

Chapter 10: Tanzania

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BACKGROUND. The United Republic of Tanzania is the largest country in East Africa, covering 940,000 km², of which 60,000 km² is inland water. Tanzania lies south of the Equator and borders eight countries: Kenya and Uganda to the north; Rwanda, Burundi, the Democratic Republic of Congo and Zambia to the west; and Malawi and Mozambique to the south. Administratively, the mainland of Tanzania is divided into 21 regions and the island of Zanzibar into five regions. Each region is subdivided into districts (129 in total) and each district into wards (2,787). Each ward was further divided into enumeration areas (EAs) before the 2002 population and housing census (55,217). This study used these EAs as its primary sampling units (PSU).

According to the 2002 census, the population has increased to 34.4 million - from 12.3 million in the first post-independence census in 1967 and 23.1 million in 1988 - but Tanzania is still sparsely populated, with 39 persons per km². Although the population is still predominantly rural, the proportion of urban residents has been increasing steadily, from 6% in 1967 to about 23% in 2002.

This report presents its data in urban and rural categories, hence the need to clearly define these terms in a Tanzanian context. All regional and district headquarters are, by definition, urban areas. Other areas are also categorised as urban, provided there is a concentration of houses and there are institutions like police stations, post offices, health centres and streets in these areas.

ICT PERFORMANCE IN TANZANIA. The reform and the restructuring of the communications sector in Tanzania started in 1993 and involved two processes: the dissolution of Tanzania Posts & Telecommuni-

National Indicators	
Country	Tanzania
Population	35.2
Poverty (% of population below US\$1 a day)	No data
Adult literacy rate (% ages 15 and over)	77.1
Urban population (% of total population)	34.2
GDP per capita (US\$)	282
Diplomatic Missions	945

cations Corporation (TP&TC), and the establishment of three separate institutions, namely the Tanzania Communications Commission (TCC) as an independent Regulator, the Tanzania Posts Corporation (TPC) and the Tanzania Telecommunication Company (TTCL) as service operator.

In 1994, TTCL was granted a licence by the regulator allowing it to provide telecommunications services for 25 years, with the provision that it could not be revoked in the first 15 years. In the same year, the regulator granted an operating concession to Mobitel, a mobile service operator jointly owned by TP&TC and Millicom International. In 1995, this concession was converted to a formal licence and another mobile license was awarded to TRITEL (now defunct) through an open tender process. The ensuing competition in the market led to a decline of about 60% in mobile charges.

In 2003, the Tanzania Communications Regulatory Authority (TCRA) Act of 2003 was passed by Parliament, establishing a single regulator for the telecommunications and broadcasting sectors. TCRA inherited the functions of the former Tanzania Communications Commission and the Tanzania Broadcasting Commission. Its objectives include:

- Promotion of effective competition and economic efficiency;

- protecting the interests of the consumer;
- promoting the availability of regulated services;
- licensing and enforcing licence conditions of broadcasting, postal services and telecommunication operators;
- establishing standards for regulated goods and services;
- regulating rates and charges (tariffs);
- managing the radio frequency spectrum;
- monitoring the performance of the regulated sectors;
- monitoring the implementation of ICT applications; and
- management of numbering resources.

By July 2004 the regulator had issued the following licences:

- Telecommunication services
 - One basic telephone service provider
 - Four land cellular mobile telephone operators
 - One global mobile personal communication service (GMPCS)
 - 11 public data communication companies
 - Nine private (dedicated) data services companies
 - 23 Public Internet service providers (ISPs)
- Postal services
 - One public postal operator
 - Five international couriers
 - Nine domestic couriers
- Broadcasting licences
 - 17 cable television licences
 - 23 radio stations
 - 17 terrestrial televisions
 - 12 television booster stations
 - Three pay television licences
 - 16 community television operators

The telephone market share of the incumbent has fallen from 100% before mobile service operators

entered the market in the 1990s to a mere 8.5% by October 2004, with Zantel taking 4.3% of the market, Mobitel 16.6%, Vodacom 49.0% and Celtel 21.1%.

HOUSEHOLD AND INDIVIDUAL USER SURVEY

The focus of the study was to establish access and usage patterns for fixed, mobile and Internet services at household and individual level. A national household survey based on the same questionnaire used in studies across the continent was used to determine the access and usage patterns of users and consumers of communication technologies and was aimed at creating a baseline data set upon which future developments in Tanzania can be evaluated and trends measured.

HOUSEHOLD CHARACTERISTICS. Information regarding housing facilities is essential for the interpretation of survey findings and to verify this data against earlier household surveys. This section therefore provides a short description of some demographic and socio-economic characteristics of the population in the sampled households, including age, gender, residence, educational level and household assets. For the purposes of this survey, a household is defined as a person or a group of persons living together and sharing a common cooking pot. This group of people could be occupying part of, or an entire building, or not necessarily live in the same building. To capture all the necessary information about household and individuals, one type of questionnaires was administered to all selected households.

Respondents were asked about ownership of particular assets and access to services, including connectivity to electricity and ownership of a generator and motor vehicle, radio and television. The availability of items like a computer and Internet services indicates access to electricity in the household, while the presence of a motor vehicle

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shows that a means of transport is available to the household, which may make possible accessibility to a distant Internet café or post office.

AGE STRUCTURE OF THE STUDY POPULATION.

Population pyramids show the total picture of a studied population by age and gender, and are a useful way of illustrating the age structure of any population. Figure 10.1 below shows the population pyramid of the studied population. The broad base indicates high birth and death rates, and in general, the study population is characterised as having a youthful age structure. This shape is representative of the age/gender presentations of many other African countries, including Tanzania, according to the 2002 census. In line with the census, there are more men aged between 5-24 years in both urban and rural areas of the study population in Tanzania, but the trend changes gradually as they grow older. This pattern is similar to the one observed in the survey.

EDUCATION LEVELS. A key determinant of an individual's lifestyle and status is education. It affects many aspects of human life, including access to ICTs. It

Figure 10.1: Population Pyramid Tanzania 2004

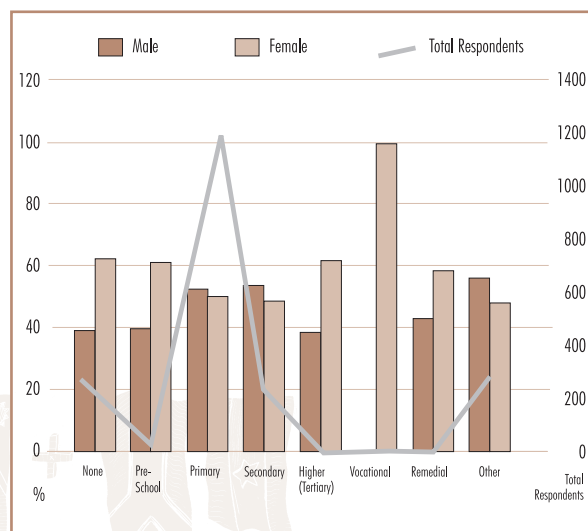
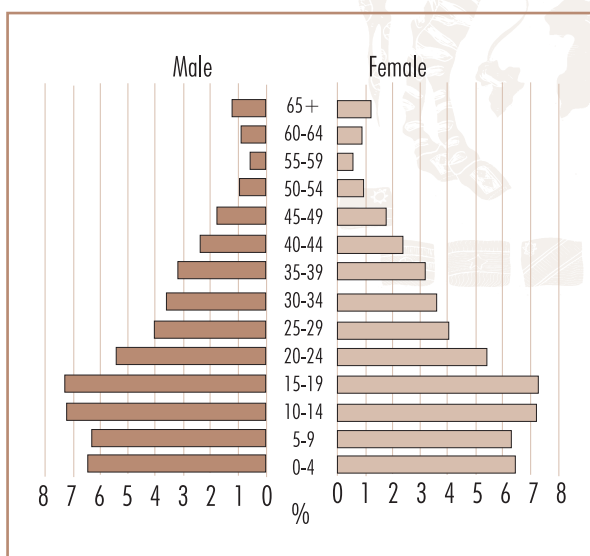
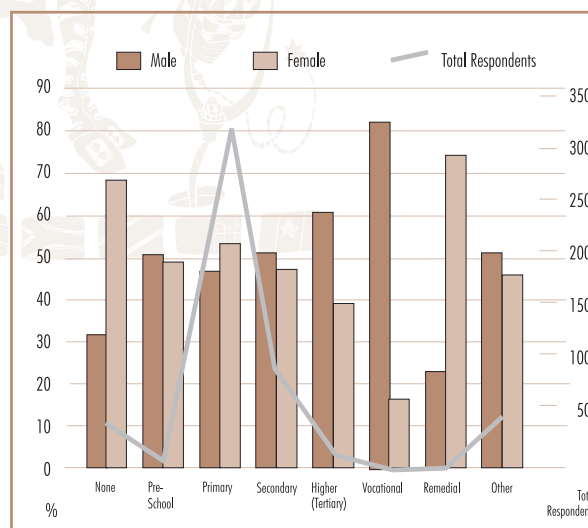


Figure 10.2: Highest level of school completed by gender in rural areas

was important to examine the level of education within the study population, since it provided some insight on the access of mobile phones, Internet and other modes of communication.

There is a marked difference in education between the sexes, especially at higher levels, both in rural and urban areas (see figures 10.2 and 10.3). As regards the “no education” category, the survey results reveal

Figure 10.3: Highest level of school completed by gender in urban areas



a higher percentage of females (over 60%, nearly double the number of men), but for those women who do enter the educational system, nearly double more women than men complete their higher education.

Figures 10.3 and 10.6 indicate a correlation between education and access to ICTs. With so many women excluded from education, one would expect more males to have access to technologies like mobile phones and Internet facilities. Figure 10.2 shows that in rural areas, 51% of males have completed primary education and 49% of females. This type of bivariate analysis will highlight the relationship between access to ICTs and education.

ACCESS TO MOBILE PHONES. A major objective of the 2004 E-Index Baseline Survey was to estimate access to, and usage of, mobile telephones. Information was collected from each member of the surveyed household on whether they had a mobile phone and whether the mobile phone was a contract or pre-paid mobile phone. The usage information was asked of only one member of the household that currently either owned or used a mobile phone, and the information collected reflected their individual situation only.

Figure 10.4 indicates that access to mobile phones is still low, with only 10% of those interviewed found to own mobile phones. Despite this low figure, figure 10.5 shows that 48% of people living in Dar es Salaam

Figure 10.4: Access to mobile phones

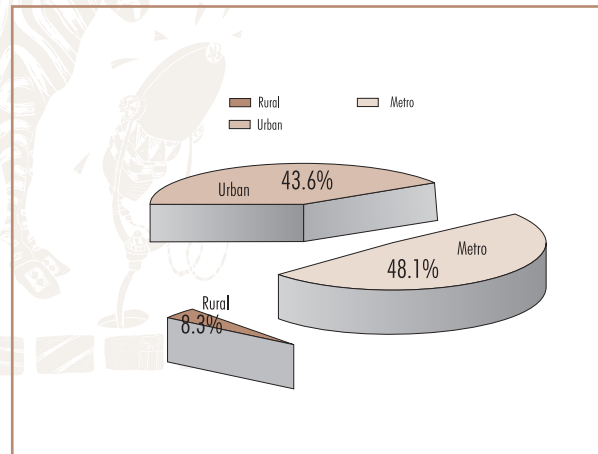
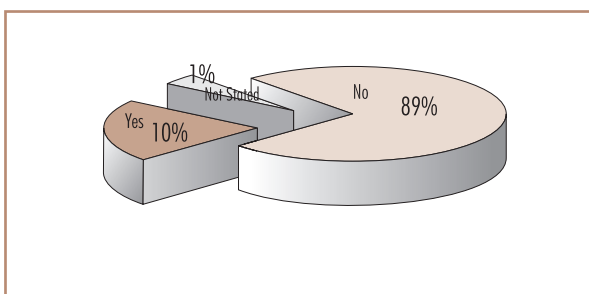
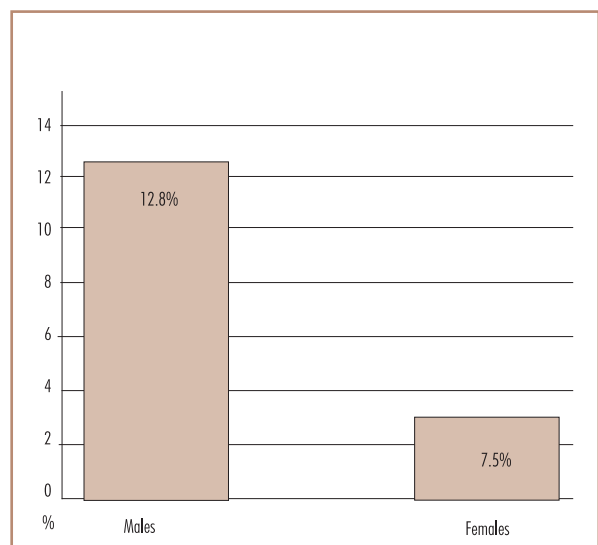


Figure 10.5: Access to mobile phones by place of residence in Tanzania

(metro) and about 44% of people in other urban areas, have access to mobile telephony. In rural areas, only 8% of people have access to mobile phones, in spite of 77% of the population living there.

ACCESS TO MOBILE PHONES, BY GENDER. According to the 2002 census, females account for 51% of Tanzania's population. As figure 10.6 indicates, only 8% of females interviewed have access to mobile phones, while 13% of male respondents were

Figure 10.6: Access to mobile phones by gender



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Location	Type of mobile phone				Total	Persons
	Contract	Pre-paid	Work-related	Combination		
Rural	0.0	100.0	0.0	0.0	100.0	63
Metro	0.5	99.0	0.5	0.0	100.0	384
Other urban	0.0	99.4	0.6	0.0	100.0	337
Total	0.3	99.2	0.5	0.0	100.0	784

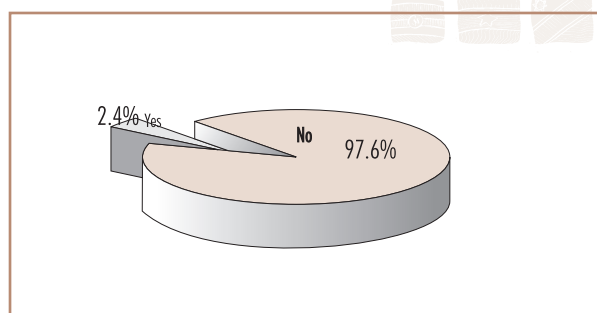
Figure 10.7 Distribution of household members by type of mobile phone and residence

found to own mobile phones. Of the subset who do own mobile phones, females make up 38% compared to 62% for males. It is clear that there are correlations between education and income, and access to communication services.

As figure 10.7 shows, almost all members of households owning mobile phones own pre-paid phones (99%). While less than 1% were contract phones, only 0.5% were work-related, and thus likely to be supplied by companies to their workers. In rural areas, 100% of mobile phones are pre-paid, compared to 99% in urban areas. Even in Dar es Salaam, there are very few contract subscribers.

ACCESS TO EMAIL. Assessing access to the Internet and computers was another major objective of this study. Only 2% of people in Tanzania have email addresses (figure 10.8). Most of those live in Dar es Salaam. This does not appear to be significant in comparison with less than 1% in the rural areas. Looking at gender, figure 10.9 shows little difference

Figure 10.8: Access to email addresses



Gender	Email addresses				Total
	Personal subscription	Personal free account	Work-related subscription	Combination	
Male	14.0	79.3	6.6	0.0	100
Female	17.9	74.6	1.5	6.0	100
Total	15.4	77.7	4.8	2.1	100

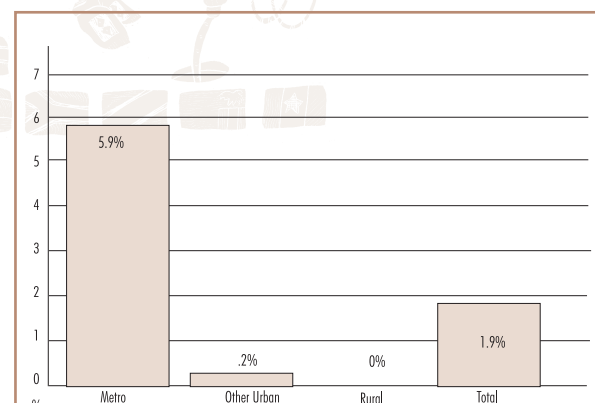
Figure 10.9: Percentage distribution of household members with at least one email address, type of email and gender

between males and females on email ownership (3% for males and 2% for females).

Of those who own email addresses in Tanzania, more than three-quarters (78%) have free public accounts, for example, Yahoo or Hotmail. Only 15% of email owners have personal subscription email accounts, and just 5% use work-related accounts. Of those who have an email address, close to 7% of males have work-related email, compared to only 2% of females. This is likely to be associated with the fact that more males are employed than females.

ACCESS TO COMPUTERS AND THE INTERNET. Only 2% of all households in Tanzania have at least one working computer – all of them in urban areas (figure 10.10). Only 6% of households in Dar es Salaam have computers, of which almost half have printers, according to the study findings. Only 15% of households with a computer have scanners. With

Figure 10.10: Availability of working computers, by place of residence



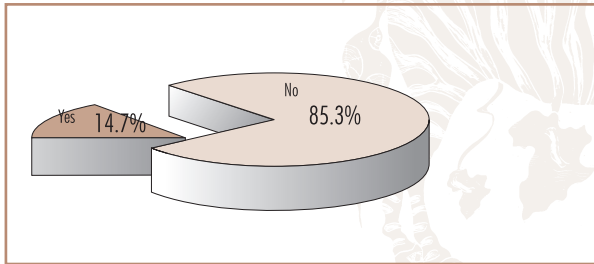


Figure 10.11: Does anybody in the household have a working Internet connection?

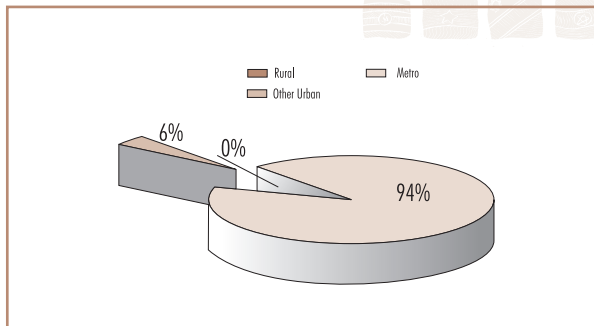


Figure 10.12: Breakdown by place of residence of those with access to a working Internet connection power distribution concentrated in the major urban centres, these findings are not surprising.

Only those households with at least one computer were asked if they are connected to the Internet. The survey found that only 15% of all households with working computers are connected to the Internet – almost all of them (94%) in Dar es Salaam (figure 10.12). It is evident that a negligible number of households in Tanzania have Internet connections.

Figure 10.13: Households with telephones

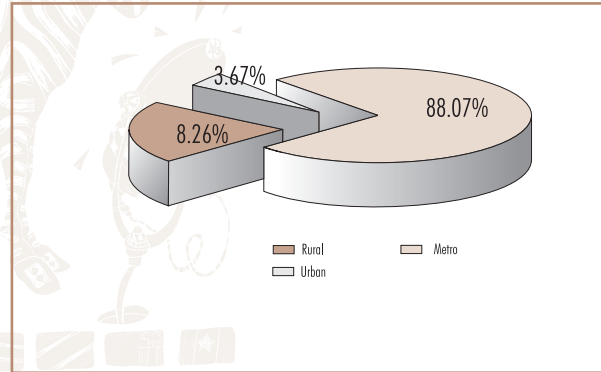
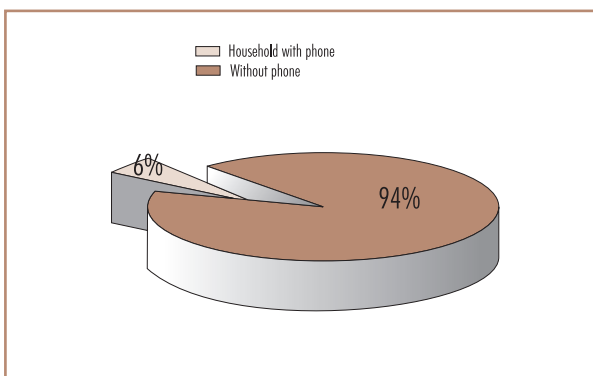


Figure 10.14: Households with a phone at home, by place of residence

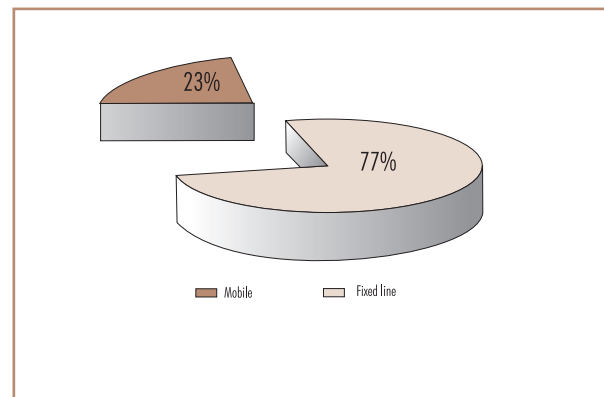


Figure 10.15: Households with either a mobile or fixed line phone

ACCESS TO HOUSEHOLD, PUBLIC AND OFFICE TELEPHONES

HOUSEHOLD TELEPHONES. Figures 10.13, 10.14 and 10.15 show that only 6% of all households have phones at home. Of these, 88% are in major towns, 4% from other urban and 8% from rural.

Of those who have household phones, 77% have fixed lines and the remaining 23% have cellphones. 76% of respondents with phones said their household phones were currently working. About 72% of household phones are pre-paid system.

USE OF PUBLIC AND OFFICE PHONES. Figure 10.16 shows that 8% of respondents used payphones during the past three months, 64% of these being from Dar es Salaam, 27% from other urban and 9% from

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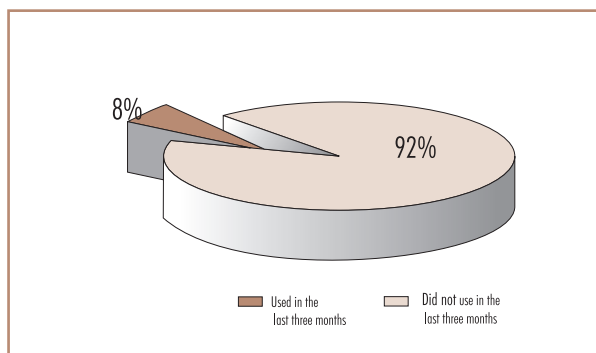
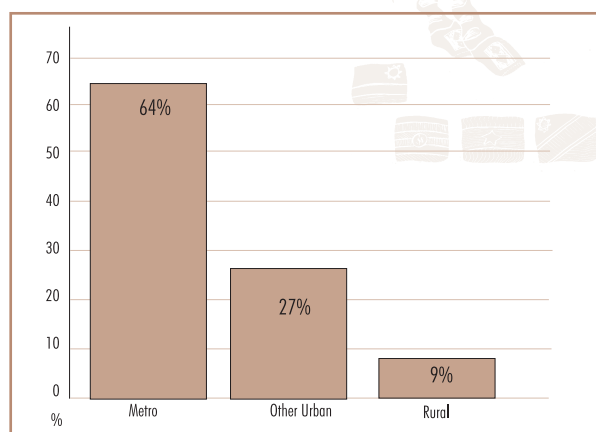


Figure 10.16: Payphone usage

rural areas. The relatively low usage in the last three months in rural areas of public access telephones reflect their limited presence outside of Dar es Salaam. Of those respondents who had reported use of private telephone kiosks, 78% of them were from major towns. Less than 1% of the respondents reported to have used computer phone/VoIP shops. This is due to the fact that VoIP is illegal in Tanzania.

CONCLUSION. The E-Africa Index baseline survey provides a useful tool to analyse the demand patterns of users and consumers of communication technologies, and has created a baseline data set upon which future developments can be evaluated and trends measured in Tanzania and 11 other African countries. This data should provide a worthwhile benchmarking, monitoring and

Figure 10.17: Payphone usage



evaluation tool for the regulator, TCRA and the Ministry.

Only 6% of households in Tanzania have access to phones, of which almost 90% are in Dar es Salaam. About three-quarters of household phones are fixed lines, while the rest are mobile phones dedicated for household usage. Although recently introduced, the pre-paid system in Tanzania is predominant, with 72% of households using pre-paid phones.

The study found that mobile most effectively services the country, with 10% of all Tanzanians owning mobile phones. Most mobile phone owners, however, are found in urban areas, with 17% of the population in Dar es Salaam owning mobile phones, 10% in other urban areas and only 4% of the rural population, despite the vast majority of Tanzanians living in rural areas. It is noteworthy that almost all mobile phone owners use pre-paid accounts (99%).

Payphone usage is surprisingly low, considering the poor access to both fixed and mobile phones. However, there are very few payphones outside the major urban areas, and where they do exist, they seldom work.

Access to the Internet and computers is extremely limited. Only 2% of people in Tanzania have email addresses, and most of those live in Dar es Salaam. More than three-quarters of those who have an email address use free public accounts.

Only 2% of all households in Tanzania have a computer – all in urban areas. Even then, a mere 15% of the few households with working computers are connected to Internet, and they almost exclusively live in Dar es Salaam. In general, there is negligible Internet penetration in Tanzania. □