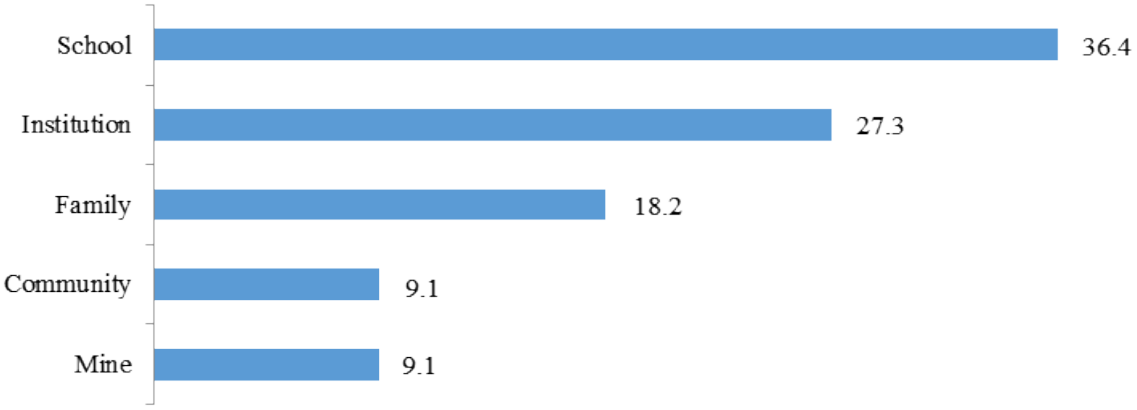



*Source: National Statistical Office: Access and use of ICTs 2019*

### 4.2.3 Access to Post Office Box Used

Individuals were asked to indicate the owner of the Post Office Box that they reported to have used. The highest proportion (36.4 percent) of individuals used a school Post Office Box, followed by 27.3 percent that used an institutional Post Office Box. The least proportion of individuals used their own Post Office Box and a community Post Office Box (9.1 percent each) (Figure 4.6).

**Figure 4.6: Proportion of Individuals with Access to Post Office Box Used, ICT 2019**

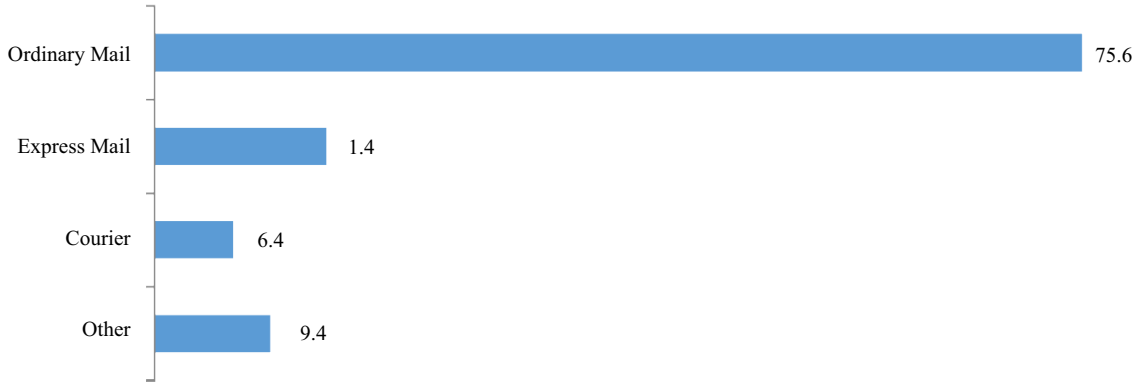



*Source: National Statistical Office: Access and use of ICTs 2019*

### 4.2.4 Type of Postal Service used when Sending Mail

Individuals were asked to mention the service they used when sending mail. It is important to note that individuals were allowed to mention all the services they used. The analysis indicates that 75.6 percent of individuals used ordinary mail service followed by 14.0 percent that used express mail service and 6.4 percent that used courier service (Figure 4.7).

**Figure 4.7: Proportion of Individuals Accessing Postal Services by Type of Service, ICT 2019**

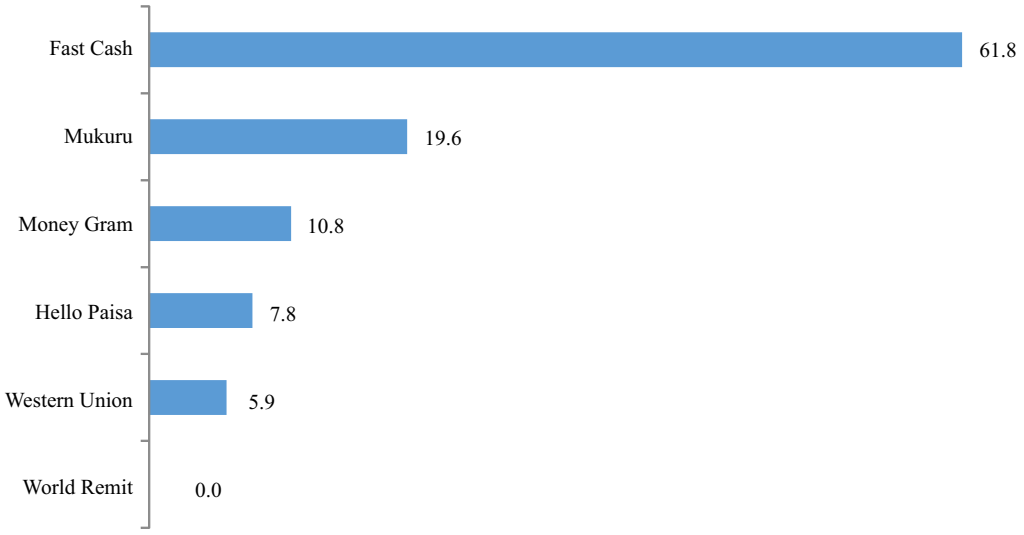



*Source: National Statistical Office: Access and use of ICTs 2019*

### 4.2.5 Type of Money Transfer Service at the Post Office

Individuals who indicated to have used money transfer services at the post office were further asked to mention the type of money transfer service they used. About 62 percent of individuals used Fast Cash, followed by Mukuru (19.6 percent). The least proportion of individuals (5.9 percent) used Western Union (Figure 4.8).

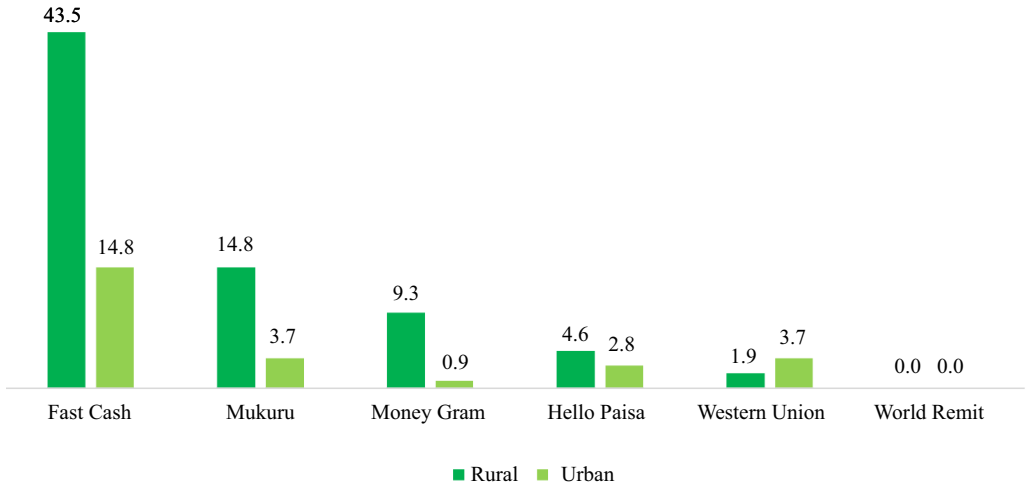
**Figure 4.8: Proportion of Individuals Accessing Postal Services by Type of Money Transfer Service, ICT 2019**




*Source: National Statistical Office: Access and use of ICTs 2019*

Analysis by place of residence shows that 43.5 percent of individuals living in the rural areas sent money via Fast Cash followed by Mukuru (14.8 percent) and Money gram (9.3 percent). Urban residents mostly used Fast cash (14.8 percent) to send money followed by Mukuru and Western Union (3.7 percent each) (Figure 4.9).

**Figure 4.9: Proportion of Individuals Accessing Money Transfer Services by Place of Residence, ICT 2019**

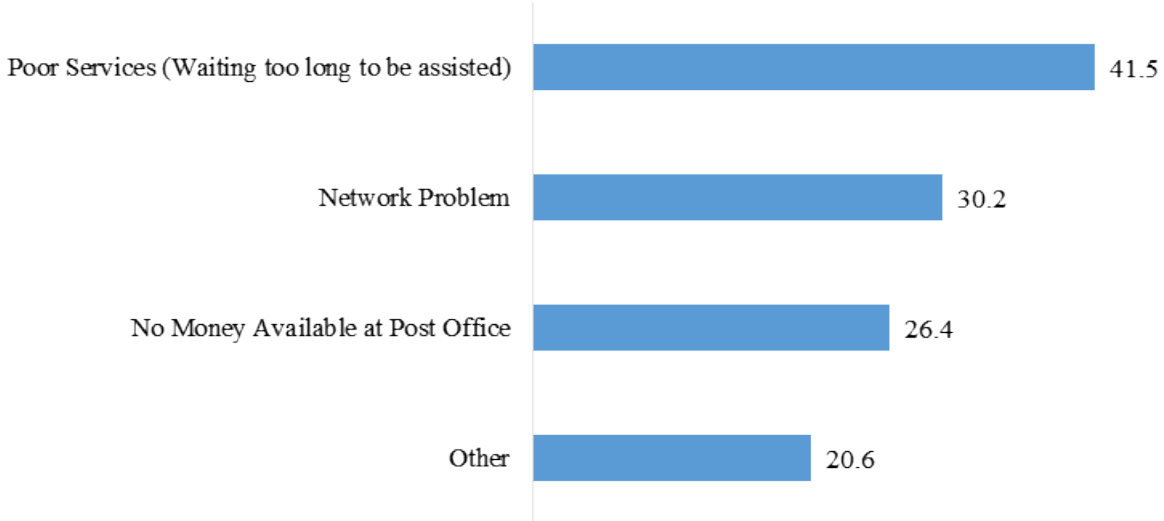



*Source: National Statistical Office: Access and use of ICTs 2019*

### 4.2.6 Challenges Faced when using Money Transfer Services

Individuals were asked to state the challenges faced when using money transfer services. About 42 percent of individuals indicated that poor services (waiting for too long to be assisted) as the main challenge, 30.2 percent of individuals indicated network challenges while 26.4 percent indicated unavailability of money at post offices (Figure 4.10).

**Figure 4.10: Proportion of Individuals Facing Challenges when using Money Transfer Service by Reason, ICT 2019**

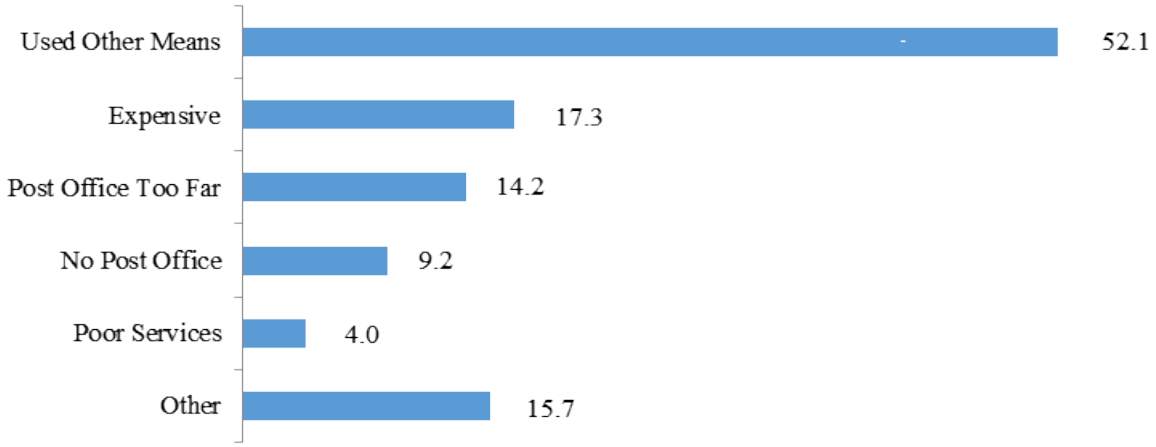



*Source: National Statistical Office: Access and use of ICTs 2019*

### 4.2.7 Reasons for not using Postal Services

Individuals that did not use postal services were asked to provide reasons for not using these services. About 52 percent of individuals indicated that they used other means, 17.3 percent specified that postal services were expensive while 14.2 percent stated that Post Office was too far. About 9 percent of the individuals reported that there was no post office in their area (Figure 4.11).

**Figure 4.11: Proportion of Individuals not Accessing any Postal Services by Reasons, ICT 2019**

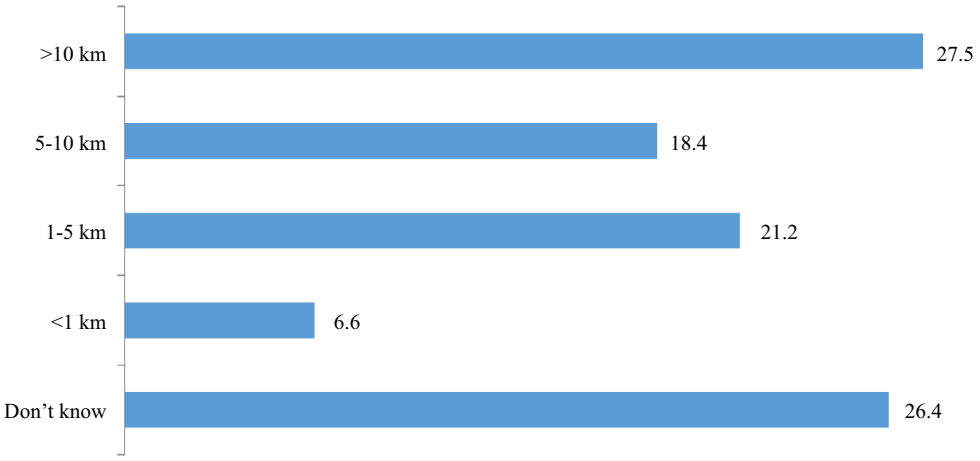



*Source: National Statistical Office: Access and use of ICTs 2019*

### 4.2.8 Distance to Nearest Post Office

The survey results show that 27.5 percent of the individuals reported that the nearest post office was located more than 10 km away followed by 21.2 percent that reported 1 to 5 km away and then 18.4 percent that reported 5 to 10 km away from where they stayed. The lowest proportion (6.6 percent) reported that the nearest post office was located less than a kilometer away from where they stayed (Figure 4.12).

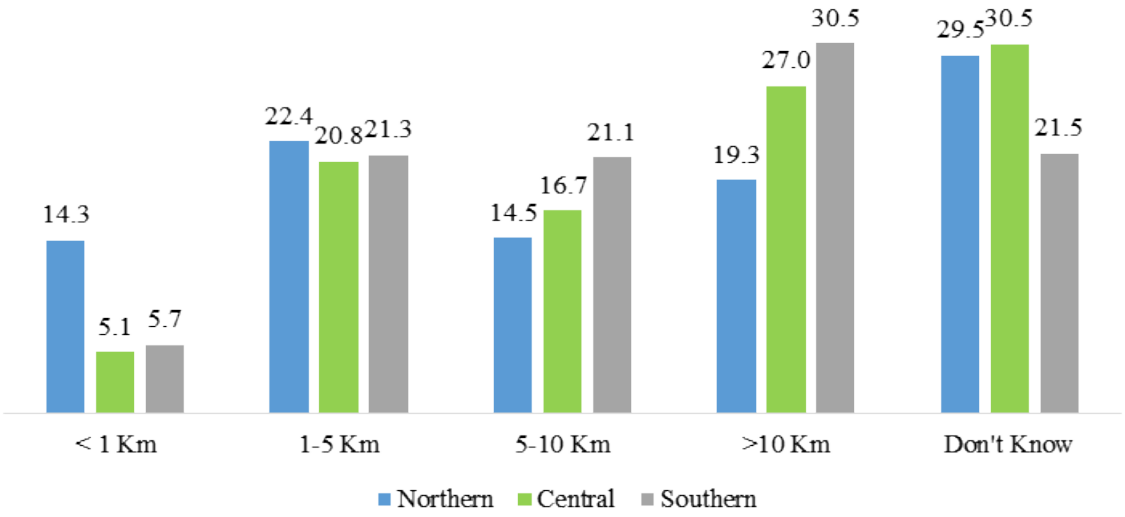
**Figure 4.12: Percentage Distribution of Individuals by Distance to the Nearest Post Office, ICT 2019**




*Source: National Statistical Office: Access and use of ICTs 2019*

Regionally, 30.5 percent of individuals in the Southern region reported that the nearest post offices were located over 10 kilometres away from where they stayed compared to 27.0 percent in the Central region and 19.3 percent in the Northern region (Figure 4.13).

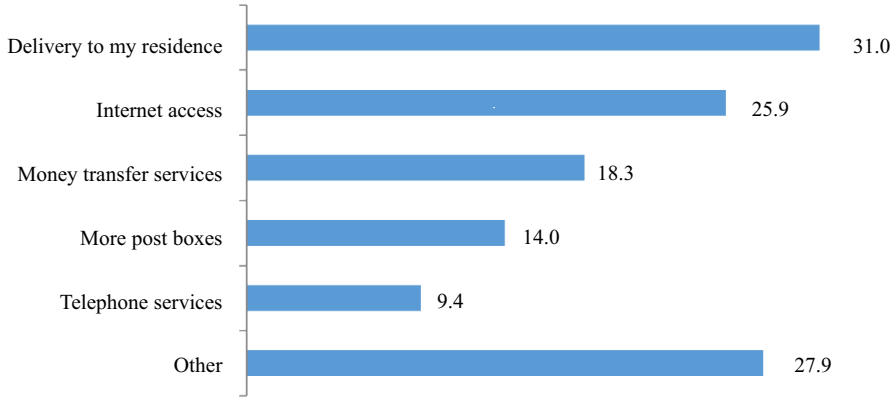
**Figure 4.13: Percentage Distribution of Individuals by Distance to Nearest Post Office by Region, ICT 2019**




*Source: National Statistical Office: Access and use of ICTs 2019*

### 4.2.9 Proposed Services to be Added to Local Post Offices

Respondents were also requested to mention some of the services they would like to be added to their local postal services. Nationally, 31.0 percent of the individuals mentioned that they would like to have postal deliveries to homes compared to any other service. About 26 percent of the individuals suggested that the post offices should have internet with 18.3 percent suggesting that the post offices should include money transfer services and 14.0 percent suggesting of having more post office boxes (Figure 4.14).



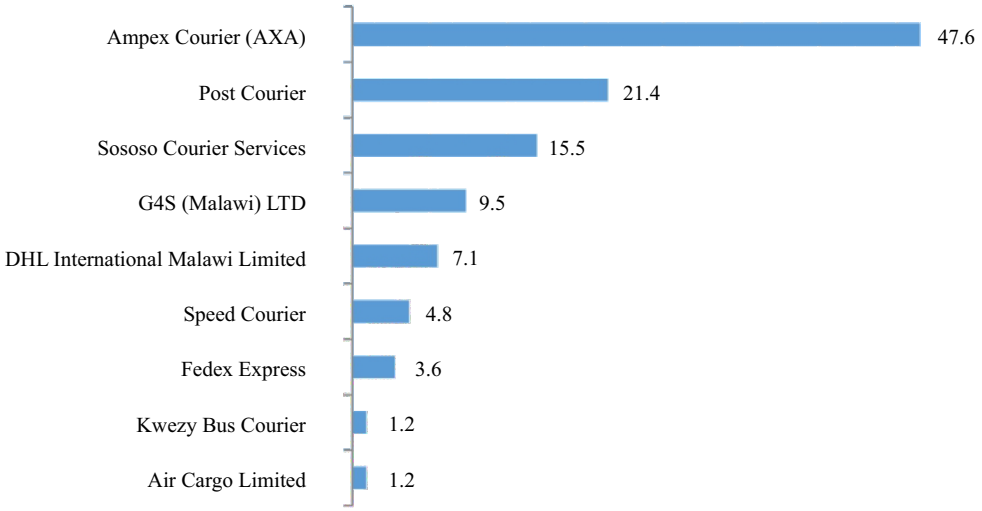

*Source: National Statistical Office: Access and use of ICTs 2019*

## 4.3 Courier Providers

### 4.3.1 Courier Providers Used when Sending Parcels

The survey further looked into the courier providers that individuals used when sending their parcels 12 months prior to the interview. Ampex Courier was the most used courier company (47.6 percent) used by individuals when sending their parcels followed by Post Courier (21.4 percent) and then Sososo Courier (15.5 percent) (Figure 4.15).

**Figure 4.15: Proportion of Individuals by Courier Providers used when Sending Parcels, ICT 2019**

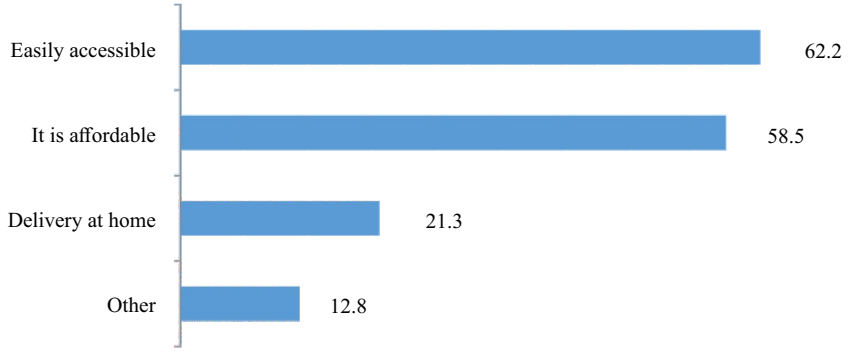



*Source: National Statistical Office: Access and use of ICTs 2019*

### 4.3.2 Reasons for using Courier Providers

The highest proportion of individuals (62.2 percent) reported easy accessibility of courier companies as the main reason for using courier services followed by affordability (58.5 percent) and then delivery of parcels at home (21.3 percent) (Figure 4.16).

**Figure 4.16: Proportion of Individuals using Courier Services by Reasons, ICT 2019**

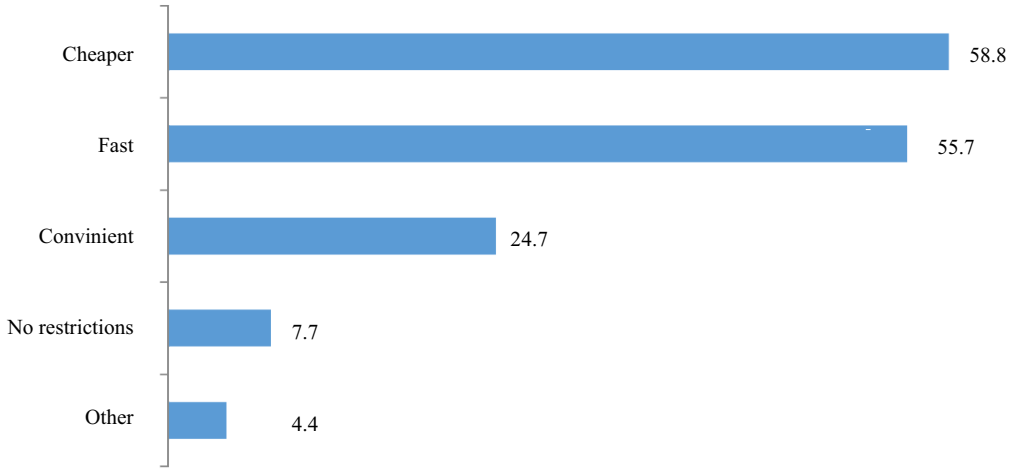



*Source: National Statistical Office: Access and use of ICTs 2019*

### 4.3.3 Reasons for Using Other Means for Sending Parcels

Individuals that used other means of sending their parcels such as friends or minibus drivers were further asked to mention the reasons for using such means. About 59 percent of individuals mentioned that other means of sending parcels was cheap, 55.7 percent mentioned that it was the faster means of sending parcels and 24.7 percent mentioned that it was a convenient way of sending their parcels (Figure 4.17).

**Figure 4.17: Proportion of Individuals by Reasons for using Other Means for Sending their Parcels, ICT 2019**




*Source: National Statistical Office: Access and use of ICTs 2019*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# CHAPTER 5
## ACCESS AND USE OF DIGITAL FINANCIAL SERVICES BY INDIVIDUALS

### 5.1 Introduction

The rapid developments in online services and use of mobile based unstructured supplementary service data (USSD), a communication protocol used by Global System for Mobile Communications (GSM) telephones to communicate with the mobile networks operator's computers, have led to a surge in the provision of digital financial services (DFS) in the world. DFS have over the recent past increased as a means of enhancing financial inclusion for the marginalized and excluded population in accessing financial services in the world and the country. Government of Malawi has embarked on providing policy and regulatory guidance for the development of the digital financial services through the Ministry of Finance, Economic Planning and Development, Reserve Bank of Malawi, MACRA and other key stakeholders in the financial and communications sectors.

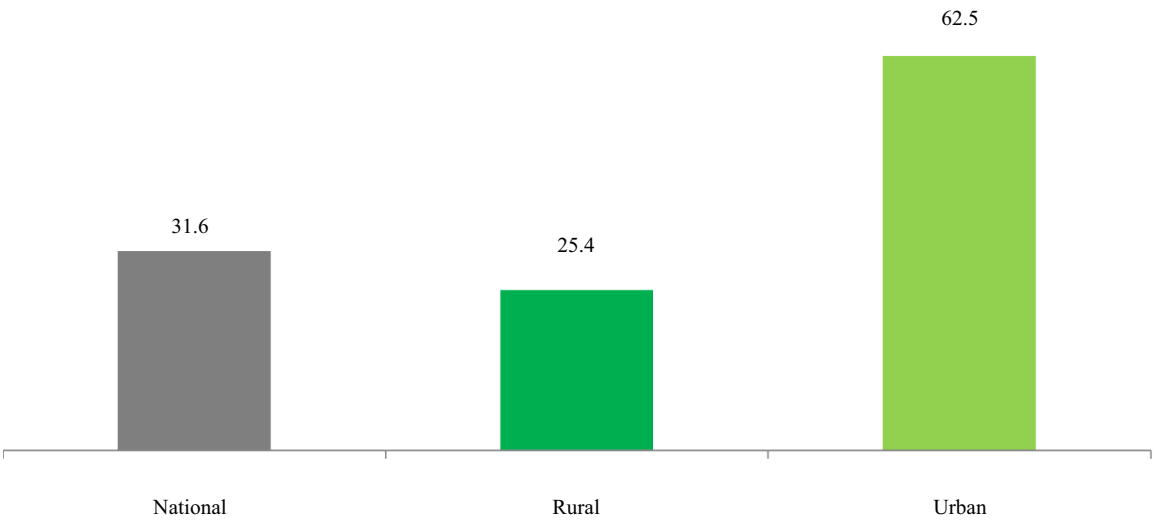
The survey assessed the access and use of digital financial services by individuals in the country. This chapter discusses the level of access and use of digital financial services by individuals in Malawi. Information presented in this chapter is disaggregated by region and in some instances further analysis is provided across various demographic and socio-economic characteristics.

### 5.2 Use of Digital Financial Services

#### 5.2.1 Use of different Types of Digital Financial Services

The survey results indicate that 31.6 percent of the individuals in the country used at least a form of digital financial services. Analysis by place of residence shows that 62.5 percent of individuals in urban areas used digital financial services compared to 25.4 percent in rural areas (Figure 5.1).

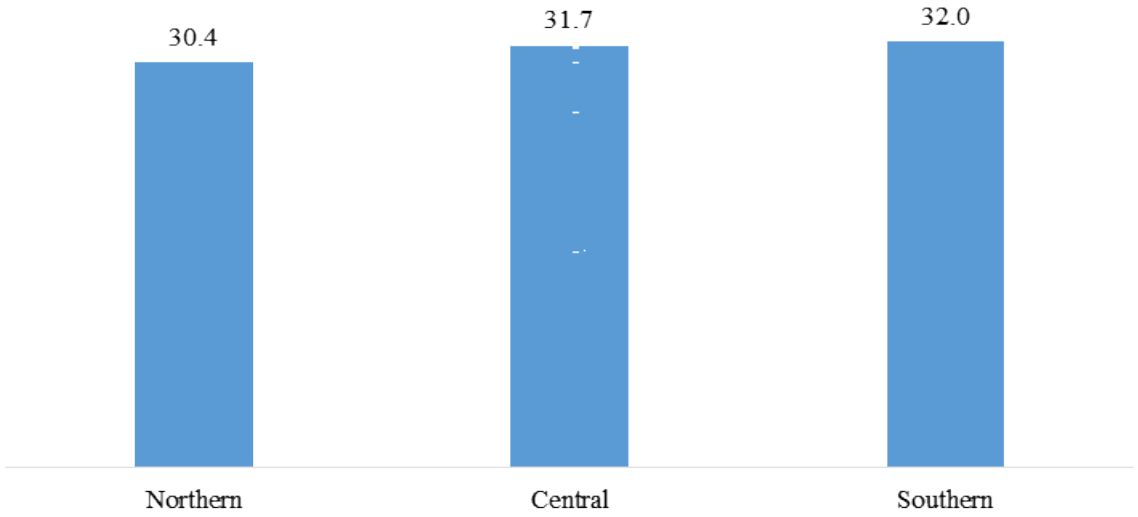
**Figure 5.1: Proportion of Individuals using Digital Financial Services by Place of Residence, ICT 2019**




*Source: National Statistical Office: Access and use of ICTs 2019*

Analysis by region shows that the Southern region had 32.0 percent of individuals who used digital financial services followed by 31.7 percent for the Central region and 30.4 percent for the Northern region (Figure 5.2).

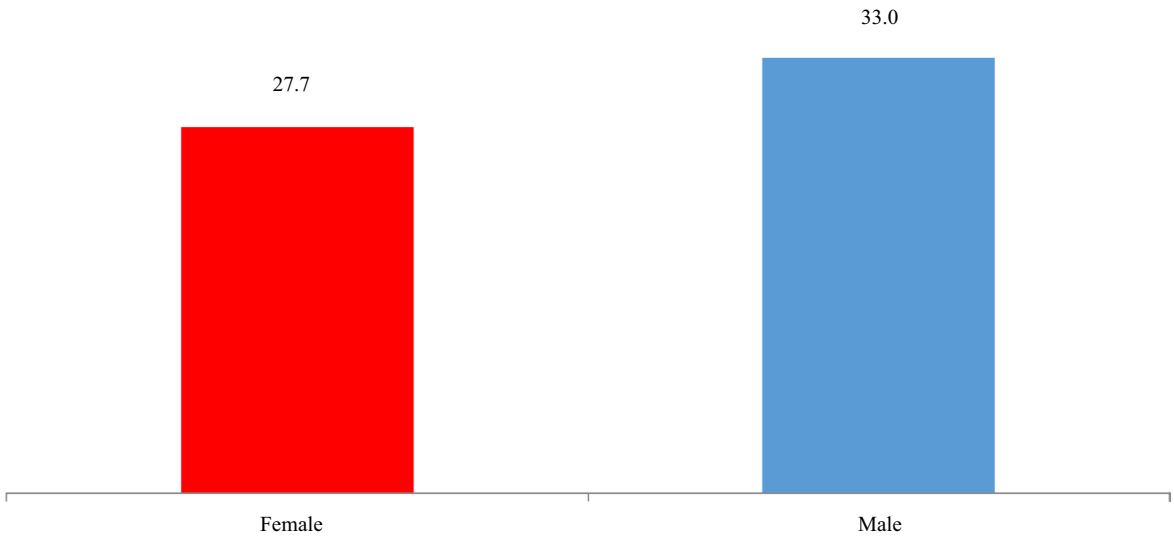
**Figure 5.2: Proportion of Individuals Using Digital Financial Services by Region, ICT 2019**




*Source: National Statistical Office: Access and use of ICTs 2019*

Analysis by sex shows that 33.0 percent of males used digital financial service compared to 27.7 percent of females (Figure 5.3).

**Figure 5.3: Proportion of Individuals using Digital Financial Services by Sex, ICT 2019**

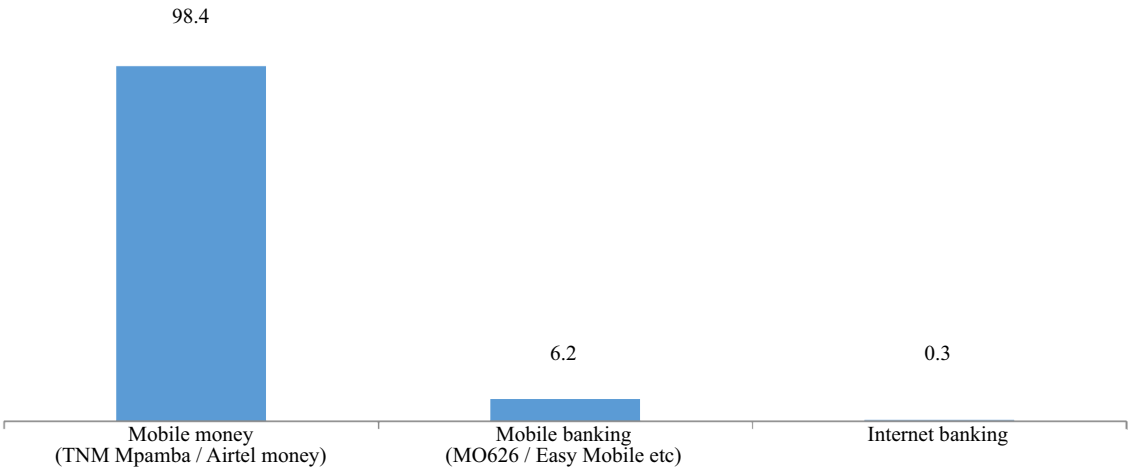



*Source: National Statistical Office: Access and use of ICTs 2019*

### 5.2.2 Types of Digital Financial Services

The survey results indicate mobile money service was the most used type of digital financial service by individuals (98.4 percent) followed by mobile banking (6.2 percent) and then internet banking (0.3 percent) (Figure 5.4).

**Figure 5.4: Proportion of Individuals Using Digital Financial Services by Type, ICT 2019**

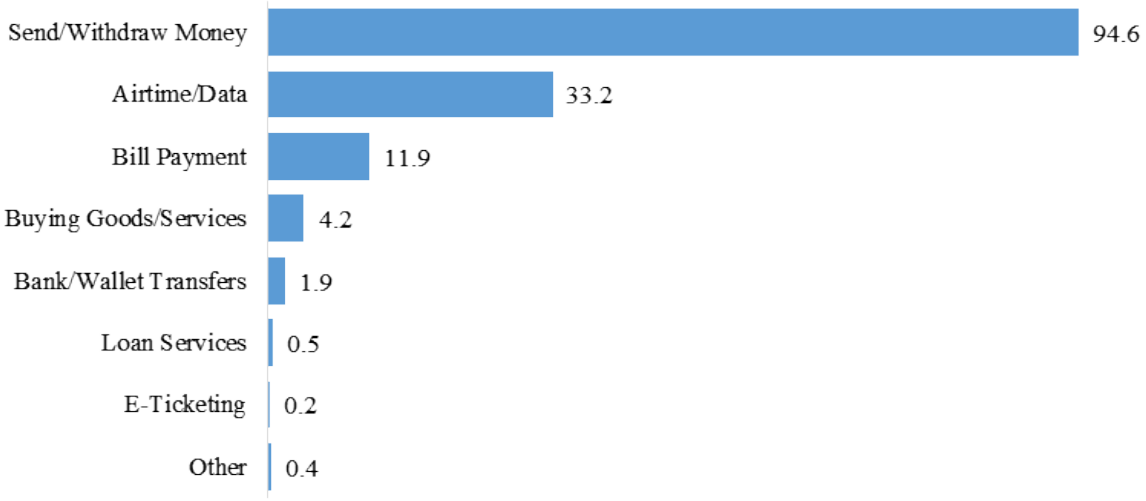



*Source: National Statistical Office: Access and use of ICTs 2019*

### 5.2.3 Services Used on Digital Financial Platforms

The survey looked at the different ways of using the digital financial services by individuals during the period. The most common use of digital financial services in the country was sending or withdrawing money at 94.6 percent (Figure 5.5).

**Figure 5.5: Proportion of Individuals using Digital Financial Services, ICT 2019**

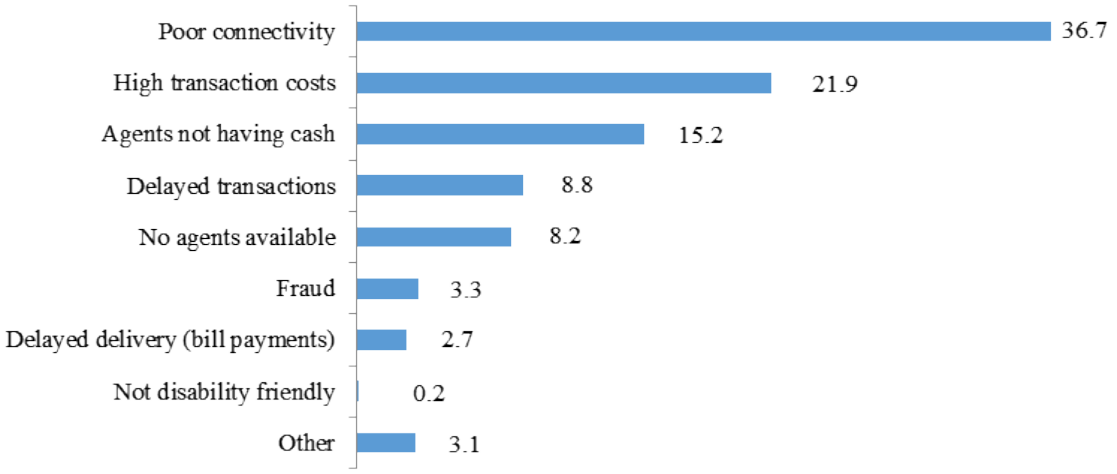



*Source: National Statistical Office: Access and use of ICTs 2019*

### 5.2.4 Challenges Encountered when accessing and using Digital Financial Services

The survey assessed the main challenges that individuals encountered when using digital financial services. Results show that 36.7 percent indicated poor connectivity, 21.9 percent high transaction costs, and 15.2 percent non-availability of cash (Figure 5.6).

**Figure 5.6: Percentage Distribution of Individuals by Challenges Encountered when using Digital Financial Services, ICT 2019**

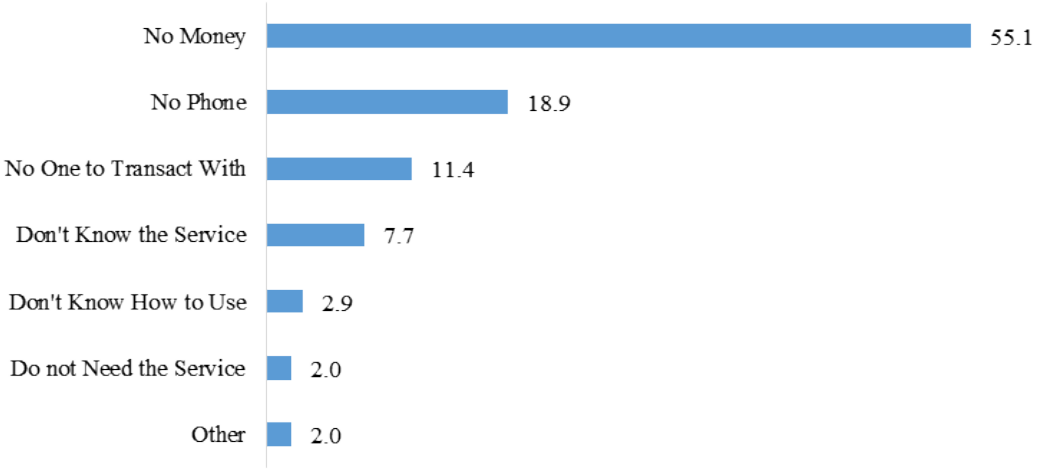



*Source: National Statistical Office: Access and use of ICTs 2019*

### 5.2.5 Reasons for not using Digital Financial Services

The survey looked at the reasons why individuals were not using digital financial services. Largest proportion of individuals (55.1 percent) indicated that they had no money while 18.9 percent indicated that they did not have the phone gadget to transact. About 11percent indicated that they had no one to transact with while the least proportion (2.0 percent) indicated that they did not need the digital financial services (Figure 5.7).

**Figure 5.7: Percentage Distribution of Individuals by Main Reason for not using Digital Financial Services, ICT 2019**

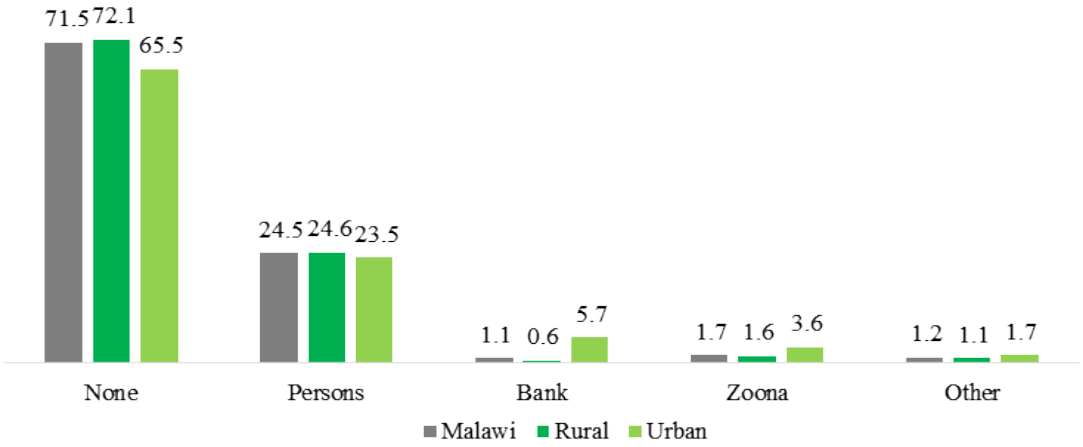



*Source: National Statistical Office: Access and use of ICTs 2019*

### 5.2.6 Other Financial Services used for Sending and Receiving Money

The survey explored the alternative ways individuals who were not using digital financial services in sending or receiving money were using in accessing or using to transact financial services during the period of the survey. About72 percent of individuals countrywide indicated that they did not use any means, 24.5 percent indicated that they preferred using a relative or another person to transact on their behalf and 1.7 percent were using Zoona as a mode of transacting in financial services (Figure 5.8).

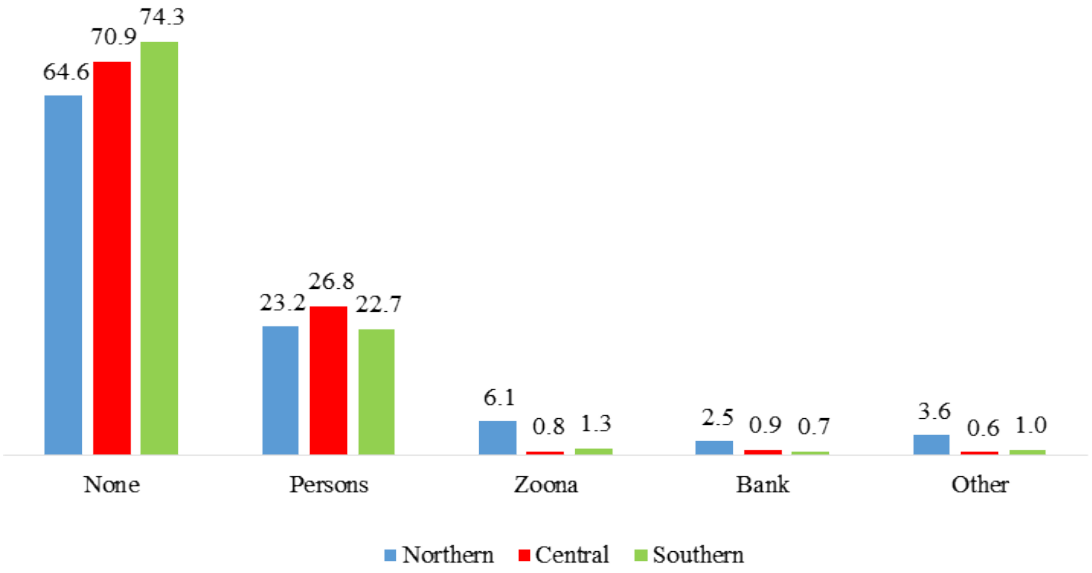
**Figure 5.8: Proportion of Individuals using Other Types of Financial Services by Place of Residence, ICT 2019**




*Source: National Statistical Office: Access and use of ICTs 2019*

Analysis by region shows that 74.3 percent of individuals in the Southern region did not use any other financial services followed 70.9 percent in Central region and 64.6 percent in the Northern region. About 27 percent of individuals in the Central region, 23.2 percent of individuals in the Northern region and 22.7 percent of the individuals in the Southern region indicated that they used other peoples' mobile telephones to access digital financial services (Figure 5.9).

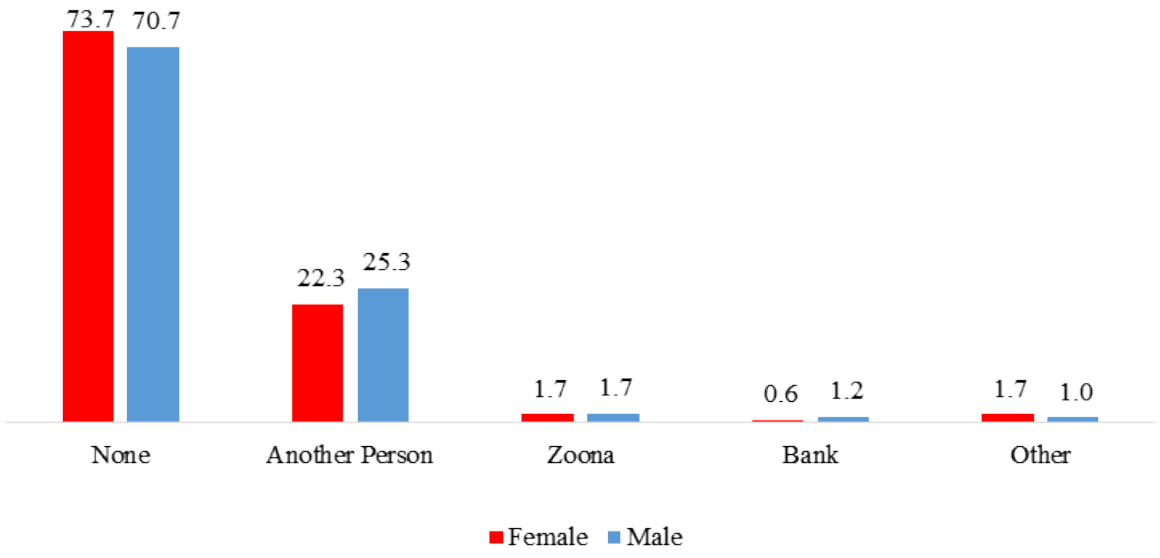
**Figure 5.9: Proportion of Individuals using Other Financial Services by Region, ICT 2019**




*Source: National Statistical Office: Access and use of ICTs 2019*

Analysis by sex shows that 73.7 percent of females did not use any form of digital financial services compared to 70.7 percent of males. About 25 percent of males and 22.3 percent of females used another person to transact for them. Zoona money transfers had the same proportion of males and females using the service (1.7 percent) each while 0.6 percent of females and 1.2 percent of males used banks (Figure 5.10).

**Figure 5.10: Proportion of Individuals using Other Financial Services by Sex, ICT 2019**

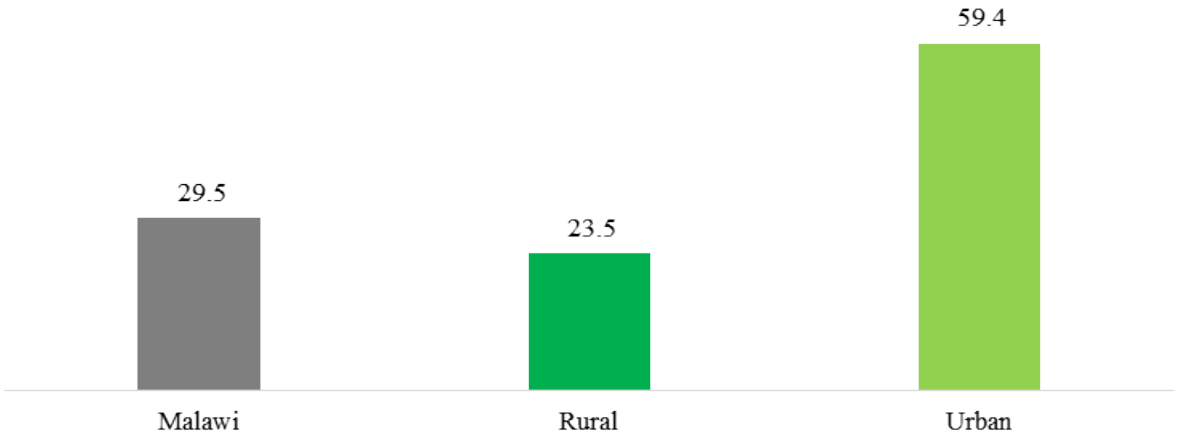



*Source: National Statistical Office: Access and use of ICTs 2019*

## 5.3 Ownership of Mobile Money Accounts

The survey results indicate that 29.5 percent of individuals had a mobile money account. Analysis by place of residence shows that 59.4 percent of individuals in urban areas had a mobile money account compared to 23.5 percent of individuals in rural areas (Figure 5.11).

**Figure 5.11: Proportion of Individuals having a Mobile Money Account by Place of Residence, ICT 2019**



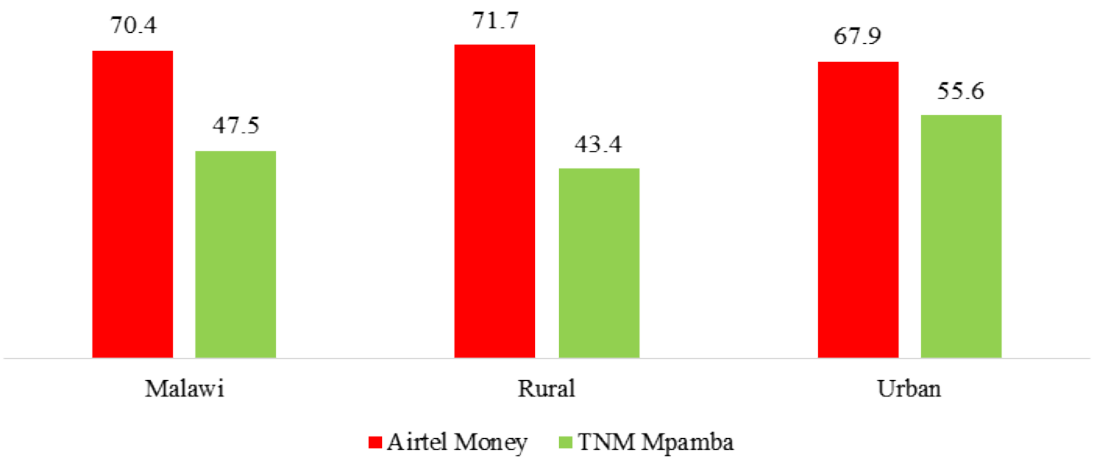

*Source: National Statistical Office: Access and use of ICTs 2019*

### 5.3.1 Type of Mobile Money Account Used by Individuals

The main mobile money accounts used by individuals in Malawi are Airtel Money and TNM Mpamba. Analysis of individuals that were using these mobile money accounts indicates that the proportion of individuals using Airtel Money was higher (70.4 percent) than TNM Mpamba (47.5 percent).

The proportion of individuals using Airtel Money in rural areas was higher (71.7 percent) than 67.9 percent in urban areas. Conversely, the proportion of individuals using TNM Mpamba in urban areas was higher (55.6 percent) compared to 43.4 percent in rural areas (Figure 5.12).

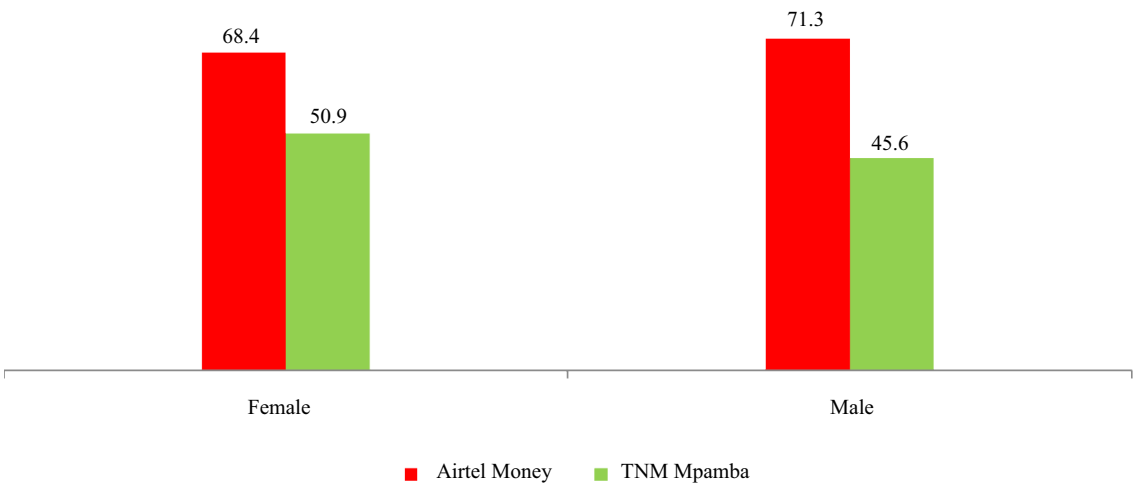
**Figure 5.12: Proportion of Individuals using Mobile Money Account by Place of Residence, ICT 2019**




*Source: National Statistical Office: Access and use of ICTs 2019*

Analysis by sex shows that 71.3 percent of males and 68.4 percent of females used Airtel Money while 45.6 percent of males and 50.9 percent of females were using TNM Mpamba accounts (Figure 5.13).

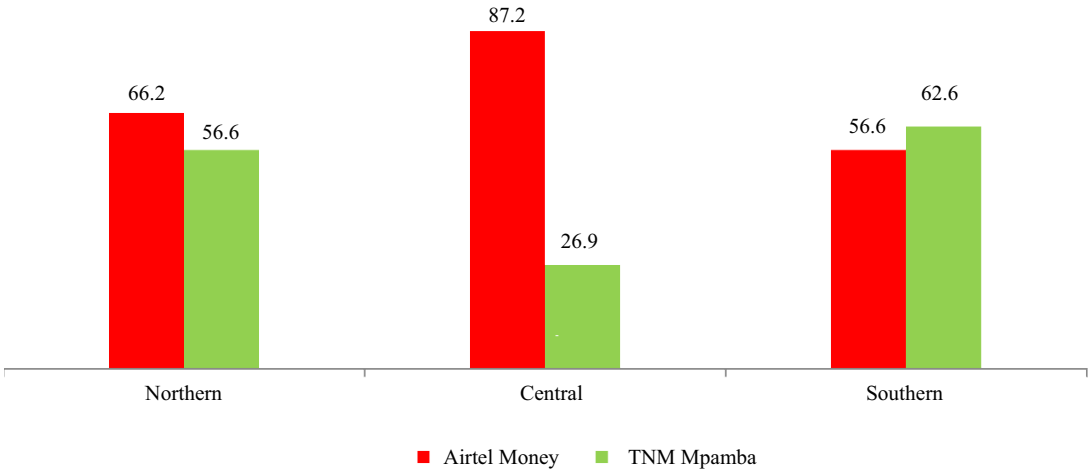
**Figure 5.13: Proportion of Individuals using Mobile Money Account by Sex, ICT 2019**




*Source: National Statistical Office: Access and use of ICTs 2019*

The survey results show that the Central region had the highest proportion of individuals (87.2 percent) who used Airtel Money followed by Northern region (66.2 percent) and Southern region (56.6 percent). The proportion of individuals using TNM Mpamba was highest in the Southern region (62.6 percent followed by 56.6 percent in the Northern region and 26.9 percent in the Central region (Figure 5.14).

**Figure 5.14: Proportion of Individuals using Mobile Money Account by Region, ICT 2019**

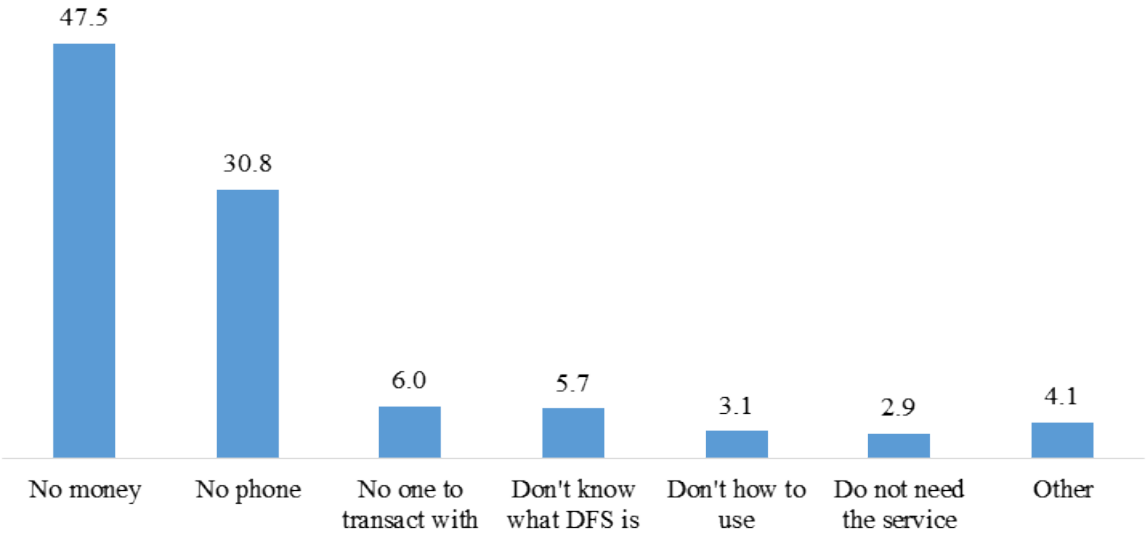



*Source: National Statistical Office: Access and use of ICTs 2019*

### 5.3.2 Reasons for Not Having Mobile Money Account

The survey looked into the reasons that individuals had for not owning or using mobile money account during the period. The highest proportion of individuals (47.5 percent) reported that they did not have money to transact and 30.8 percent of the individuals reported that they did not own a mobile telephone. The least proportion of individuals (2.9 percent) reported that they did not require the digital financial services (Figure 5.15).

**Figure 5.15: Proportion of Individuals by Reasons for not having Mobile Money Account, ICT 2019**




*Source: National Statistical Office: Access and use of ICTs 2019*

# CHAPTER 6
## CYBER SECURITY

### 6.1 Introduction

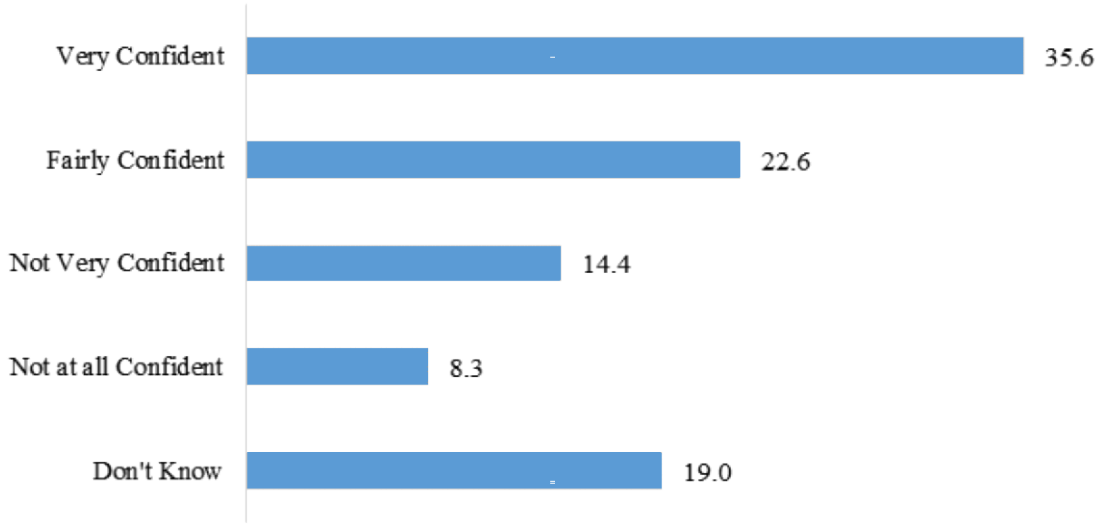
Cyber Security refers to the body of technologies, processes, and practices designed to protect networks, devices, programs and data from attack. It is the practice of defending computers, servers, mobile devices, electronic systems, networks and data from malicious attacks. In 2016, Malawi enacted the Electronic Transactions and Cyber Security Act which is aimed at addressing ICT security issues like cybercrime, data protection and privacy among others. The Act also established the Malawi Computer Emergency Response Team (CERT) which is charged with protecting information infrastructure and serving as a base for national coordination to respond to information and communication technology security threats.

This chapter presents results on knowledge and/or awareness of cyber security and incidents experienced by individuals.

### 6.2 Individuals' Level of Knowledge on Cyber Security

The survey results show that 35.6 percent of individuals were aware and very confident of their knowledge on cyber security. This is followed by 22.6 percent of individuals that reported that they were fairly confident of their knowledge on cyber security. Conversely, 19.0 percent of individuals reported that they did not know anything about cyber security (Figure 6.1).

**Figure 6.1: Percentage Distribution of Individuals' Level of Confidence on Cyber Security Knowledge, ICT 2019**

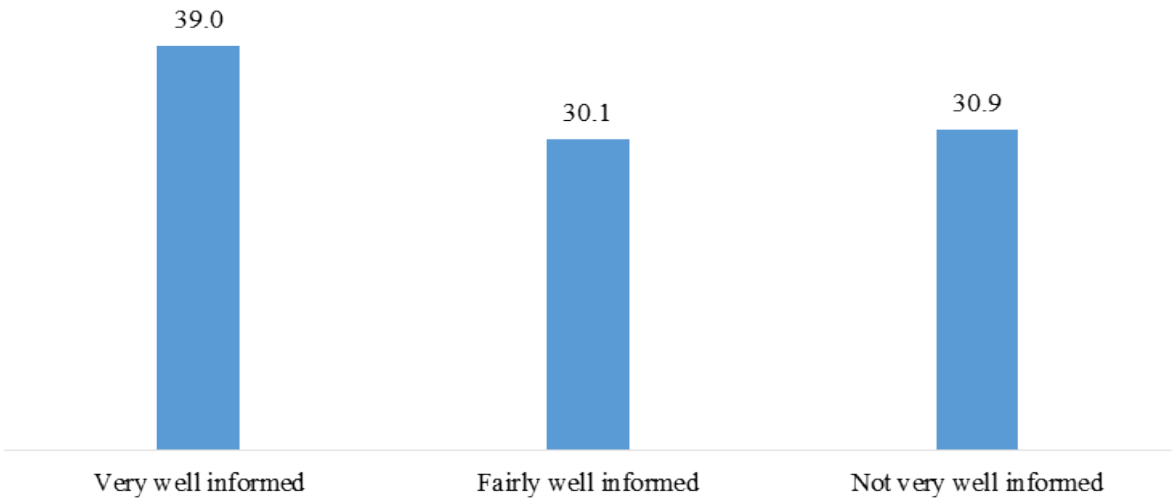



*Source: National Statistical Office: Access and use of ICTs 2019*

### 6.2.1 Individuals' Level of Awareness on Risks of Cybercrime

The survey also sought to establish the level of awareness on cybercrime risks among individuals. The results indicate that 39.0 percent of individuals felt that they were very well informed about risks of cybercrime. About 31 percent of individuals felt that they were not very well informed about risks of cybercrime while 30.1 percent of individuals felt that they were fairly well informed about risks of cybercrime (Figure 6.2).

**Figure 6.2: Percentage Distribution of Individuals' Awareness Levels on Risks of Cybercrime, ICT 2019**

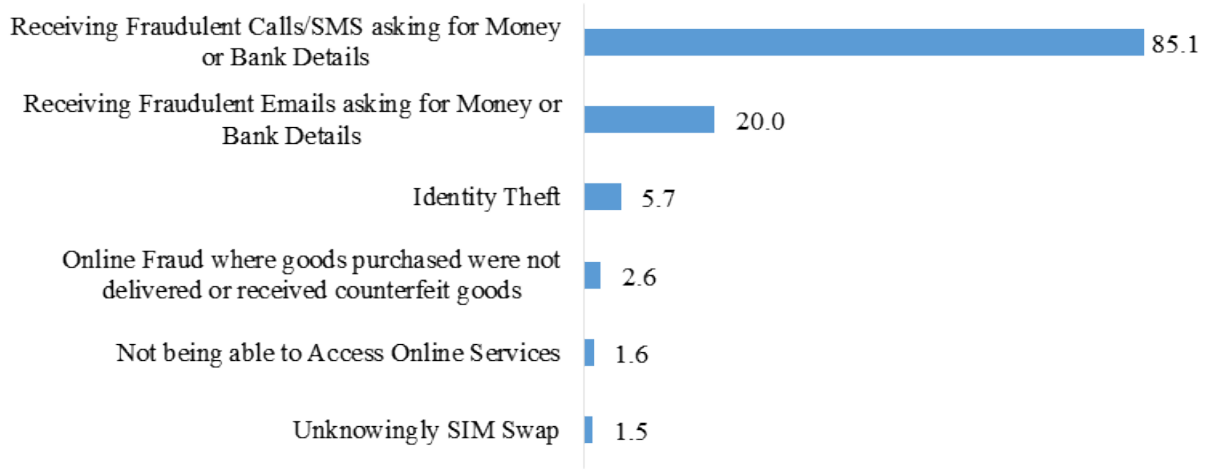



*Source: National Statistical Office: Access and use of ICTs 2019*

### 6.2.2 Experience of Cyber Security Incidences

The most common cyber security incident that was reported to have been experienced by individuals was receiving fraudulent calls/SMS asking for money or personal banking details (85.1 percent). This was followed by receiving fraudulent emails asking for money or personal banking details (20.0 percent). Identity theft was the third most common cyber security incident individuals experienced (5.7 percent) (Figure 6.3).

**Figure 6.3: Proportion of Individuals that Experienced Cyber Security Incidents by Type of Cybercrime, ICT 2019**

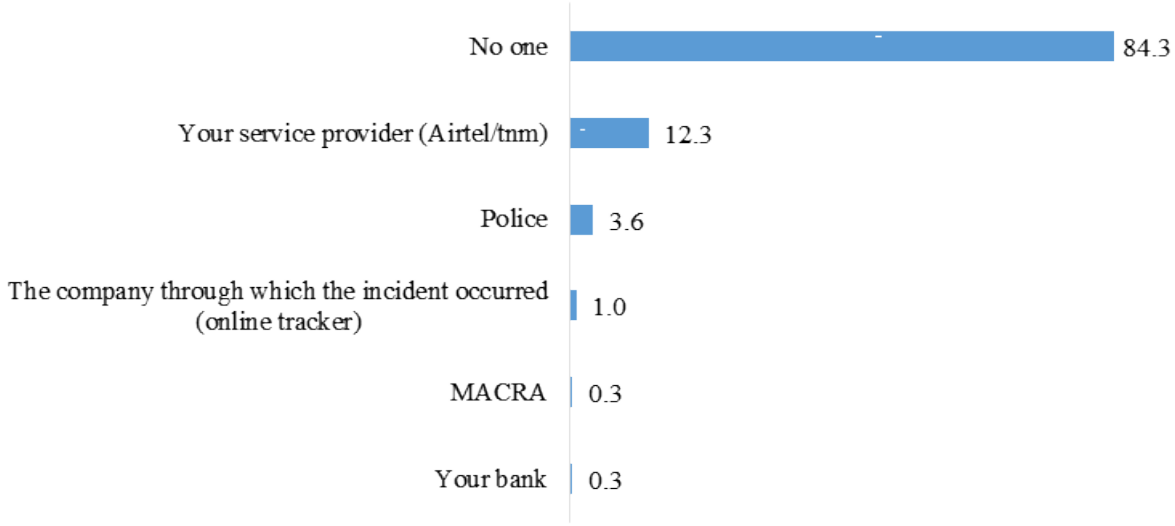



*Source: National Statistical Office: Access and use of ICTs 2019*

### 6.2.3 Reporting of Cyber Security Incidents

The results show that the majority (84.3 percent) of individuals did not report cyber security incidents that they encountered. On the other hand, 12.3 percent of individuals reported cyber security incidents to their respective service providers, while 3.6 percent of individuals reported to the police and 0.3 percent of individuals reported to MACRA (Figure 6.4).

**Figure 6.4: Proportion of Individuals that Reported Cyber Security Incidences, ICT 2019**




*Source: National Statistical Office: Access and use of ICTs 2019*

CASSETTE

# CHAPTER 7
## ELECTRICAL AND ELECTRONIC WASTE

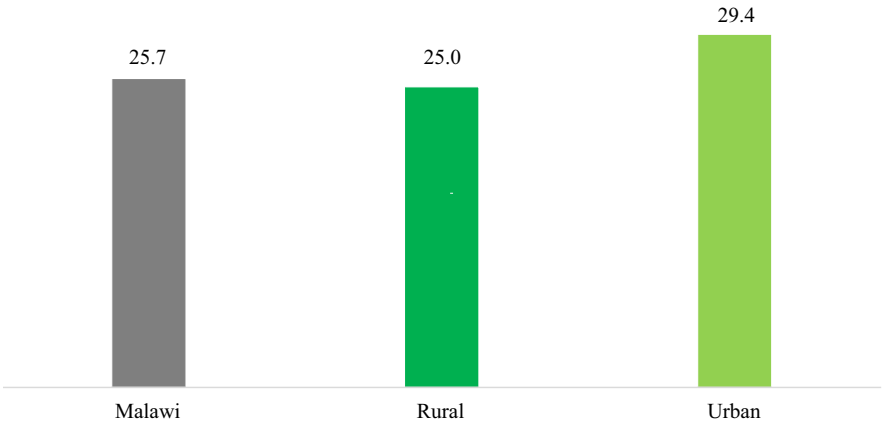
### 7.1 Introduction

This chapter provides information on the extent of disposal of electrical and electronic waste by individuals in Malawi. It highlights disposal of e-waste by place of residence, region, sex and the volume of this waste. It also attempts to identify how individuals are managing e-waste.

### 7.2 Disposal of Electrical and Electronic Equipment Waste

At national level, 25.7 percent of individuals indicated that they had disposed of some electrical and electronic equipment waste. Analysis by place of residence shows that the proportion of individuals that had disposed of some e-waste was higher in urban areas (29.4 percent) than rural areas (25.0 percent) (Figure 7.1).

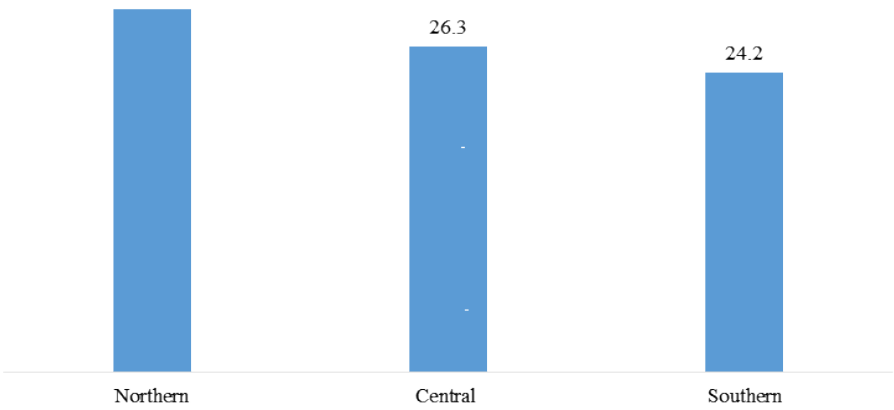
**Figure 7.1: Proportion of Individuals Disposing E-Waste by Place of Residence, ICT 2019**




*Source: National Statistical Office: Access and use of ICTs 2019*

Across regions, Northern region had the highest proportion of individuals (29.3 percent) that had disposed e-waste followed by Central region (26.3 percent) and Southern region (24.2 percent) (Figure 7.2).

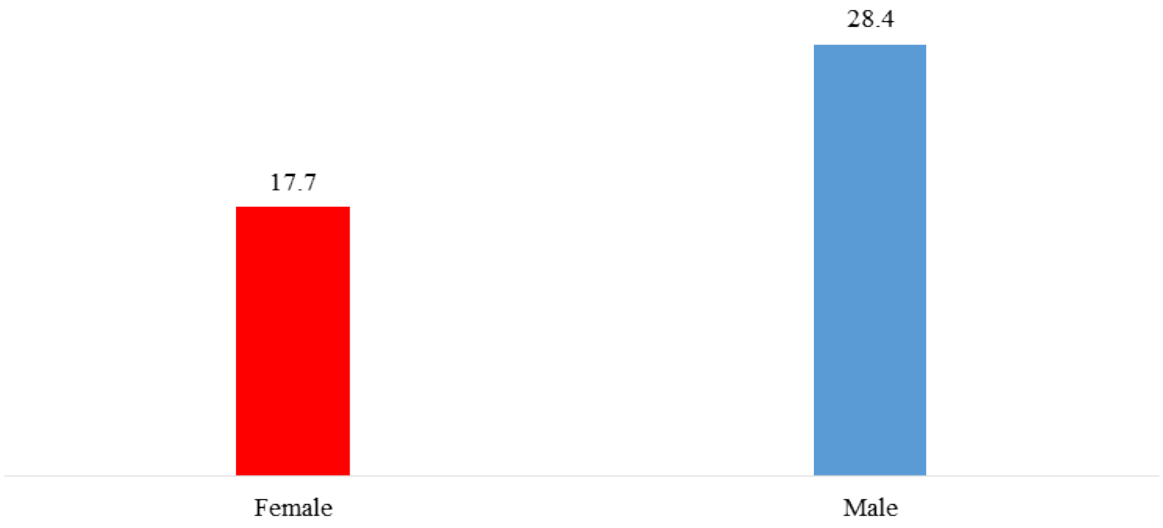
**Figure 7.2: Proportion of Individuals who had Disposed E-Waste by Region, ICT 2019**




*Source: National Statistical Office: Access and use of ICTs 2019*

Looking at sex of individuals, 28.4 percent of male respondents disposed e-waste compared to17.7 percent of female respondents (Figure 7.3).

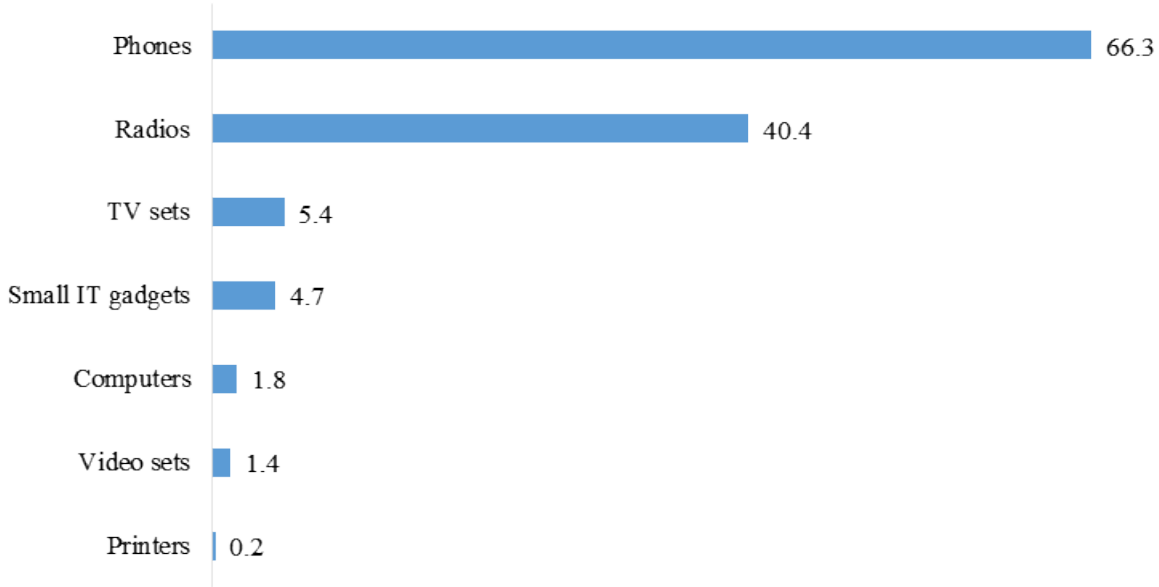
**Figure 7.3: Proportion of Individuals who had Disposed E-Waste by Sex, ICT 2019**




*Source: National Statistical Office: Access and use of ICTs 2019*

The survey findings indicate that mobile telephones were the most widely disposed e-waste by individuals at 66.3 percent followed by radios which were disposed by 40.4 percent of the individuals. The least disposed of e-waste by individuals were printers at 0.2 percent (Figure 7.4).

**Figure 7.4: Proportion of Individuals Disposing of E-Waste by Equipment, ICT 2019**

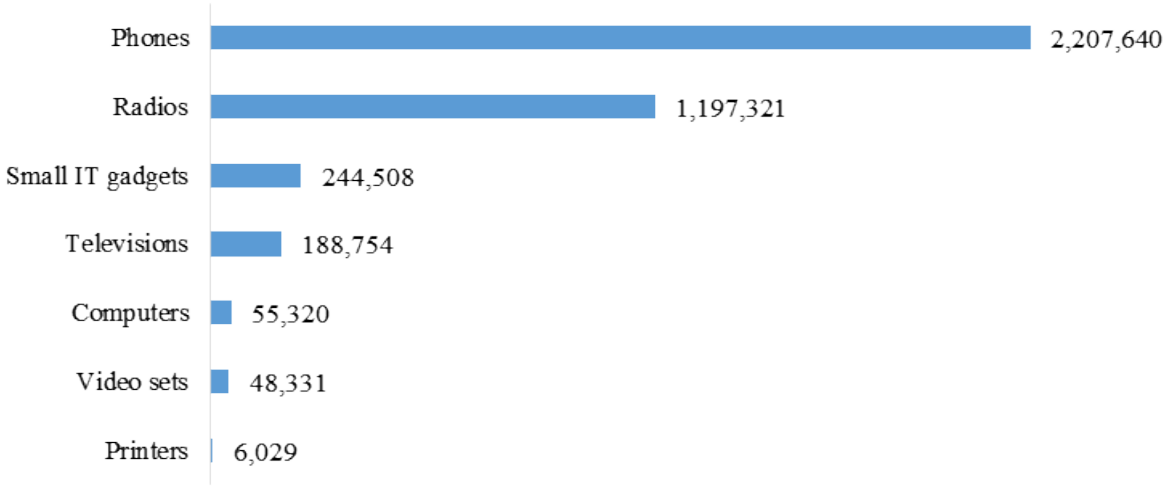



*Source: National Statistical Office: Access and use of ICTs 2019*

### 7.2.1 Volumes of Electrical and Electronic Equipment Waste Disposed

The analysis of the number of electrical and electronic equipment that were disposed of by individuals in the year prior to the survey indicate that slightly above 2 million phones and about 1 million radios were disposed. The least disposed of equipment were printers which were slightly above 6 thousand (Figure 7.5).

**Figure 7.5: Distribution of Quantities of Electrical and Electronic Equipment Disposed by Individuals. ICT 2019**

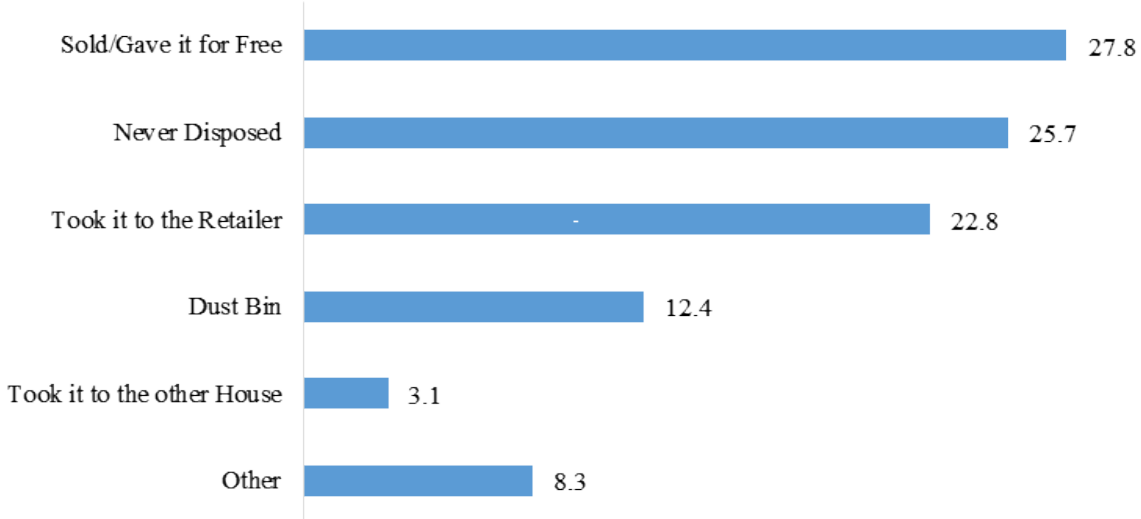



*Source: National Statistical Office: Access and use of ICTs 2019*

### 7.3. Methods of Disposing of Electrical and Electronic Equipment Waste

Individuals were asked to mention how they were disposing of electrical and electronic equipment waste. The findings indicate that 27.8 percent of individuals sold or gave away followed by 25.7 percent who never disposed and then 22.8 percent took it to the retailer (Figure 7.6).

**Figure 7.6: Percentage Distribution of Methods of E-waste Disposal by Individuals, ICT 2019**




*Source: National Statistical Office: Access and use of ICTs 2019*

# CHAPTER 8
## CHILD ONLINE PROTECTION

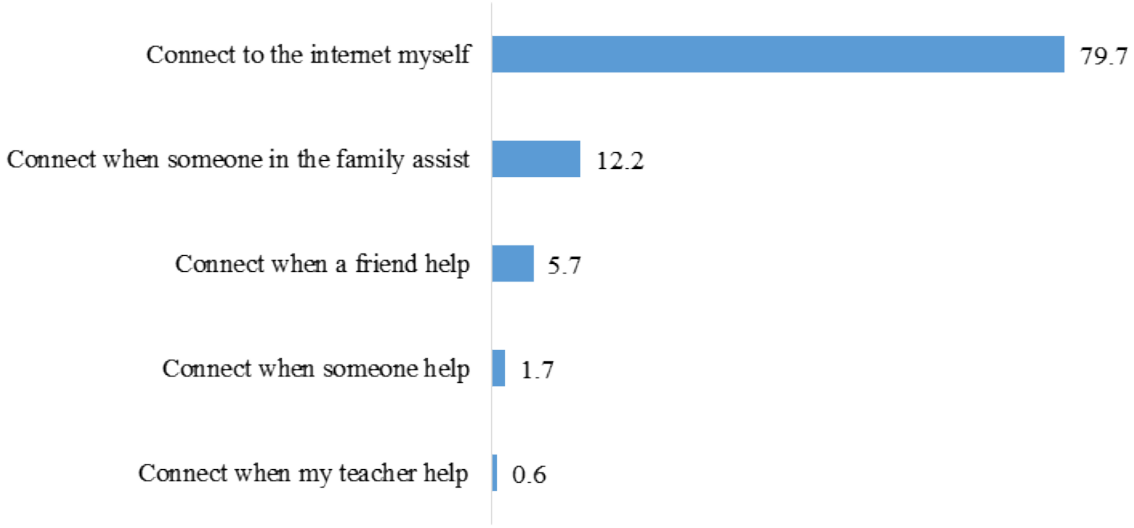
### 8.1 Introduction

This chapter presents an overview of children's online activities and behavior. It further discusses the level of knowledge and how they are mitigating the risks associated with being online. Questions were asked to children between the ages of 9 and 17 years specifically to those who have ever used the internet.

### 8.2 Child Internet Access

Children were asked if they required any assistance when they connect to the internet. The survey results reveal that 79.7 percent of the children connected to the internet by themselves while 12.2 percent with assistance from family members, 5.7 percent with assistance from their friends and 1.7 percent with assistance from someone else (Figure 8.1).

**Figure 8.1: Percentage Distribution of Children on how they Connected to Internet, ICT 2019**

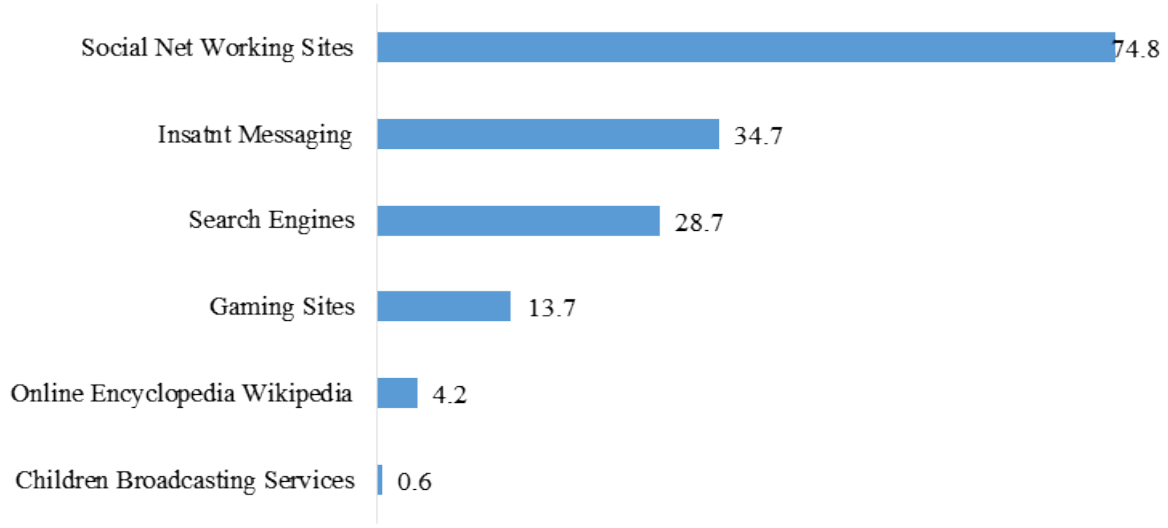



*Source: National Statistical Office: Access and use of ICTs 2019*

## 8.3 Websites and Applications (Apps) Commonly Used by Children

The results of the survey established that 74.8 percent of the children were using social networking sites e.g. Facebook. About 35 percent were using instant messaging apps e.g. WhatsApp, 28.7 percent used search engines e.g. Google and 0.6 percent of children were using broadcasting websites (Figure 8.2).

**Figure 8.2: Proportion of Children Accessing the Internet by Apps Commonly Used, ICT 2019**

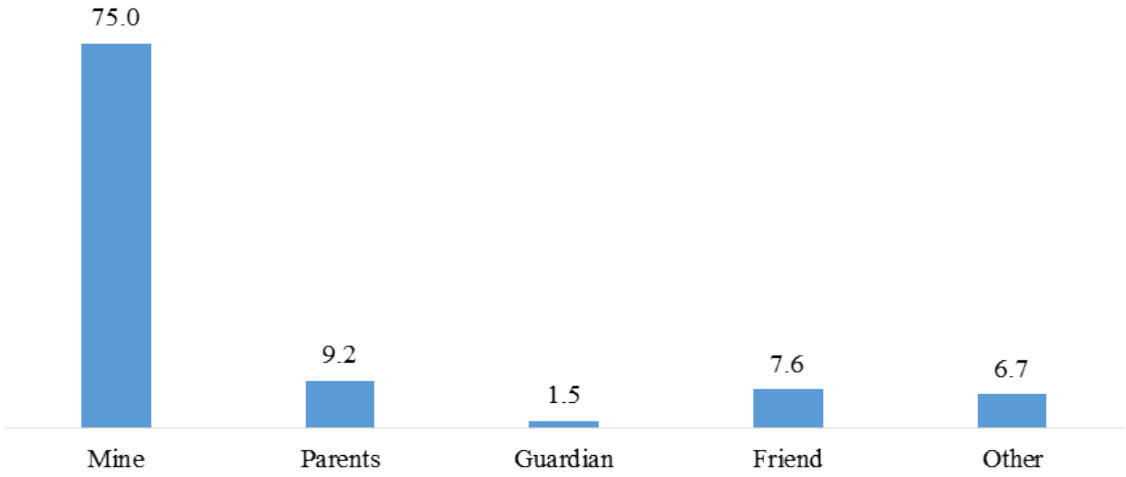



*Source: National Statistical Office: Access and use of ICTs 2019*

## 8.4 Profile used on Social Media and Gaming Sites by Children

In terms of the profile used on social media and gaming sites by children, the survey results reveal that the highest proportion (75.0 percent) of children used their own profiles while 9.2 percent used their parents' profiles and 7.6 percent used friends' profiles (Figure 8.3).

**Figure 8.3: Percentage Distribution of Children Using Social Media by Profiles Used, ICT 2019**

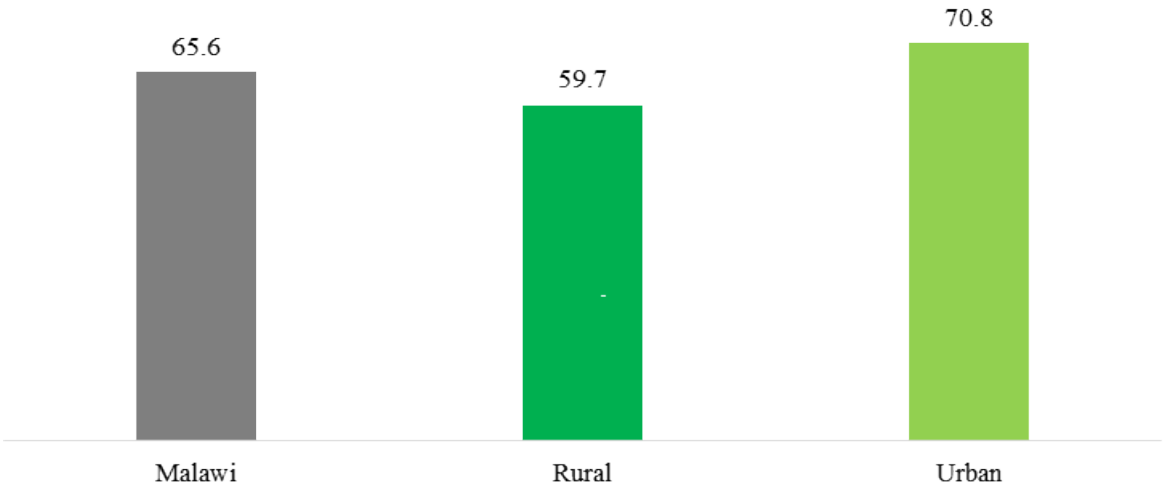



*Source: National Statistical Office: Access and use of ICTs 2019*

## 8.5 Incidences of Contact with Unknown Internet Users by Children

Children were asked whether or not they had contact with unknown internet users whom they had not met face to face before. Nationally, 65.6 percent of children indicated that they had made contact with unknown users online. Analysis by place of residence shows that 70.8 percent of children in urban areas had contact with unknown internet users online compared to 59.7 percent in rural areas (Figure 8.4).

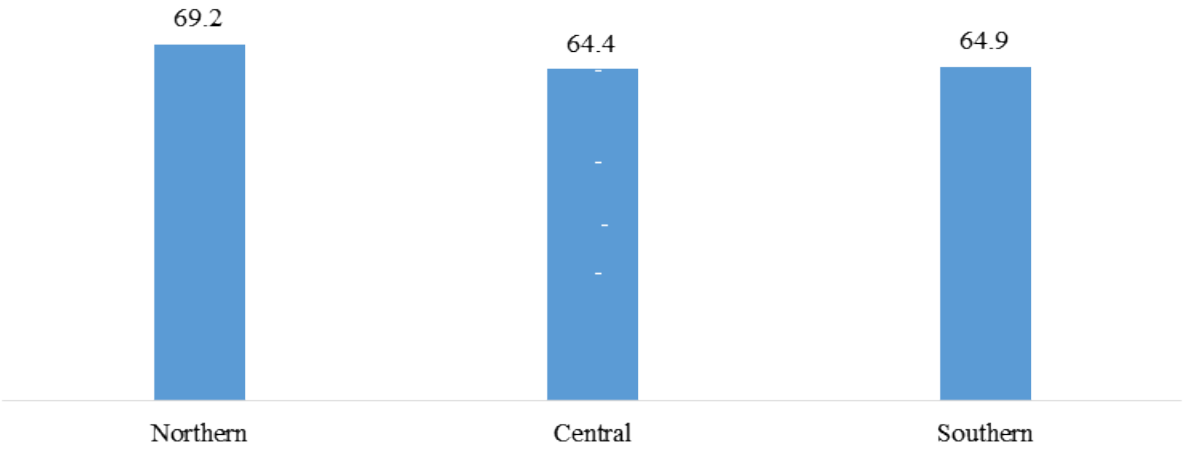
**Figure 8. 4: Proportion of Children who had Contact with Unknown Internet Users Online by Place of Residence, ICT 2019**




*Source: National Statistical Office: Access and use of ICTs 2019*

Analysis by region shows that 69.2 percent of children in the Northern region had contact with unknown internet users online compared to 64.9 percent in the Southern region and 64.4 percent in the Central region (Figure 8.5).

**Figure 8. 5: Proportion of Children who had Contact with Unknown Internet Users Online by Region, ICT 2019**

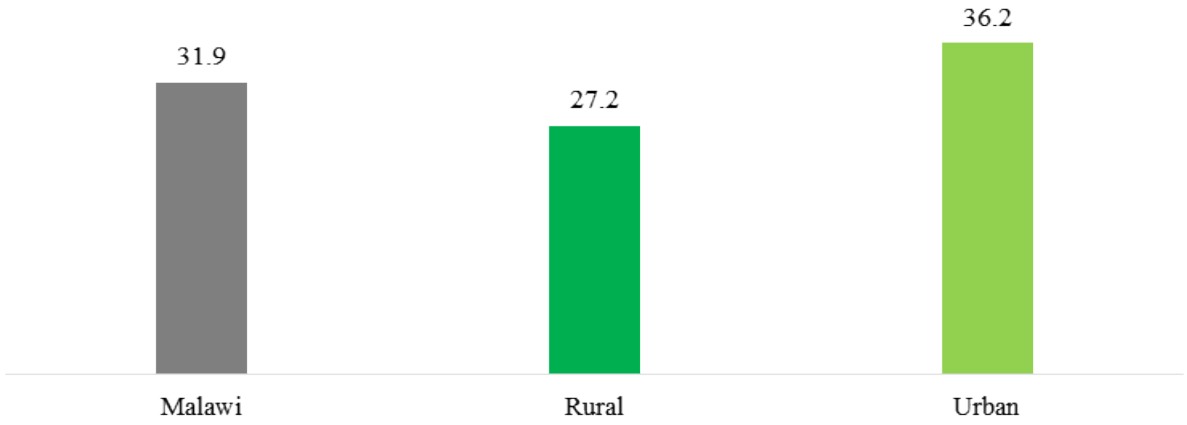



*Source: National Statistical Office: Access and use of ICTs 2019*

## 8.6 Incidences of Meeting Internet Users Face to Face after Online Contact

The survey also tried to understand whether or not the children met with someone face to face after contacting one another online. Results indicate that nationally, 31.9 percent of children met someone face to face after contacting online. Analysis by place of residence reveals that 36.2 percent of children residing in urban areas had met someone face to face after contacting online compared to 27.2 percent of children residing in rural areas (Figure 8.6).

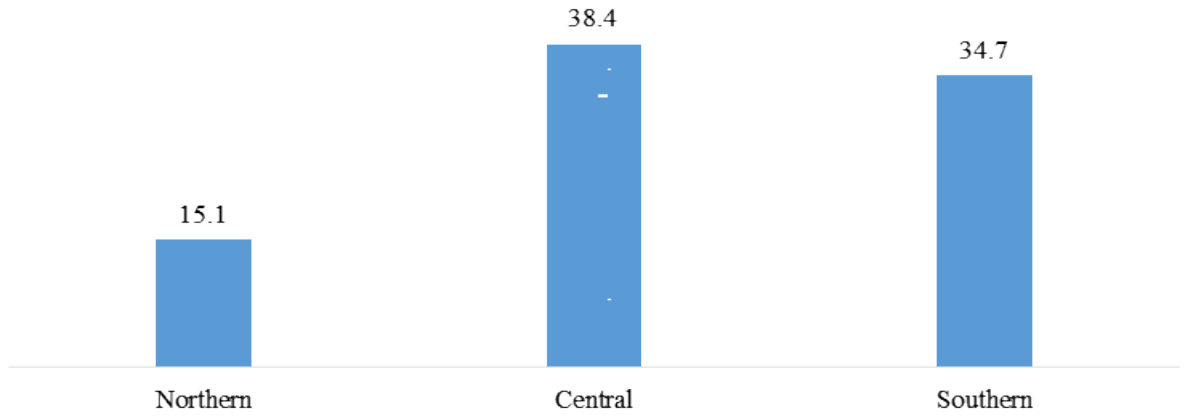
**Figure 8.6: Proportion of Children by Incidences of Meeting Internet Users Face to Face by Place of Residence, ICT 2019**




*Source: National Statistical Office: Access and use of ICTs 2019*

Analysis by region shows that the proportion of children who met someone face to face after contacting online was high in the Central region at 38.4 percent followed by the Southern region at 34.7 percent and Northern region at 15.1 percent (Figure 8.7).

**Figure 8.7: Proportion of Children by Incidences of Meeting Internet Users Face to Face by Region, ICT 2019**



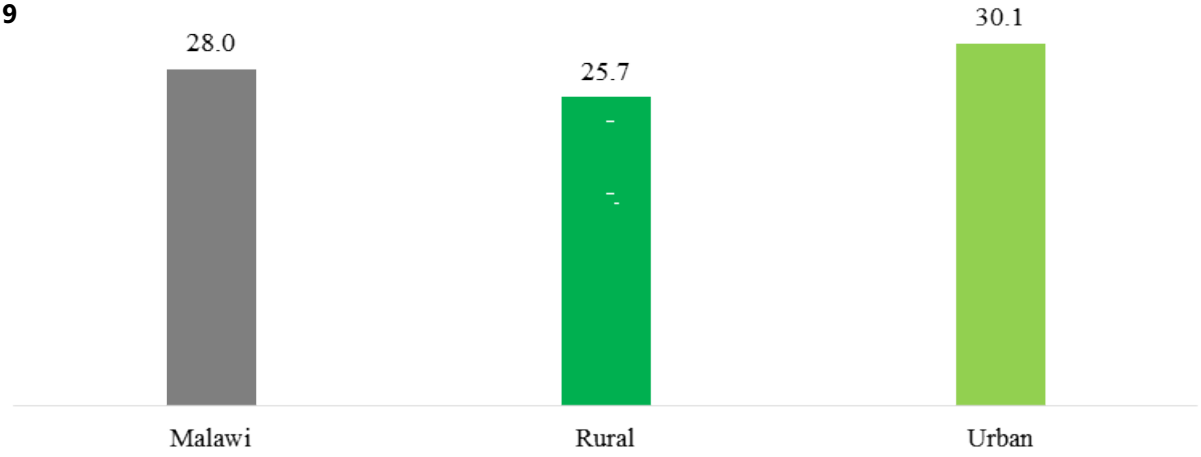

*Source: National Statistical Office: Access and use of ICTs 2019*

## 8.7 Children's Experience on Cyber or Internet Uneasiness (Cyber Bullying)

The children were additionally asked whether or not anything ever happened online that bothered or upset them in some way or another for instance, made them feel uncomfortable, scared or saw things that they believe they shouldn't have seen.

Nationally, 28.0 percent of the children reported to have been troubled or felt upset in some way or another. Analysis by place of residence shows that 30.1 percent of children residing in urban areas reported to have felt bothered or upset on the internet compared to 25.7 percent of those residing in rural areas (Figure 8.8).

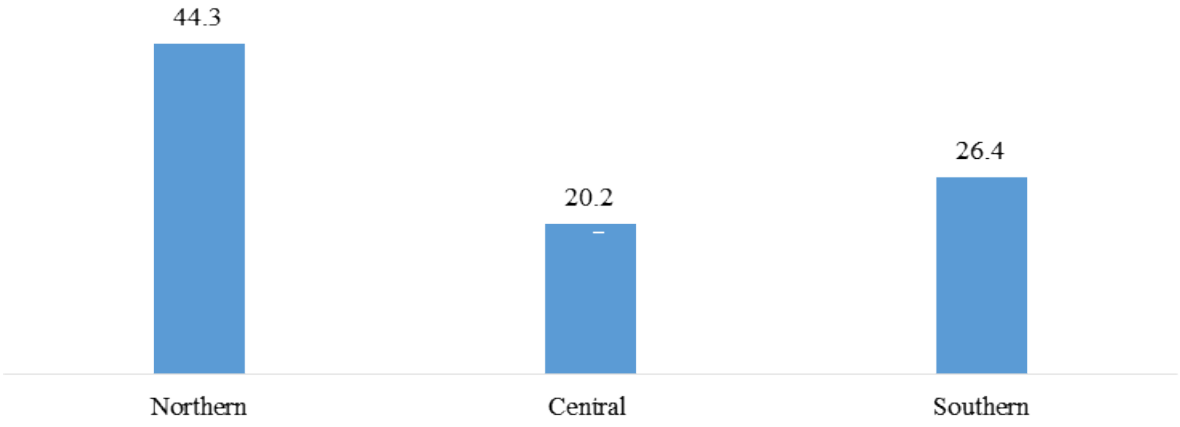
**Figure 8.8: Proportion of Children who Experienced Cyber or Internet Uneasiness by Place of Residence, ICT 2019**




*Source: National Statistical Office: Access and use of ICTs 2019*2019

Regionally, a higher proportion (44.3 percent) of children in the Northern region experienced cyber uneasiness compared to the children in the Southern region at 26.4 percent and Central region at 20.2 percent (Figure 8.9).

**Figure 8.9: Proportion of Children who Experienced Cyber or Internet Uneasiness by Region, ICT 2019**

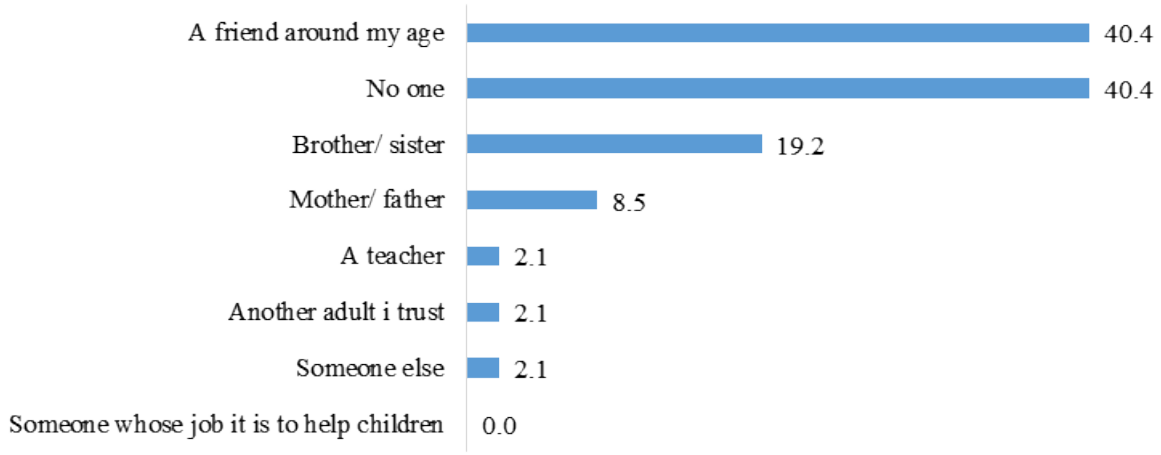



*Source: National Statistical Office: Access and use of ICTs 2019*

## 8.8 Reporting of Cyber or Internet Bullying

Further analysis was done on children who reported to have experienced cyber bullying. The children were asked to mention who they reported to the last incident of cyber bullying. The highest proportion of children (40.4 percent) stated to have reported to a friend around their age while 19.2 percent confided in their brothers or sisters whereas 8.5 percent reported to their parents. About 40 percent of the children indicated that they did not report to any one (Figure 8.10).

**Figure 8.10: Proportion of Children Who Experienced Cyber Bullying by Where they Reported, ICT 2019**




*Source: National Statistical Office: Access and use of ICTs 2019*

## 8.9 Cases of Sexual Messaging among the Children

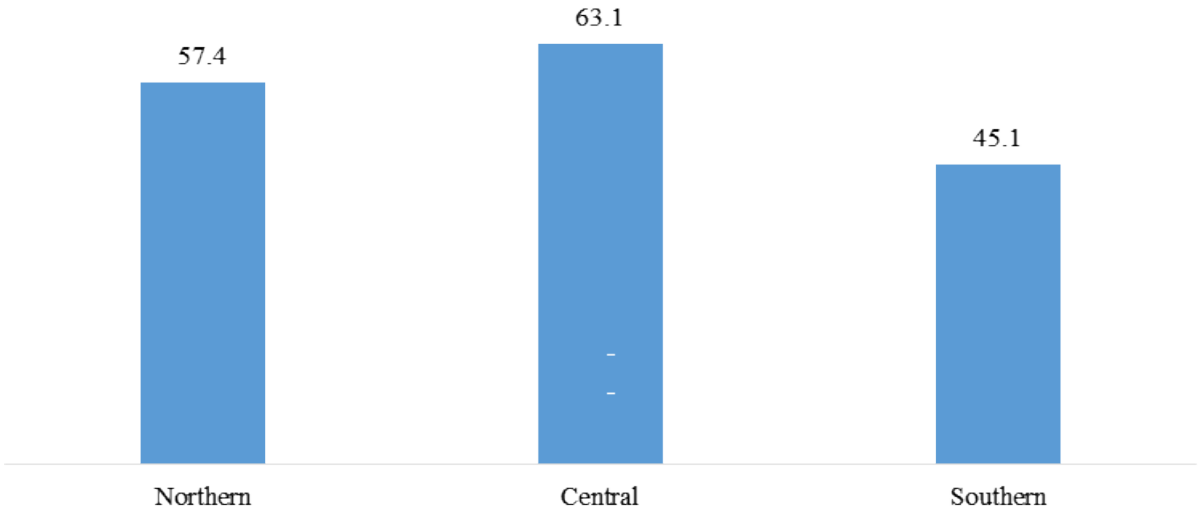
The survey asked children if they had received or seen any sexual messages in the previous year. These sexual messages were in form of pictures, images or videos of themselves or someone else. At national level, 53.3 percent of the children indicated to have received or seen sexual messages. Analysis by place of residence shows that 53.6 percent of children in rural areas indicated to have seen or received sexual messages compared to 53.1 percent of children in urban areas (Figure 8.11).

**Figure 8.11: Proportion of Children who had Received/Seen Sexual Messages by Place of Residence, ICT 2019**


*Source: National Statistical Office: Access and use of ICTs 2019*

At regional level, Central region had the highest proportion (63.1 percent) of children who had reported to have seen or received sexual messages followed by Northern region (57.4 percent) and the least was Southern region (45.1) (Figure 8.12).

**Figure 8.12: Proportion of Children who had Received/Seen Sexual Messages by Place of Residence, ICT 2019**

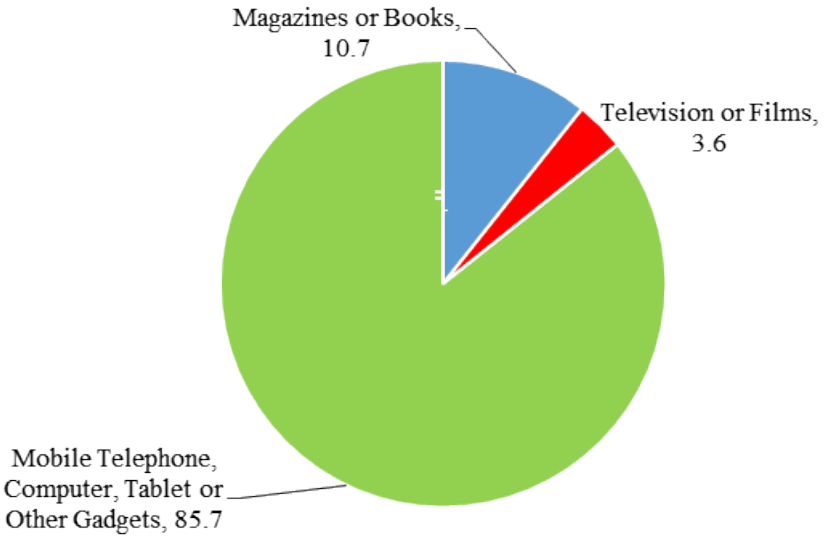



*Source: National Statistical Office: Access and use of ICTs 2019*

## 8.10 Source or Place where Sexual Messages were seen

Children were further asked sources where they had seen or received most of the sexual messages. The results obtained reveal that 85.7 percent of these children had seen or received these sexual messages via mobile telephone, computer, tablet or any online device, 10.7 percent in magazine/book and 3.6 percent television/film (Figure 8.13).

**Figure 8.13: Percentage Distribution of Sources of where Most Sexual Messages were Received or Seen, ICT 2019.**




*Source: National Statistical Office: Access and use of ICTs 2019*

## 8.11 Reports of Incidences Related to Internet

Incidences such as devices getting viruses or spyware, spending too much money on line games or in-app purchases or creating a page or image about someone that are hostile or hurtful are common when someone uses internet. The survey asked children if in the previous year they had encountered such incidences. The most reported incident (41.2 percent) was spending too much money on online games or in applications (apps) purchases, 29.4 percent reported in the category of "somebody used my password to access my information or to pretend to be me". The least reported proportion (2.9 percent) indicated that the device used got a virus or spyware (Figure 8.14).

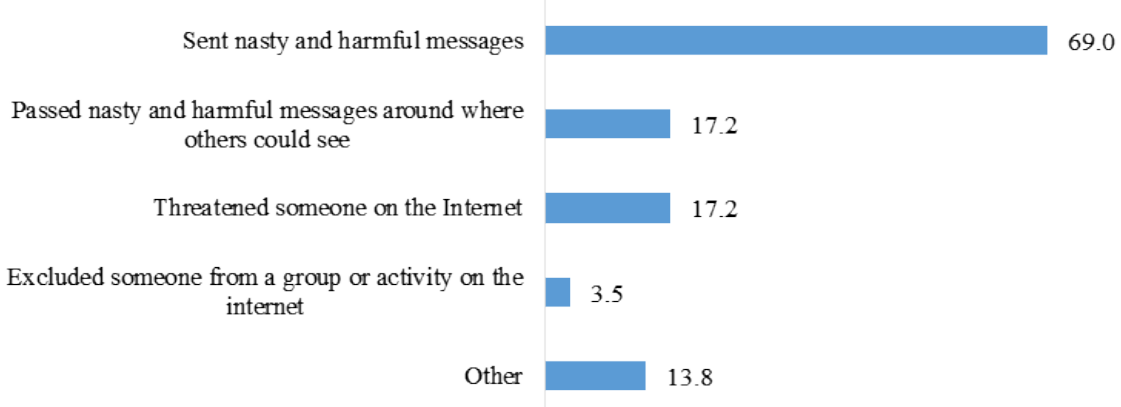
**Figure 8.14: Proportion Distribution of Incidences Related to Internet**


*Source: National Statistical Office: Access and use of ICTs 2019*

## 8.12 Cases of Cyber Bullying to Others

The children were also asked if and how they were involved in bullying or harassing their friends. The highest proportion (69.0 percent) indicated that it was through sending nasty or hurtful messages, followed by passing nasty or hurtful messages around or where others could see and threatening someone on the internet (17.2 percent) each and the lowest (3.5 percent) was excluding someone from a group or activity on the internet (Figure 8.15).

Figure 8.15: Percentage Distribution of Cases of Cyber Bullying to Others by Type, ICT 2019

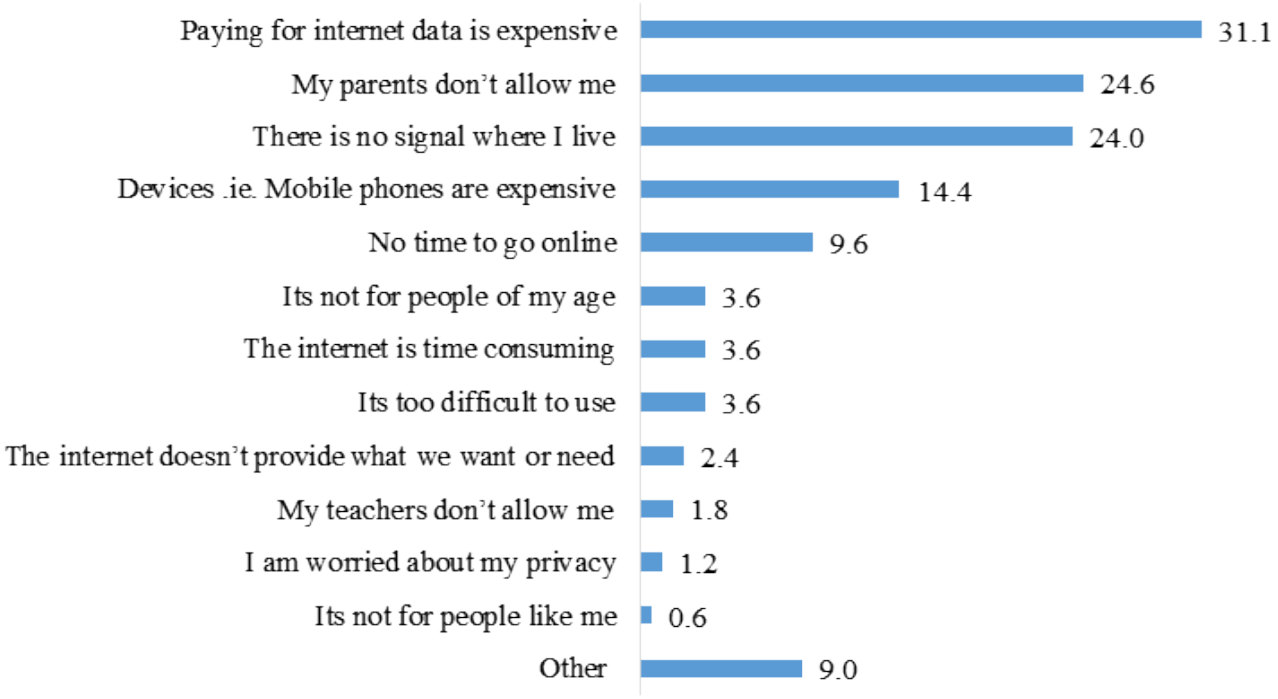



*Source: National Statistical Office: Access and use of ICTs 2019*

## 8.13 Reasons for Children Not Accessing Internet

The survey findings show why children are unable to access the internet. The highest proportion of the children (31.1 percent) cited that paying for data is expensive, 24.6 percent reported that their parents do not allow them to access the internet and 23.9 percent reported that there was no signal in their areas. The lowest proportion (0.6 percent) of children cited that internet is not for people like them (Figure 8.16).

**Figure 8.16: Proportion of Children Not Accessing the Internet by Reasons, ICT 2019**




*Source: National Statistical Office: Access and use of ICTs 2019*

# CHAPTER 9
## POLICY IMPLICATIONS

The 2019 National Survey on Access and Use of ICTs by households and individuals in Malawi was conducted with the main objective of taking stock of the state of ICT development mainly on the access and use of various ICT products and services by households and individuals in the country. The survey specifically collected data on access and use of radios, telephone, postal services, internet and digital financial services. The survey further collected data on the challenges, constraints and barriers associated with use of ICT services.

The recent survey also assessed the new areas of cyber security, electrical and electronic waste management and child online protection. There has been a rapid advancement in technology development and this has caused issues of cyber security and e-waste management. Protection of the rights of children is becoming paramount and as such it is important to take stock of the statistics which are critical for an informed policy decision making and regulatory interventions in the country.

The 2019 survey findings presented in this report provide the policy makers and the regulator with a number of key policy and regulatory interventions on the access and use of ICT products and services in the country. The level of adoption and uptake of ICT services among the households and individuals represent a mixed bag with some key indicators showing evidence that growth in the sector is in the right direction while others are stagnant or actually on a reversal trajectory. The findings present the following policy and regulatory issues that should be taken for consideration:

i) Affordability in both acquiring and using ICT products and services is a major challenge and barrier in the country. For instance, both household and individual mobile phone ownership at 36.5 percent and 43.2 percent still remains lower than the average Southern African regional levels. In order to bridge this gap, Government and MACRA need to improve availability of ICT services and products such as mobile network and low-priced mobile phone devices especially smart phones which can access broadband services. There is need to enhance regulatory functions in ensuring that network providers have a conducive environment to enhance regulatory and policy certainty and also enhance on the operations of the Universal Service Fund to narrow the gap between the rural and urban areas in terms of accessing and using these ICT products and services.

ii) Government needs to improve on various sources of electricity provision in the country which is one of the main challenges that both households and individuals were facing in adoption and using of ICT services. Apart from affordability, most households indicated that they were not owning and using some of the ICT products and services due to lack of electricity from the grid. There is need to find alternative means of power for households in accessing electricity mainly for households residing in the urban areas.

iii) Access to internet services among individuals was at 14.6 percent. Affordable access to the country's ICT networks has been identified as one of the key areas slowing down the adoption of

e-commerce in Malawi. The cost of internet access, although decreasing, remains high by African standards and inaccessible for most Malawians. ICT infrastructures have only recently improved with support from the World Bank, fibre-optic backbone is now in place, but last-mile connectivity is still very limited. Over the last two years, telecom operators started rolling out 4G coverage, mainly in large urban centres. In addition to limited funding for infrastructural upgrading, power supply hinders efforts to expand the network and improve the performance in Quality of Service (QoS) indicators. Taxation, market and regulatory structures that do not encourage competition slow down efforts for price reductions in mobile data packages and extension of broadband coverage (Malawi Rapid eTrade Readiness Assessment, UN 2019). Internet plays a vital role in ensuring that people stay in contact regardless of physical barriers. Internet also helps to maintain friendships and enables business connections. The uptake of internet services is quite low with the country having 22 licensed Internet Service Providers (ISPs) with about 15 active ISPs serving a limited customer base. The focus therefore will be to increase coverage and utilization of ICT by ensuring universal access to ICT infrastructure (MGDS III)

iv) Despite the survey indicating that relevancy of content in broadcasting (radio and Television) was not a challenge with about 0.8 percent of individuals stating that radio content was the main challenge for them while only 7.4 percent of individuals indicated that TV content was irrelevant, there is a challenge with development of new content as most individuals indicated that repetition of programmes (35.9 percent) was discontent to them in the country. The regulator should ensure that the broadcasting sector is targeting to achieve the 60:40 local to foreign content ratio through initiatives that drive at local content development.

v) Ownership and use of computer services continues to be dismal in the country with only 3.5 percent of households owning a working computer and only 2.8 percent of individuals owning a personal computer. The individual use of computers was 8.4 percent. There is need to enhance ICT literacy curriculum in the education sector and aim to reduce the cost of computer equipment so as to ensure that most people are able to access and use the computer.

vi) There is technological advancement which competes with ordinary postal and courier services worldwide. It is therefore imperative for postal operators to embrace and move to use of technology for their benefit. About 31 percent of individuals indicated that delivery of services at place of residence as one initiative they would like to see enhanced in the country. MACRA and Government need to fast track the National Addressing System project to ensure that e-commerce services benefit individuals. There is need to embrace use of internet services in the postal and courier sector to compliment and improve efficiency to counter the challenges currently been faced in the sector.

vii) About 32 percent of individuals had access to digital financial services with 29.5 percent of individuals having mobile money account. Malawians are still reluctant to use cashless solutions when buying goods and services remotely. The booming use of mobile money in Africa has not left out Malawi, and although overall uptake in the country is below the continental average, it is still a key driver for financial inclusion. Over the last few years, regulatory dynamism - driven by the Reserve Bank of Malawi has laid the foundations for banks and other financial service providers to experiment and launch new products with mixed records of success. While integration between mobile money and online banking is gaining ground, sustained by the establishment of a National Switch and regulatory intervention to allow interoperability of payment instruments, third-party applications from financial technology (fintech) and start-ups are struggling to enter a market dominated by strong incumbents telecom operators and banks. Credit cards still suffer from security concerns, use of PayPal faces some challenges despite some improvements. In general, more needs to be done to sensitise and build awareness about the advantages of e-payments and stimulate their use, starting by shifting government payments to digital channels (Malawi Rapid eTrade Readiness Assessment, UN 2019).

viii) The proliferation of electrical and electronic equipment and devices in the country has led to the management in disposing of such equipment to be of importance both to Government through the Environmental Affairs Department and MACRA as one of the regulators in the e-waste management. The proportion of population that disposed of e-waste equipment was 25.7 percent and close to over 2 million mobile phones were disposed of. There is need for Government, MACRA and other key regulators such as Malawi Energy Regulatory Authority (MERA) to enhance the existing laws and development of relevant regulations, rules and guidelines in management of e-waste. There is need to enhance public awareness on means and ways of disposing of e-waste equipment and adherence to quality standards of electronic equipment that provide users with prolonged life of such devices in order to mitigate the challenges of e-waste in the country.

ix) The role of the Malawi Computer Emergency Response Team (MwCERT) needs to be enhanced through MACRA in order to protect the country's information infrastructure and continue to serve as a base for national coordination to respond to any information and communication technology security threats. About 35 percent of the population were aware of cyber security issues. There is need to develop guidelines, rules and regulations as well as set up effective sectoral CERTs. Proper awareness mechanisms are also needed to be put in place.

x) There is need for enhanced regulatory oversight in areas of child online protection in the country. There was high proportion of children (79.7 percent) aged between 9 to 17 years who got connected to internet by themselves. MACRA and the government need to enhance awareness and reporting mechanisms for the children who are bullied or sexually harassed through provision of necessary guidelines and awareness programs.

xi) Deliberate policy intervention needs to be designed and deployed in order to reduce the gender gap identified in the access and use of ICT services in the country. The survey has shown that almost in all, access to ICT services such mobile phones, radio, TV, computer and post office box ownership as well as use of these services was low among females compared to males. There is need for deliberate policies and strategies to increase uptake of these service among the females. There is also need to develop strategies to enhance women and girls skills in ICT services through targeted capacity building initiatives like girls in ICT activities in Government programmes.

# APPENDICES

## Appendix1: Methodology

### A1.1 Methodology and Approach to the Survey

#### A1.1.1 Survey Design

The survey used a two stage stratified sampling with the primary sampling unit (PSU) being the Enumerations Areas (EAs) defined for 2018 Malawi Population and Housing Census. An EA is the smallest operational area established for the census with well-defined boundaries, corresponding to the workload of one census enumerator. The second stage involved selection of households in the Enumeration Areas (EA). Twenty households were selected from each Enumeration Area using systematic random sampling. Malawi is divided into 28 districts and 4 cities, which were also the geographic domains of estimation for 2014 ICT Survey. The distribution of the EAs and households by district, rural and urban is presented in Appendix 1.

#### A1.1.2 Survey Sample

The survey used 2018 Malawi Population and Housing Census frame to draw a sample of 12,000 households that were interviewed during the survey period. At the first stage, a sample of 600 EAs was drawn from the total number of 18,468 EAs. There were variations in the number of EAs that were selected for each district because the selection was based on the proportion to population size for each district. The number of EAs selected in each district was in the range of 1 to 57. For example, 1 EA was selected for Likoma and 57 EAs were selected for Lilongwe Rural. At the second stage, listing of households was done within each selected EA and a sample of 20 households was drawn from the listed households.

#### A1.1.3 Data Collection Method

Enumerators interviewed respondents using tablets to collect information required in the survey. The survey used Computer Assisted Personal Interviews (CAPI) based on Survey Solutions, a World Bank programme (software) for managing large/complex surveys.

### A1.2 Research Tools Development

#### A1.2.1 Survey Questionnaire

The survey was designed to collect information from respondents using a structured questionnaire. The questionnaire was designed to collect data on access and use of ICT services at both household and individual level.

### A1.2.2 Enumerators' Manual

Enumerators' manual was developed for use during training and field work. The manual had the following important information:
·Defined concepts used in the survey;
·Discussed how to approach and identify households;
·How questions should be asked and
·Discussed how listing and selecting of households in the selected enumeration areas.

### A1.2.3 Listing and Household Selection

In each selected enumeration area, the team firstly listed all households in the area from which a sample of 20 households was drawn. These 20 households were selected using systematic random sampling. The team later interviewed each of the selected 20 households. Listing was done in order to update the households list. A form was designed to facilitate the listing of all households in the selected EA. The procedure used in listing the households in the EAs is detailed in the Enumerators' Manual.

### A1.2.4 Training of Enumerators and Field Practice

A total of 90 enumerators were recruited and trained. The enumerators were trained at Chilema Ecumenical and Lay Training Centre in Malosa, Machinga from 20th to 25th August, 2019. The training was conducted by senior officials from NSO and MACRA. It involved going through the survey manual and questionnaire. During the training 15 enumerators were identified as supervisors. Facilitators, supervisors and enumerators discussed questions on how best to capture the intended data. It was also during the training that each and every question in the questionnaire was translated into vernacular languages, namely; Chichewa, Chitumbuka and Chiyao. This was done to improve understanding of the questions by the enumerators. The enumerators were also involved in field practice and mock interviews to enhance enumerators' understanding of the questionnaire.

### A1.2.5 Enumeration Area Maps and Questionnaires

Digital maps for these EAs and households questionnaires were loaded into the tablet of each enumerator and were supplemented with printed copies. District maps were also printed for use by the supervisors. Similarly, questionnaires were printed for use by enumerators in case of tablet failure.

### A1.2.6 Advocacy

Advocacy was conducted before and during the survey period through electronic media, print media and face to face with local leaders (traditional authorities and village heads). The main objective of advocacy was public awareness and to request them for their cooperation during the time when the survey was conducted. This type of advocacy was done through meetings with selected radio stations, television stations, local newspapers, and local leaders, police and District Commissioners were approached to enhance the campaign.

## A1.3 Fieldwork Organization and Data Collection

Fifteen (15) teams comprising a team leader, 5 enumerators, driver and motor vehicle were formed and deployed to conduct the survey. The data collection teams were jointly supervised by the survey management team from NSO headquarters and MACRA throughout the field work period.

## A1.4 Data Processing

To ensure data quality and timely availability of data, ICT2 survey was implemented using the World Bank's Survey Solutions CAPI software. To carry out the activity each team member had a GPS enabled Lenovo tablet. NSO management team at the headquarters assigned work to supervisors based on their regions of coverage. Supervisors then made assignments to the enumerators linked to their supervisor account. The work assignments and synchronization of completed interviews took place through a Wi-Fi connection to the ICT2 server. The data was available in real time and it was monitored closely throughout the entire data collection period. Upon receipt of the data at headquarters, data was exported to STATA for other consistency checks, data cleaning and analysis.

## Appendix 2: Sampled Households

### Table-A : Summary of Total, Sampled number of Households and Enumeration Areas in Malawi by District

| District | No. HH Allocated | No. of EAs |
|---|---|---|
| Chitipa | 160 | 8 |
| Karonga | 240 | 12 |
| Nkhata Bay | 200 | 10 |
| Rumphi | 160 | 8 |
| Mzimba | 640 | 32 |
| Likoma | 20 | 1 |
| Mzuzu City | 140 | 7 |
| Kasungu | 580 | 29 |
| Nkhotakota | 280 | 14 |
| Ntchisi | 200 | 10 |
| Dowa | 520 | 26 |
| Salima | 320 | 16 |
| Lilongwe | 1,140 | 57 |
| Mchinji | 420 | 21 |
| Dedza | 560 | 28 |
| Ntcheu | 460 | 23 |
| Lilongwe City | 680 | 34 |
| Mangochi | 780 | 39 |
| Machinga | 500 | 25 |
| Zomba | 520 | 26 |
| Chiradzulu | 240 | 12 |
| Blantyre | 300 | 15 |
| Mwanza | 100 | 5 |
| Thyolo | 500 | 25 |
| Mulanje | 480 | 24 |
| Phalombe | 280 | 14 |
| Chikwawa | 380 | 19 |
| Nsanje | 200 | 10 |
| Balaka | 280 | 14 |
| Neno | 100 | 5 |
| Zomba City | 80 | 4 |
| Blantyre City | 540 | 27 |
| **Malawi** | **12000** | **600** |

## Appendix3: Household and Individual Indicators

### Table-A : Proportion of Households by Ownership of and Access to ICT Equipment and Services by Background Characteristics, ICT 2019

| Background Characteristics | Mobile Telephone | Fixed Phone | Radio | TV | Pay TV | Computer | Access to Internet | Postal Box |
|---|---|---|---|---|---|---|---|---|
| **Malawi** | **36.5** | **0.2** | **46.3** | **11.6** | **6.7** | **3.5** | **9.9** | **2.9** |
| **Place of Residence** | | | | | | | | |
| Rural | 31.8 | 0.0 | 41.2 | 5.4 | 2.5 | 1.2 | 5.9 | 2.1 |
| Urban | 61.4 | 0.9 | 73.2 | 44.3 | 29.0 | 15.6 | 31.1 | 7.5 |
| **Region** | | | | | | | | |
| Northern | 51.3 | 0.3 | 58.5 | 17.8 | 9.3 | 5.1 | 20.2 | 3.6 |
| Central | 32.2 | 0.2 | 42.0 | 10.1 | 6.5 | 3.0 | 7.9 | 3.3 |
| Southern | 36.7 | 0.1 | 47.2 | 11.4 | 6.2 | 3.5 | 9.2 | 2.4 |
| **Sex of HH Head** | | | | | | | | |
| Female | 27.0 | 0.1 | 28.9 | 7.0 | 3.9 | 2.2 | 7.6 | 2.0 |
| Male | 40.4 | 0.2 | 53.6 | 13.6 | 7.9 | 4.0 | 10.9 | 3.3 |
| **Age of HH Head** | | | | | | | | |
| Up to 24 | 31.3 | 0.0 | 37.0 | 3.0 | 1.3 | 2.2 | 10.5 | 1.2 |
| 25-34 | 40.2 | 0.2 | 50.4 | 11.7 | 6.0 | 3.9 | 12.4 | 2.7 |
| 35-49 | 40.4 | 0.1 | 51.3 | 15.9 | 9.4 | 4.3 | 10.9 | 3.1 |
| 50-59 | 37.4 | 0.5 | 47.3 | 13.1 | 8.4 | 4.1 | 9.3 | 4.7 |
| 60+ | 26.1 | 0.2 | 35.9 | 8.0 | 5.0 | 1.6 | 4.4 | 3.0 |
| **Education of HH Head** | | | | | | | | |
| Primary or lower | 32.8 | 0.0 | 43.0 | 5.3 | 1.9 | 0.6 | 4.8 | 1.7 |
| Lower Secondary | 53.5 | 0.1 | 65.7 | 18.4 | 8.6 | 2.3 | 14.2 | 3.7 |
| Upper/Post-Secondary Non tertiary | 63.4 | 0.68 | 74.86 | 38.1 | 24.1 | 9.4 | 32.2 | 7.5 |
| Tertiary and Post-Tertiary | 81.6 | 2.8 | 89.72 | 72.7 | 62.5 | 53.8 | 62.8 | 18.9 |

**Table-A : Proportion of Households by Ownership of and Access to ICT Equipment and Services by District, ICT 2019**

| District | Mobile Telephone | Fixed Phone | Radio | TV | Pay TV | Computer | Internet | Postal Box |
|---|---|---|---|---|---|---|---|---|
| Chitipa | 50.6 | 1.3 | 58.1 | 20.0 | 11.3 | 6.9 | 15.6 | 5.6 |
| Karonga | 54.6 | 0.0 | 64.2 | 16.7 | 10.0 | 3.3 | 17.5 | 5.8 |
| Nkhata Bay | 55.0 | 0.5 | 55.5 | 14.0 | 6.0 | 3.0 | 10.5 | 3.5 |
| Rumphi | 56.9 | 0.0 | 54.4 | 10.0 | 3.8 | 2.5 | 13.1 | 3.1 |
| Mzimba | 43.4 | 0.2 | 53.8 | 13.0 | 3.9 | 3.3 | 20.0 | 2.0 |
| Likoma | 45.0 | 0.0 | 45.0 | 60.0 | 15.0 | 5.0 | 5.0 | 5.0 |
| Mzuzu City | 69.3 | 0.7 | 76.4 | 45.0 | 35.7 | 17.9 | 47.1 | 5.0 |
| Kasungu | 33.1 | 0.0 | 45.3 | 6.2 | 2.8 | 0.7 | 6.4 | 3.6 |
| Nkhotakota | 38.9 | 0.0 | 48.9 | 11.4 | 7.1 | 1.1 | 4.3 | 2.5 |
| Ntchisi | 43.0 | 0.0 | 42.0 | 5.5 | 3.5 | 1.0 | 5.5 | 1.5 |
| Dowa | 36.9 | 0.0 | 43.2 | 2.5 | 1.7 | 0.8 | 4.0 | 1.7 |
| Salima | 36.8 | 0.0 | 31.1 | 4.1 | 2.5 | 0.3 | 9.4 | 1.6 |
| Lilongwe | 27.3 | 0.1 | 32.5 | 4.4 | 2.6 | 1.1 | 4.5 | 2.5 |
| Mchinji | 29.3 | 0.0 | 43.8 | 7.9 | 3.6 | 1.7 | 2.9 | 2.9 |
| Dedza | 10.0 | 0.0 | 27.1 | 3.4 | 1.1 | 0.7 | 2.3 | 0.7 |
| Ntcheu | 22.3 | 0.0 | 39.0 | 3.9 | 2.4 | 0.9 | 7.1 | 4.1 |
| Lilongwe City | 55.5 | 1.3 | 70.6 | 43.6 | 31.0 | 16.3 | 27.0 | 9.1 |
| Mangochi | 21.4 | 0.0 | 29.0 | 6.7 | 5.0 | 2.2 | 7.7 | 2.3 |
| Machinga | 29.8 | 0.0 | 39.4 | 3.0 | 1.4 | 1.2 | 5.2 | 1.2 |
| Zomba | 39.0 | 0.0 | 49.6 | 2.5 | 0.6 | 0.6 | 4.4 | 0.2 |
| Chiradzulu | 29.2 | 0.0 | 38.8 | 3.8 | 0.0 | 0.8 | 2.9 | 1.7 |
| Blantyre | 37.8 | 0.0 | 47.5 | 9.7 | 6.7 | 9.4 | 0.7 | 0.7 |
| Mwanza | 23.0 | 0.0 | 45.0 | 6.0 | 1.0 | 2.0 | 0.0 | 0.0 |
| Thyolo | 36.2 | 0.0 | 49.4 | 8.4 | 3.2 | 7.2 | 1.8 | 1.8 |
| Mulanje | 32.1 | 0.0 | 49.8 | 7.9 | 5.0 | 3.1 | 1.5 | 1.5 |
| Phalombe | 38.9 | 0.0 | 44.6 | 3.2 | 1.1 | 3.2 | 1.8 | 1.8 |
| Chikwawa | 30.5 | 0.0 | 42.1 | 3.7 | 0.8 | 2.1 | 0.8 | 0.8 |
| Nsanje | 31.5 | 0.5 | 43.5 | 5.5 | 4.0 | 4.5 | 2.5 | 2.5 |
| Balaka | 31.4 | 0.4 | 48.2 | 7.9 | 3.6 | 6.4 | 5.4 | 5.4 |
| Neno | 37.0 | 0.0 | 46.0 | 5.0 | 2.0 | 5.0 | 0.0 | 0.0 |
| Zomba City | 90.0 | 0.0 | 76.3 | 42.5 | 17.5 | 47.5 | 10.0 | 10.0 |
| Blantyre City | 70.4 | 0.7 | 77.2 | 54.1 | 32.2 | 36.1 | 8.0 | 8.0 |

## Table-A : Proportion of Individuals by Ownership of and Access to ICT Equipment and Services by Background Characteristics, ICT 2019

| Background Characteristics | Owns Radio | Listens to Radio | Watches TV | Computer Use | Mobile Phone | Internet Access | Mobile Money | Postal Service Use |
|---|---|---|---|---|---|---|---|---|
| **Malawi** | **37.5** | **71.2** | **23.7** | **8.4** | **43.2** | **14.6** | **29.5** | **3.8** |
| **Place of residence** | | | | | | | | |
| Rural | 32.8 | 69.2 | 16.0 | 3.9 | 37.3 | 9.3 | 23.5 | 2.3 |
| Urban | 60.8 | 81.2 | 61.8 | 30.6 | 72.3 | 40.7 | 59.4 | 11.3 |
| **Region** | | | | | | | | |
| Northern | 48.0 | 80.4 | 31.5 | 11.5 | 57.4 | 24.9 | 29.7 | 5.1 |
| Central | 35.0 | 67.7 | 19.3 | 6.8 | 39.0 | 12.8 | 28.4 | 3.2 |
| Southern | 36.8 | 71.8 | 25.5 | 9.0 | 42.9 | 13.2 | 30.6 | 3.9 |
| **Sex** | | | | | | | | |
| Female | 29.2 | 59.4 | 18.6 | 6.6 | 37.7 | 12.4 | 26.3 | 3.0 |
| Male | 40.3 | 75.1 | 25.5 | 9.0 | 44.9 | 15.4 | 30.5 | 4.0 |
| **Age** | | | | | | | | |
| 15-24 | 30.6 | 69.8 | 19.1 | 8.0 | 35.6 | 15.2 | 25.5 | 2.9 |
| 25-34 | 42.3 | 76.5 | 25.6 | 9.2 | 46.1 | 17.3 | 33.3 | 4.1 |
| 35-44 | 40.0 | 72.8 | 26.2 | 8.4 | 48.2 | 15.4 | 33.5 | 4.4 |
| 45-54 | 38.3 | 72.7 | 25.7 | 9.7 | 47.8 | 16.2 | 31.2 | 4.0 |
| 55-64 | 35.6 | 68.4 | 23.7 | 8.3 | 39.6 | 12.1 | 27.2 | 3.9 |
| 65-74 | 31.3 | 62.5 | 16.5 | 6.1 | 32.3 | 7.4 | 18.5 | 2.6 |
| 75 and Over | 26.4 | 55.1 | 12.7 | 3.8 | 24.3 | 8.5 | 15.0 | 1.8 |
| **Education** | | | | | | | | |
| Primary or Lower | 33.5 | 71.4 | 17.1 | 3.0 | 38.6 | 8.2 | 24.3 | 1.6 |
| Lower Secondary | 50.0 | 84.4 | 34.6 | 10.7 | 59.0 | 22.9 | 44.4 | 4.5 |
| Upper/ Post-Secondary Non tertiary | 61.2 | 83.0 | 52.8 | 25.9 | 71.5 | 38.8 | 56.4 | 10.6 |
| Tertiary and Post-tertiary | 69.3 | 83.2 | 78.1 | 65.8 | 88.2 | 72.9 | 74.5 | 27.5 |

**Table-A : Proportion of Individuals by Ownership of and Access to ICT Equipment and Services by District, ICT 2019**

| District | Owns Radio | Listens to Radio | Watches TV | Computer Use | Mobile Phone | Internet Access | Mobile Money | Postal service Use |
|---|---|---|---|---|---|---|---|---|
| Chitipa | 44.7 | 81.1 | 33.4 | 8.6 | 57.0 | 11.3 | 22.5 | 4.1 |
| Karonga | 47.2 | 76.6 | 34.1 | 12.0 | 58.2 | 22.0 | 36.9 | 4.3 |
| Nkhata Bay | 52.2 | 76.8 | 23.4 | 8.1 | 60.7 | 24.0 | 24.0 | 3.8 |
| Rumphi | 39.9 | 68.0 | 27.6 | 8.1 | 58.5 | 19.3 | 36.9 | 6.0 |
| Mzimba | 46.5 | 83.2 | 22.6 | 8.3 | 51.9 | 25.9 | 22.3 | 3.6 |
| Likoma | 39.3 | 42.6 | 86.9 | 3.3 | 49.2 | 8.2 | 13.1 | 3.3 |
| Mzuzu City | 63.2 | 93.1 | 67.9 | 34.1 | 74.5 | 50.0 | 54.9 | 14.3 |
| Kasungu | 29.8 | 80.5 | 20.7 | 5.6 | 45.4 | 13.7 | 31.4 | 2.0 |
| Nkhotakota | 31.6 | 79.3 | 27.0 | 5.7 | 48.2 | 17.5 | 28.1 | 3.6 |
| Ntchisi | 31.1 | 59.1 | 16.0 | 1.3 | 26.6 | 5.5 | 22.3 | 0.4 |
| Dowa | 30.5 | 69.8 | 6.7 | 1.8 | 29.3 | 4.3 | 17.8 | 2.0 |
| Salima | 32.6 | 71.3 | 14.4 | 2.6 | 32.2 | 10.3 | 22.3 | 1.1 |
| Lilongwe | 31.1 | 63.1 | 9.0 | 3.1 | 29.5 | 7.6 | 19.8 | 1.8 |
| Mchinji | 35.3 | 61.9 | 22.9 | 2.5 | 42.9 | 9.8 | 33.3 | 5.0 |
| Dedza | 21.4 | 47.2 | 5.4 | 1.9 | 22.7 | 4.4 | 16.8 | 2.6 |
| Ntcheu | 31.2 | 64.9 | 13.0 | 3.9 | 33.5 | 9.5 | 20.1 | 1.0 |
| Lilongwe City | 65.0 | 80.0 | 56.2 | 28.8 | 72.4 | 37.5 | 63.0 | 9.9 |
| Mangochi | 24.5 | 60.4 | 14.9 | 5.6 | 29.5 | 8.9 | 13.1 | 2.2 |
| Machinga | 25.4 | 71.1 | 16.6 | 2.8 | 35.3 | 7.2 | 20.8 | 2.0 |
| Zomba | 30.9 | 81.6 | 13.4 | 3.0 | 35.2 | 4.7 | 26.9 | 0.6 |
| Chiradzulu | 35.2 | 73.8 | 16.6 | 3.7 | 36.0 | 3.9 | 27.3 | 0.6 |
| Blantyre | 30.4 | 73.5 | 28.2 | 8.8 | 42.3 | 15.5 | 39.7 | 3.8 |
| Mwanza | 19.1 | 67.7 | 18.7 | 1.7 | 25.5 | 7.2 | 13.2 | 2.1 |
| Thyolo | 44.4 | 72.5 | 21.3 | 7.2 | 44.0 | 11.9 | 31.9 | 6.4 |
| Mulanje | 47.4 | 80.6 | 28.5 | 3.2 | 43.9 | 7.6 | 30.9 | 2.2 |
| Phalombe | 35.1 | 68.4 | 18.4 | 4.9 | 36.0 | 5.7 | 21.3 | 2.2 |
| Chikwawa | 37.9 | 67.9 | 10.2 | 2.1 | 42.3 | 4.5 | 21.8 | 3.0 |
| Nsanje | 36.1 | 61.4 | 11.9 | 5.3 | 39.6 | 8.6 | 20.9 | 3.7 |
| Balaka | 33.5 | 65.8 | 19.1 | 4.5 | 46.2 | 12.6 | 37.4 | 1.8 |
| Neno | 32.0 | 72.6 | 17.8 | 5.8 | 39.0 | 10.8 | 37.8 | 0.0 |
| Zomba City | 56.8 | 75.9 | 62.3 | 41.2 | 81.9 | 53.3 | 78.9 | 17.1 |
| Blantyre City | 56.3 | 78.8 | 75.9 | 37.5 | 72.8 | 44.5 | 61.1 | 12.4 |

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