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ANALYTICAL REPORT ON ICT

Based on the 2023/24 Kenya Housing Survey (KHS)

ANALYTICAL REPORT ON ICT

BASED ON THE 2023/24 KENYA HOUSING SURVEY

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Acronyms and Abbreviations

AHP	Affordable Housing Program
BEPs	Build Environment Professionals
BETA	Bottom-Up Economic Transformation Agenda
BORAQS	Board of Registration of Quantity Surveyors
CA	Communications Authority of Kenya
CAPI	Computer Assisted Personal Interviewer
CBOs	Community Based Organisations
CCTV	Closed Circuit Television
EBK	Engineers Board of Kenya
ICT	Information and Communication Technology
ICTs	Information and Communication Technologies
IoT	Internet of Things
ITU	International Telecommunication Union
KDHS	Kenya Demographic Health Survey
K-HMSF	Kenya Household Master Sample Frame
KHS	Kenya Housing Survey
KIPs	Kenya Institute of Planners
KNBS	Kenya National Bureau of Statistics
KPHC	Kenya Population and Housing Census
KPLC	Kenya Power and Lighting Company
MTP	Medium Term Plan
NEMA	National Environmental Management Authority
NGOs	Non-Governmental Organizations
PWDs	Persons with Disabilities
SDGs	Sustainable Development Goals
SDHUD	State Department for Housing and Urban Development
TSC	Teachers Service Commission
TWG	Technical Working Group
WASREB	Water Service Regulatory Board

Glossary

Term	Definition
Computer Use	"Refers to use of "a desktop computer, a laptop 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 a main function, such as mobile or smartphones."
Computer usage by Household	Refers to atleast one member of the household using computer. Computer usage is as defined earlier
Contributing-family workers	Refers to those workers who hold "self employment jobs" as own-account workers [see iii above] in a market oriented establishment operated by a related person living in the same household.
Digital Inclusion	The ability of individuals and communities to access and effectively use ICT to improve quality of life and participate in society and the economy.
Employees	Refers to those workers who hold the type of jobs defined as "paid employment jobs", where the incumbents hold explicit (written or oral) or implicit employment contracts that give them a basic remuneration that is not directly dependent upon the revenue of the unit for which they work.
Employers	Refers to those workers who, working on their own account or with one or a few partners, hold the type of jobs defined as a "self employment jobs" (i.e. jobs where the remuneration is directly dependent upon the profits derived from the goods and services produced), and, in this capacity, have engaged, on a continuous basis, one or more persons to work for them as employee(s).
Fixed Internet	Internet service delivered through wired connections such as fibre, DSL, or cable.
Households with Internet	Refers to households with active Internet access through any device (e.g., mobile phone, computer, tablet, smart TV) and network type (fixed or mobile). Internet access enables communication, browsing, email, and digital services. WiFi used to redistribute a fixed broadband signal is categorized as fixed broadband. A household may use more than one type of connection. Only working connections at the time of the survey are counted.
Internet of Things (IoT)	Refers to as a global infrastructure for the information society, enabling advanced services by interconnecting (physical and virtual) things based on existing and evolving interoperable information and communication technologies. Essentially, it's about connecting various "things" - devices, objects, etc. - to the internet to collect and exchange data, ultimately creating a more interconnected and data-driven world
Internet Usage by Household	Refers to atleast one member of the household using internet. Internet usage is as defined earlier
Internet Use	The Internet is a worldwide 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.).
Mobile Internet	Internet accessed via mobile network services (e.g., through a SIM card using 3G, 4G, or 5G).
Mobile Phone Ownership	An individual owns a mobile cellular telephone if he/she has a mobile cellular phone device with at least one active SIM card for personal use. It includes mobile cellular phones supplied by employers that can be used for personal reasons (to make personal calls, access the Internet, etc.) and those who have a mobile phone for personal use that is not registered under his/her name. It excludes individuals who have only active SIM card(s) and not a mobile phone device.
Mobile Phone Use	Refers to the use of a mobile (or smart) telephone by individual household members for communication (therefore, not only as a clock, playing games or listening to music). Use of a mobile (or smart) telephone does not necessarily mean that the telephone is owned or paid for by the individual but should be reasonably available through work, a friend or family member, etc.

Mobile Phone Ownership by Households	Refers to atleast one member of the household owning a mobile phone. A mobile phone ownership is as defined earlier.
Mobile Phone Usage by Households	Refers to atleast one member of the household using a mobile phone. A mobile phoneusage is as defined earlier
Mobile Sharer	An individual who uses a mobile phone but does not own one, often borrowing from a friend, relative, or guardian. Includes those who owng a sim card but not a handset and hence borrows someone else device.
Own Account Workers	"Refers to those workers who, working on their own account or with one or more partners,hold the type of jobs defined as a “self-employment jobs”, and have not engaged on a continuous basis any employees to work for them."
Smart door locks and garage door openers	These are electronic systems that let you lock and unlock doors or open and close garage doors using a remote control, smartphone app, or even voice commands. Instead of using a traditional key, you can control them with a tap on your phone or a simple voice command, making them convenient and often more secure.
Smart Lighting Systems	"Refers to automated lighting setups that allow users to control lights remotely, typically through a mobile app or voice command. These systems enable functions such as dimming, scheduling, or changing light colours without using a physical switch. Many also feature motion sensors that automatically turn lights on or adjust brightness when movement is detected. "
Smart Plugs	These are devices that fit into regular electrical outlets and allow you to control the power to any appliance plugged into them using a smartphone app or voice command. By using a smart plug, you can turn on or off devices remotely, set schedules for them, or even monitor energy usage.
Smart Security Systems	Refers to technology-driven home security setups designed to detect, monitor, and respond to potential safety threats. They typically include alarms that alert residents during intrusions, surveillance cameras (including discreet versions embedded in doorbells or household items) that allow real-time remote monitoring, smoke detectors that warn of fire hazards, and various sensors that detect motion, door or window openings, or environmental changes such as temperature and humidity.
Smart Technologies	Digital devices or systems connected via the internet that automate or improve home environments, e.g., smart lighting, smart security systems.
Workers not Classifiable by Status	Refers to individuals include those for whom insufficient relevant information is available, and/or who cannot be included in any of the preceding categories.
Working Employers	These are persons who operate their own businesses, or are engaged independently in some profession or trade, and may or may not engage someone. If they hire someone, they are working employers; and if they work alone in their business, they are own-account owners or workers. Whether they hire or not, the important thing here is that each of them is an owner or operator of the business and works there.

Preface

The increasing integration of ICTs into daily life, ranging from mobile phone use and internet access to the adoption of smart home technologies has profound implications for development, service delivery, and quality of life. In this context, understanding how ICTs are distributed and utilized across different population groups and geographic regions is essential for promoting inclusive growth and digital equity.

This report is a collaboration between the Kenya National Bureau of Statistics (KNBS) and the Communications Authority of Kenya (CA). The findings presented offer a granular view of ICT ownership and usage at both the individual and household levels, disaggregated by gender, age, education, disability, income, residence, dwelling types, among others.

Beyond serving as a statistical resource, this report is intended to inform policy formulation, guide investment in digital infrastructure, support monitoring of key national and international commitments such as the Sustainable Development Goals (SDGs), and foster evidence-based decision-making in the housing and ICT sectors.

This report will serve as a valuable reference for government agencies, development partners, private sector actors, researchers, and civil society organizations working to bridge the digital divide and build a more inclusive and connected Kenya.



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Executive Summary

The 2023/24 Kenya Housing Survey (2023/24 KHS) was a cross-sectional study that collected data for estimating housing indicators at national, rural, urban and county levels. This data provided a comprehensive analysis of housing conditions, affordability, and tenure across the country. Additionally, the survey collected indicators including ICT ownership, usage and adoption of smart technologies. This analytical report on ICT therefore presents the findings based on the 2023/24 KHS conducted by the KNBS in collaboration with CA. The objective of the ICT module in the survey was to generate nationally representative statistics on ICT ownership and usage at both individual and household levels. These indicators provide critical insights to inform policies related to digital inclusion, socio-economic development, and housing transformation in line with Kenya Vision 2030 and the Sustainable Development Goals (SDGs).

The survey covered all the 47 counties and used Computer-Assisted Personal Interviewing (CAPI) to collect data from over 25,000 households between March and May 2024. The indicators included mobile phone ownership and usage, computer usage, internet usage, and the adoption of smart technologies.

From the survey findings, national mobile phone ownership by individual stood at 53.7 per cent, with higher ownership among males (54.5%) than females (52.9%), and with disparities between urban (64.6%) and rural (48.6%) areas. Mobile phone usage was reported by 64.9 per cent of the population, with 11.3 per cent being mobile sharers (users who do not own a phone). On the use of computers, the uptake remained relatively low at 11.6 per cent, with stark urban–rural disparities (20.9% and 7.3%) and varied gaps across education levels, income quintiles, and types of employment. Internet usage stood at 35.0 per cent nationally, with the highest usage among individuals aged 25–34 (59.3%) and strongly correlated with higher education levels and urban residence. Nairobi City County had the highest internet usage at 64.7 per cent, while counties like West Pokot (9.1%) and Turkana (12.7%) reported lower usages.

Regarding access to ICT at the household-level the survey revealed that nationally 93.8 per cent owned a mobile phone, while only 36.3 per cent had Internet access, and 8.8 per cent owned a computer. Analysis by residence showed that urban households had higher ICT adoption compared to rural households. Computer ownership among urban households was 17.9 per cent and 3.0 per cent in rural areas. Similarly, more households in urban areas (17.3%) were connected with fixed internet compared to households in rural areas (0.6%).

Overall, adoption of smart technologies remained relatively low with smart lighting systems reported at 2.4 per cent in urban households and 1.3 per cent in rural households.



53.7%

National mobile phone ownership by individual stood at 53.7 per cent, with higher ownership among males (54.5%) than females (52.9%), and with disparities between urban (64.6%) and rural (48.6%) areas.



35%

Internet usage stood at 35.0 per cent nationally, with the highest usage among individuals aged 25–34 (59.3%)



Smart security systems installed were more in the urban households (4.2%) than in the rural households (0.6%). Across the different dwelling types, the maissonettes type recorded the highest adoption of smart security systems (26.4%) and Internet connectivity (67.9%), while shanties and manyattas had near-zero uptakes.

These findings underscore the role of ICTs in enabling access to information, services, and economic opportunities, particularly in relation to housing, education, and employment. They also reveal critical gaps in digital inclusion, especially among rural, low-income, and marginalized populations. The report recommends continued investment in ICT infrastructure, digital literacy, and inclusive policies to bridge these divides and support the realization of Kenya's digital and housing development agenda.

> **The survey covered all the 47 counties and used Computer-Assisted Personal Interviewing (CAPI) to collect data from over 25,000 households between March and May 2024. The indicators included mobile phone ownership and usage, computer usage, internet usage, and the adoption of smart technologies.**



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TABLE 0: SUMMARY OF INDICATORS

A: Key Indicators at Individual Level for persons 3 years and above by Residence and Sex

INDICATORS AT INDIVIDUAL LEVEL	Kenya			Rural			Urban		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
Proportion of individuals who Owned a Mobile Phone	53.7	54.5	52.9	48.6	49.3	47.9	64.6	65.6	63.7
Proportion of individuals who Used Mobile Phone	64.9	65.5	64.4	59.6	60.3	59.0	76.4	76.8	76.0
Proportion of individuals who Used Mobile Phone Without Owning	11.3	11.0	11.5	11.0	11.0	11.1	11.8	11.2	12.4
Proportion of individuals who used Internet	35.0	37.8	32.2	25.0	28.3	21.7	56.6	58.4	54.8
Proportion of individuals who used Computers	11.6	13.1	10.1	7.3	8.1	6.4	20.9	23.8	18.1

Key Indicators at Individual Level by Age Group

	Owned a Mobile Phone			Mobile Phone Usage			Used mobile Phone Without Owning			Used the internet			Used a computer		
Age Group	Total	Male	Fe-male	Total	Male	Fe-male	Total	Male	Fe-male	Total	Male	Fe-male	Total	Male	Female
3–4	1.4	1.0	1.8	13.6	13.5	13.7	12.2	12.5	12.0	6.2	6.8	5.6	1.6	2.1	1.1
5–9	1.7	1.7	1.8	19.8	19.4	20.2	18.0	17.7	18.4	8.9	8.5	9.4	2.8	2.6	3.0
10–14	3.4	3.3	3.4	27.6	29.0	26.3	24.3	25.6	22.9	11.5	11.7	11.2	5.6	5.9	5.4
15–24	54.3	55.4	53.2	69.2	69.4	68.9	14.9	14.0	15.7	46.6	48.5	44.7	18.6	19.2	18.0
25–34	89.6	90.5	88.7	93.2	93.7	92.8	3.7	3.2	4.1	59.3	64.0	54.5	17.8	20.7	14.9
35–44	89.8	90.0	89.5	93.3	93.3	93.3	3.5	3.3	3.8	47.1	52.2	42.2	13.4	17.1	9.7
45–54	89.2	89.7	88.7	93.2	93.8	92.7	4.1	4.1	4.0	40.4	44.2	36.6	11.0	13.3	8.8
55–64	86.3	88.2	84.5	90.8	92.8	88.9	4.5	4.6	4.1	31.2	37.9	24.8	9.2	10.9	7.6
65–74	75.7	80.5	71.3	82.8	86.1	79.9	7.1	5.5	8.6	16.5	22.1	11.4	4.2	5.4	3.1
75-84	61.4	72.8	51.6	70.6	79.0	63.5	9.2	6.2	11.9	7.9	12.6	3.9	1.6	3.0	0.4
85 and above	39.5	46.8	34.1	48.0	57.4	41.1	8.5	10.6	7.1	4.4	9.1	1.0	1.3	3.1	0.0

Key Indicators at Individual Level for persons 4 years and above by Highest Completed Level of Education

Education Level Completed	Owned a Mobile Phone			Mobile Phone Usage			Used mobile Phone Without Owning			Used the internet			Used a computer		
	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female
No Education	33.7	45.0	25.6	33.7	45.0	25.6	13.1	13.9	12.3	0.0	0.0	0.0	0.0	0.0	0.0
Pre-Primary	1.3	1.1	1.5	14.0	14.7	13.3	12.8	13.7	11.8	6.6	6.8	6.3	1.6	2.5	0.7
Primary/JSS	37.0	36.0	37.9	52.3	51.8	52.8	15.3	15.7	14.9	17.2	18.5	15.8	3.4	3.7	3.2
Post Primary	91.6	92.4	90.7	96.8	97.5	95.9	5.2	5.1	5.2	65.0	66.2	63.5	21.0	20.0	22.2
Secondary	75.3	77.2	73.3	84.9	85.8	83.9	9.6	8.6	10.6	54.6	57.5	51.7	12.9	14.1	11.7
Higher Education	98.5	98.5	98.5	99.2	99.2	99.2	0.7	0.7	0.7	92.3	92.4	92.3	55.9	58.2	53.1
Non Formal(Adult Education)	56.7	0.0	64.4	88.4	100.0	86.9	31.8	100.0	22.5	8.2	0.0	9.3	0.0	0.0	0.0
Madrassa/Duksi	28.6	31.7	25.1	39.8	40.6	38.8	11.1	8.8	13.8	8.3	7.4	9.4	0.2	0.0	0.5
Special Education	8.7	0.0	15.3	10.8	4.8	15.3	2.1	4.8	0.0	27.9	4.8	45.5	0.0	0.0	0.0

Key Indicators at Individual Level for persons 12 years and above by Marital Status

Marital Status	Owned a Mobile Phone			Mobile Phone Usage			Used mobile Phone Without Owning			Used the internet			Used a computer		
	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female
Married / Living Together Monogamous	89.1	91.6	86.5	93.1	94.7	91.5	4.0	3.1	4.9	47.9	53.3	42.5	13.1	15.7	10.5
Married /Living Together Polygamous	76.0	80.9	71.1	83.0	87.0	79.1	7.2	6.1	8.0	24.1	28.2	20.0	6.5	8.7	4.2
Separated	83.4	77.4	89.5	89.0	83.8	94.2	5.4	6.4	4.7	40.4	31.4	49.4	7.3	6.6	8.0
Divorced	83.9	80.1	87.8	92.6	91.9	93.2	7.7	11.8	5.5	41.7	39.4	43.9	10.8	11.7	9.8
Widow or Widower	75.7	78.2	73.3	81.5	83.6	79.4	6.0	5.4	6.1	20.1	23.7	16.5	4.3	5.6	3.1
Never Married	59.9	62.0	57.8	72.7	73.8	71.6	12.7	11.8	13.9	50.2	51.1	49.3	20.8	20.8	20.8

Key Indicators at Individual Level for Persons with Disability (PWDs) by Type, Age 5 years and above

Disability Domain	Owned a Mobile Phone			Mobile Phone Usage			Used mobile Phone Without Owning			Used the internet			Used a computer		
	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female
Visual	68.8	66.1	70.8	80.8	76.5	83.8	12.0	10.4	13.1	35.0	36.7	33.9	18.2	20.0	16.9
Hearing	36.1	36.2	36.0	51.7	51.5	51.9	15.6	15.3	15.9	15.5	17.9	13.5	4.0	3.9	4.1
Mobility	69.7	66.4	72.1	77.3	76.2	78.1	7.6	9.9	6.0	24.3	23.6	24.8	6.2	8.0	5.0
Cognition	57.1	49.9	59.9	59.4	49.9	63.1	2.3	0.0	3.2	17.2	14.3	18.3	0.9	3.1	0.0
Selfcare	35.8	32.4	38.0	44.0	44.4	43.8	8.2	12.0	5.9	10.5	14.9	7.6	1.8	1.1	2.2
Communication	42.4	32.8	58.3	51.4	43.5	64.5	9.0	10.6	6.3	6.4	5.4	8.2	1.1	1.7	0.0

Key Indicators at Individual Level By Status in Employment, Age 5 Years and above

Status in employment	Owned a Mobile Phone			Mobile Phone Usage			Used mobile Phone Without Owning			Used the internet			Used a computer		
	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female
Employees	91.6	91.2	92.3	95.2	94.9	95.8	3.6	3.7	3.5	60.9	61.7	59.3	21.6	21.0	22.7
Working Employers	96.8	96.4	97.5	97.7	97.1	98.7	0.9	0.7	1.1	70.3	71.4	68.6	29.8	32.4	25.7
Own-account workers	89.9	90.5	89.2	94.0	94.4	93.7	4.2	3.9	4.4	44.3	48.7	39.6	8.9	10.6	7.1
Contributing family workers	72.3	67.9	75.0	82.2	77.8	84.9	9.9	9.9	9.9	32.4	38.7	28.6	7.9	11.3	5.9
Workers not classifiable by status	57.4	52.6	61.4	72.6	68.8	75.7	15.2	16.2	14.3	24.8	28.0	22.1	6.1	7.0	5.2

Key Indicators at Individual Level By Main Employer, Age 5 years and above

Main Employer	Owned a Mobile Phone			Mobile Phone Usage			Mobile Sharers			Used the internet			Used a computer		
	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female
National Government	98.4	99.2	97.1	98.8	99.7	97.6	0.7	0.8	1.0	92.0	92.1	92.1	51.7	44.9	65.6
County Government	97.5	99.1	95.6	99.7	100.0	99.4	2.2	0.8	3.8	86.0	86.3	85.6	55.3	56.6	53.7
Private Sector Enterprise	96.5	96.1	97.6	98.2	98.1	98.5	1.7	2.0	0.9	74.1	72.3	78.4	27.4	25.7	31.7
International Organizations/ NGO	98.3	97.5	99.4	99.9	99.9	100.0	1.6	2.3	0.6	96.1	95.9	96.4	54.3	61.0	44.8
Local Ngo/CBO	100.0	100.0	100.0	100.0	100.0	100.0	0.0	0.0	0.0	72.4	69.9	76.6	49.8	53.4	43.8
Faith Based Organization	96.6	95.0	99.2	99.7	100.0	99.2	3.1	5.0	0.0	78.5	77.1	80.8	38.1	28.8	52.6
Self Employed-Formal	94.0	94.2	93.9	95.8	96.3	95.0	1.8	2.2	1.2	67.0	68.9	63.9	23.4	26.8	18.0
Informal Sector 'Jua Kali' (Employed)	91.2	91.2	91.2	95.0	94.6	96.6	3.8	3.4	5.4	54.6	54.9	53.1	8.5	9.9	2.8
Self Employed - Informal	89.2	90.0	88.4	93.5	93.9	93.2	4.3	3.9	4.8	48.1	51.1	44.9	8.6	10.2	7.1
Small Scale Agriculture (Employed)	77.0	75.4	79.0	86.2	85.7	86.9	9.2	10.3	8.0	25.5	32.1	17.6	4.1	4.1	4.1
Self Employed Small Scale Agriculture	84.7	85.4	84.2	90.9	90.7	91.0	6.2	5.3	6.8	29.5	36.2	24.2	4.0	5.2	3.1
Pastoralist Activities (Employed)	40.0	39.1	46.1	53.1	54.1	46.1	13.1	15.0	0.0	12.5	14.3	0.0	0.0	0.0	0.0
Self Employed Pastoralist Activities	69.9	70.0	69.3	79.1	79.6	76.7	9.2	9.6	7.4	10.8	11.9	5.4	0.6	0.7	0.0
Individual/ Private Household	81.6	80.7	82.6	88.8	87.7	90.1	7.2	7.0	7.5	38.2	41.7	33.8	6.3	6.7	5.7
School Boards (BOM) Employees	97.4	96.1	98.4	99.2	99.1	99.3	1.9	3.0	0.9	72.4	72.0	72.8	34.2	36.8	32.0

TABLE 0: SUMMARY OF INDICATORS

B: Key Indicators at Household level

	Proportion of households with ICTs	Kenya	Rural	Urban
Key Household Indicators	Proportion of households with fixed Internet	7.0	0.6	17.3
	Proportion of households with mobile Internet	34.9	24.9	50.6
	Proportion of households with both fixed and mobile Internet	5.6	0.4	13.8
	Proportion of households with either fixed or mobile Internet connection (Total Internet connection)	36.3	25.1	54.1
	Proportion of households with a Computer (Computer/Tablet/ Laptop)	8.8	3.0	17.9
	Proportion of households with smart lighting Systems	1.7	1.3	2.4
	Proportion of households with smart security systems	2.0	0.6	4.2
	Proportion of households with smart door locks & garage door openers	0.4	0.2	0.8
	Proportion of households with smart plugs	0.2	0.1	0.4
	Proportion of households in neighborhoods with CCTV	3.8	0.8	8.6
	Proportion of households with at least one member using ICTs			
At Least one Member	Proportion of households with at least one member owning a mobile phone	93.8	91.4	97.6
	Proportion of households with at least one member using a mobile phone	95.8	94.0	98.6
	Proportion of households with at least one member using Internet	61.6	48.8	81.9
	Proportion of households with at least one member using a computer	25.5	17.6	37.9
	Proportion of households with electricity by adoption of ICTs and Smart devices			
Households with electricity	Proportion of households with electricity by adoption of fixed Internet	9.5	1.0	18.3
	Proportion of households with electricity by adoption of mobile Internet	43.4	53.0	53.0
	Proportion of households with electricity by adoption of both fixed and mobile Internet	7.5	0.7	14.6
	Proportion of households with electricity by adoption of either fixed or mobile Internet connection	45.3	34.4	56.6
	Proportion of households with electricity by adoption of computer	11.9	5.1	18.9
	Proportion of households with electricity by adoption of smart lighting systems	2.7	2.8	2.6
	Proportion of households with electricity by adoption of smart security systems	2.7	1.0	4.4
	Proportion of households with electricity by adoption of smart door locks & garage door openers	0.6	0.4	0.8
	Proportion of households with electricity by adoption of smart plugs	0.3	0.3	0.4
	Proportion of households with electricity and have CCTV in their neighbourhood	5.0	1.2	9.0

Proportion of households with electricity by adoption of ICTs and Smart devices				
Bungalow	Proportion of households living in Bungalow with Fixed internet	1.9	0.4	11.7
	Proportion of households living in bungalows with mobile internet	28.0	25.2	46.5
	Proportion of households living in bungalows with both fixed and mobile internet	1.5	0.3	9.7
	Proportion of households living in bungalows with any internet connection	28.4	25.4	48.5
	Proportion of households living in bungalows with a computer	3.9	2.6	13.1
	Proportion of households living in bungalows with smart lighting systems	1.7	1.5	3.0
	Proportion of households living in bungalows with smart security systems	0.9	0.5	4.0
	Proportion of households living in bungalows with smart door locks and garage door openers	0.3	0.2	0.8
	Proportion of households living in bungalows with smart plugs	0.2	0.1	0.6
	Proportion of households living in bungalows with CCTV in the neighbourhood	1.3	0.6	5.5
Flat / Apartment	Proportion of households living in flats/apartments with fixed internet	37.6	4.1	38.9
	Proportion of households living in flats/apartments with mobile internet	64.1	48.8	64.7
	Proportion of households living in flats/apartments with both fixed and mobile internet	29.9	2.9	31.0
	Proportion of households living in flats/apartments with any internet connection	71.8	49.9	72.6
	Proportion of households living in flats/apartments with a computer	32.3	24.5	32.6
	Proportion of households living in flats/apartments with smart lighting systems	3.3	2.5	3.4
	Proportion of households living in flats/apartments with smart security systems	8.3	3.3	8.4
	Proportion of households living in flats/apartments with smart door locks and garage door openers	0.9	0.0	1.0
	Proportion of households living in flats/apartments with smart plugs	0.2	0.0	0.2
	Proportion of households living in flats/apartments with CCTV in the neighbourhood	17.6	8.4	18.0
Maisonette	Proportion of households living in maisonettes with fixed internet	43.7	17.9	61.0
	Proportion of households living in maisonettes with mobile internet	65.5	46.0	78.6
	Proportion of households living in maisonettes with both fixed and mobile internet	41.3	17.2	57.5
	Proportion of households living in maisonettes with any internet connection	67.9	46.7	82.1
	Proportion of households living in maisonettes with a computer	57.9	33.2	74.4
	Proportion of households living in maisonettes with smart lighting systems	21.2	10.2	28.6
	Proportion of households living in maisonettes with smart security systems	26.4	18.1	32.0
	Proportion of households living in maisonettes with smart door locks and garage door openers	12.4	4.6	17.7
	Proportion of households living in maisonettes with smart plugs	6.2	0.8	9.9
	Proportion of households living in maisonettes with CCTV in the neighbourhood	36.6	23.6	45.2
Swahili/Compound Houses Sharing Facilities	Proportion of households living in Swahili/compound houses sharing facilities with fixed internet	3.0	0.9	3.9
	Proportion of households living in Swahili/compound houses sharing facilities with mobile internet	41.4	39.7	42.2
	Proportion of households living in Swahili/compound houses sharing facilities with both fixed and mobile internet	2.2	0.5	3.0
	Proportion of households living in Swahili/compound houses sharing facilities with any internet connection	42.2	40.2	43.1
	Proportion of households living in Swahili/compound houses sharing facilities with a computer	6.8	5.3	7.5
	Proportion of households living in Swahili/compound houses sharing facilities with smart lighting systems	1.6	3.1	0.9
	Proportion of households living in Swahili/compound houses sharing facilities with smart security systems	0.5	0.6	0.5
	Proportion of households living in Swahili/compound houses sharing facilities with smart door locks and garage door openers	0.1	0.3	0.0
	Proportion of households living in Swahili/compound houses sharing facilities with smart plugs	0.1	0.1	0.1
	Proportion of households living in Swahili/compound houses sharing facilities with CCTV in the neighbourhood	1.5	0.5	1.9

Proportion of households with electricity by adoption of ICTs and Smart devices, Cont'd				
Compound Houses not Sharing Facilities	Proportion of households living in compound houses not sharing facilities with fixed internet	10.7	1.5	14.1
	Proportion of households living in compound houses not sharing facilities with mobile internet	50.3	32.5	56.8
	Proportion of households living in compound houses not sharing facilities with both fixed and mobile internet	7.2	0.7	9.6
	Proportion of households living in compound houses not sharing facilities with any internet connection	53.8	33.3	61.2
	Proportion of households living in compound houses not sharing facilities with a computer	18.0	10.0	21.0
	Proportion of households living in compound houses not sharing facilities with smart lighting systems	0.7	0.5	0.8
	Proportion of households living in compound houses not sharing facilities with smart security systems	2.3	0.3	3.0
	Proportion of households living in compound houses not sharing facilities with smart door locks and garage door openers	0.4	0.0	0.6
	Proportion of households living in compound houses not sharing facilities with smart plugs	0.6	1.0	0.5
	Proportion of households living in compound houses not sharing facilities with CCTV in the neighbourhood	7.6	0.0	10.3
Shanty	Proportion of households living in shanties with fixed internet	0.0	0.0	0.0
	Proportion of households living in shanties with mobile internet	20.7	0.0	35.4
	Proportion of households living in shanties with both fixed and mobile internet	0.0	0.0	0.0
	Proportion of households living in shanties with any internet connection	20.7	0.0	35.4
	Proportion of households living in shanties with a computer	0.9	0.0	1.5
	Proportion of households living in shanties with smart lighting systems	0.0	0.0	0.0
	Proportion of households living in shanties with smart security systems	0.0	0.0	0.0
	Proportion of households living in shanties with smart door locks and garage door openers	0.0	0.0	0.0
	Proportion of households living in shanties with smart plugs	0.0	0.0	0.0
	Proportion of households living in shanties with CCTV in the neighbourhood	1.5	3.6	0.0
Manyatta/Traditional House/Hut	Proportion of households living in manyatta/traditional houses/huts with fixed internet	0.0	0.0	0.2
	Proportion of households living in manyatta/traditional houses/huts with mobile internet	16.1	14.4	41.5
	Proportion of households living in manyatta/traditional houses/huts with both fixed and mobile internet	0.0	0.0	0.2
	Proportion of households living in manyatta/traditional houses/huts with any internet connection	16.1	14.4	41.5
	Proportion of households living in manyatta/traditional houses/huts with a computer	0.2	0.2	0.3
	Proportion of households living in manyatta/traditional houses/huts with smart lighting systems	0.1	0.1	0.0
	Proportion of households living in manyatta/traditional houses/huts with smart security systems	0.0	0.0	0.0
	Proportion of households living in manyatta/traditional houses/huts with smart door locks and garage door openers	0.0	0.0	0.0
	Proportion of households living in manyatta/traditional houses/huts with smart plugs	0.0	0.0	0.0
	Proportion of households living in manyatta/traditional houses/huts with CCTV in the neighbourhood	0.0	0.0	0.2
Townhouse	Proportion of households living in townhouses with fixed internet	24.9	0.0	34.6
	Proportion of households living in townhouses with mobile internet	43.1	10.1	55.9
	Proportion of households living in townhouses with both fixed and mobile internet	20.5	0.0	28.5
	Proportion of households living in townhouses with any internet connection	47.5	10.1	62.1
	Proportion of households living in townhouses with a computer	25.2	3.7	33.5
	Proportion of households living in townhouses with smart lighting systems	2.2	0.0	3.1
	Proportion of households living in townhouses with smart security systems	2.0	0.0	2.8
	Proportion of households living in townhouses with smart door locks and garage door openers	1.7	0.0	2.3
	Proportion of households living in townhouses with smart plugs	1.9	0.0	2.6
	Proportion of households living in townhouses with CCTV in the neighbourhood	4.4	0.0	6.1

Proportion of the household with ICTs and Smart technology by Housing Tenure				
Owns	Proportion of households living in own houses with fixed internet	2.3	0.5	15.4
	Proportion of households living in own houses with mobile internet	26.7	23.4	49.4
	Proportion of households living in own houses with both fixed and mobile internet	2.0	0.3	13.5
	Proportion of households living in own houses with any internet connection	27.1	23.6	51.3
	Proportion of households living in own houses with a computer	3.9	2.2	15.7
	Proportion of households living in own houses with smart lighting systems	1.8	1.4	4.2
	Proportion of households living in own houses with smart security systems	1.1	0.5	5.2
	Proportion of households living in own houses with smart door locks and garage door openers	0.4	0.2	1.7
	Proportion of households living in own houses with smart plugs	0.2	0.1	0.9
	Proportion of households living in own houses with CCTV in the neighbourhood	1.5	0.6	7.2
Pays Rent/Lease	Proportion of households living in rented/leased houses with fixed internet	15.1	1.1	17.8
	Proportion of households living in rented/leased houses with mobile internet	51.3	45.0	52.5
	Proportion of households living in rented/leased houses with both fixed and mobile internet	11.6	0.6	13.8
	Proportion of households living in rented/leased houses with any internet connection	54.7	45.5	56.5
	Proportion of households living in rented/leased houses with a computer	17.5	10.2	18.9
	Proportion of households living in rented/leased houses with smart lighting systems	1.5	1.3	1.6
	Proportion of households living in rented/leased houses with smart security systems	3.1	0.4	3.7
	Proportion of households living in rented/leased houses with smart door locks and garage door openers	0.4	0.1	0.5
	Proportion of households living in rented/leased houses with smart plugs	0.2	0.4	0.2
	Proportion of households living in rented/leased houses with CCTV in the neighbourhood	7.4	1.1	8.6
No Rent with Consent of Owner	Proportion of households living in houses occupied with no rent with consent of owner with fixed internet	5.1	0.9	12.4
	Proportion of households living in houses occupied with no rent with consent of owner with mobile internet	32.1	28.8	38.0
	Proportion of households living in houses occupied with no rent with consent of owner with both fixed and mobile internet	4.1	0.7	10.2
	Proportion of households living in houses occupied with no rent with consent of owner with any internet connection	33.0	29.0	40.2
	Proportion of households living in houses occupied with no rent with consent of owner with a computer	4.4	2.8	7.3
	Proportion of households living in houses occupied with no rent with consent of owner with smart lighting systems	3.4	2.1	5.6
	Proportion of households living in houses occupied with no rent with consent of owner with smart security systems	1.9	0.4	4.5
	Proportion of households living in houses occupied with no rent with consent of owner with smart door locks and garage door openers	0.1	0.1	0.1
	Proportion of households living in houses occupied with no rent with consent of owner with smart plugs	0.1	0.0	0.4
	Proportion of households living in houses occupied with no rent with consent of owner with CCTV in the neighbourhood	4.2	0.9	10.2

Proportion of the household with ICTs and Smart technology by Housing Tenure, Cont'd				
No Rent, Squatting	Proportion of households living in squatter/informal settlements with fixed internet	0.0	0.0	0.0
	Proportion of households living in squatter/informal settlements with mobile internet	3.8	3.4	5.6
	Proportion of households living in squatter/informal settlements with both fixed and mobile internet	0.0	0.0	0.0
	Proportion of households living in squatter/informal settlements with any internet connection	3.8	3.4	5.6
	Proportion of households living in squatter/informal settlements with a computer	0.5	0.4	1.2
	Proportion of households living in squatter/informal settlements with smart lighting systems	1.8	2.1	0.5
	Proportion of households living in squatter/informal settlements with smart security systems	2.8	3.5	0.0
	Proportion of households living in squatter/informal settlements with smart door locks and garage door openers	0.0	0.0	0.0
	Proportion of households living in squatter/informal settlements with smart plugs	0.6	0.7	0.0
	Proportion of households living in squatter/informal settlements with CCTV in the neighbourhood	0.0	0.0	0.0
Proportion of households that does not have children under 15 years by ICTs and Smart Technologies				
Household that does not have children under 15 years	Proportion of households that does not have children under 15 years and above with fixed Internet	8.2	0.7	18.4
	Proportion of households that does not have children under 15 years and above mobile Internet	36.9	26.1	51.9
	Proportion of households that does not have children under 15 years and above with both mobile and fixed Internet	6.6	0.5	15.0
	Proportion of households that does not have children under 15 years and above with any Internet connection	38.5	26.3	55.3
	Proportion of households that does not have children under 15 years and above with computer	11.1	3.7	21.2
	Proportion of households that does not have children under 15 years and above with Smart lighting systems	2.5	1.8	3.5
	Proportion of households that does not have children under 15 years and above with Smart security systems	3.1	0.7	6.3
	Proportion of households that does not have children under 15 years and above with Smart door locks & garage door openers	0.7	0.4	1.1
	Proportion of households that does not have children under 15 years and above with Smart plugs	0.3	0.2	0.5
	Proportion of households that does not have children under 15 years and above with CCTV	5.1	1.0	10.8
Proportion of households that has children under 15 years by ICTs and Smart Technologies				
Household that has children under 15 years	Proportion of households that has children under 15 years and above with fixed Internet	4.8	0.4	15.6
	Proportion of households that has children under 15 years and above with mobile Internet	31.9	24.5	50.1
	Proportion of households that has children under 15 years and above with both mobile and fixed Internet	3.7	0.3	12.2
	Proportion of households that has children under 15 years and above with any Internet connection	33.0	24.6	53.5
	Proportion of households that has children under 15 years and above with computer	5.8	2.3	14.3
	Proportion of households that has children under 15 years and above with Smart lighting systems	1.3	1.3	1.4
	Proportion of households that has children under 15 years and above with Smart security systems	0.9	0.5	2.0
	Proportion of households that has children under 15 years and above with Smart door locks & garage door openers	0.2	0.1	0.5
	Proportion of households that has children under 15 years and above with Smart plugs	0.2	0.1	0.3
	Proportion of households that has children under 15 years and above with CCTV	2.1	0.5	6.1

Proportion of households with ICTs and Smart Technologies by Income Quintiles				
Fixed Internet	Proportion of households in the lowest (first) income quintile with fixed internet	1.0	0.2	4.1
	Proportion of households in the second income quintile with fixed internet	1.7	0.0	5.6
	Proportion of households in the middle (third) income quintile with fixed internet	3.7	0.6	8.4
	Proportion of households in the fourth income quintile with fixed internet	5.7	0.6	11.8
	Proportion of households in the highest (fifth) income quintile with fixed internet	24.1	2.7	38.3
Mobile Internet	Proportion of households in the lowest (first) income quintile with mobile internet	21.4	18.6	32.4
	Proportion of households in the second income quintile with mobile internet	26.7	21.7	38.2
	Proportion of households in the middle (third) income quintile with mobile internet	35.2	27.0	47.6
	Proportion of households in the fourth income quintile with mobile internet	39.0	28.2	51.7
	Proportion of households in the highest (fifth) income quintile with mobile internet	54.5	38.3	65.2
Computer	Proportion of households in the lowest (first) income quintile with a computer	1.9	0.9	5.6
	Proportion of households in the second income quintile with a computer	3.6	1.4	8.6
	Proportion of households in the middle (third) income quintile with a computer	4.3	1.6	8.4
	Proportion of households in the fourth income quintile with a computer	7.0	2.9	11.8
	Proportion of households in the highest (fifth) income quintile with a computer	28.1	12.7	38.3
Smart lighting systems	Proportion of households in the lowest (first) income quintile using smart lighting systems	0.5	0.5	0.5
	Proportion of households in the second income quintile using smart lighting systems	1.1	1.4	0.5
	Proportion of households in the middle (third) income quintile using smart lighting systems	1.6	1.6	1.7
	Proportion of households in the fourth income quintile using smart lighting systems	1.6	1.5	1.7
	Proportion of households in the highest (fifth) income quintile using smart lighting systems	4.1	2.4	5.2
Smart security systems	Proportion of households in the lowest (first) income quintile using smart security systems	0.3	0.2	1.0
	Proportion of households in the second income quintile using smart security systems	0.5	0.2	1.1
	Proportion of households in the middle (third) income quintile using smart security systems	0.4	0.4	0.5
	Proportion of households in the fourth income quintile using smart security systems	1.1	0.6	1.8
	Proportion of households in the highest (fifth) income quintile using smart security systems	7.7	2.3	11.3
Smart door locks and garage door openers	Proportion of households in the lowest (first) income quintile using smart door locks and garage door openers	0.1	0.0	0.4
	Proportion of households in the second income quintile using smart door locks and garage door openers	0.1	0.2	0.0
	Proportion of households in the middle (third) income quintile using smart door locks and garage door openers	0.2	0.2	0.1
	Proportion of households in the fourth income quintile using smart door locks and garage door openers	0.1	0.2	0.1
	Proportion of households in the highest (fifth) income quintile using smart door locks and garage door openers	1.7	0.8	2.3
Smart plugs	Proportion of households in the lowest (first) income quintile using smart plugs	0.1	0.0	0.3
	Proportion of households in the second income quintile using smart plugs	0.0	0.0	0.0
	Proportion of households in the middle (third) income quintile using smart plugs	0.2	0.2	0.1
	Proportion of households in the fourth income quintile using smart plugs	0.1	0.1	0.0
	Proportion of households in the highest (fifth) income quintile using smart plugs	0.8	0.4	1.1
CCTV	Proportion of households in the lowest (first) income quintile with CCTV in the neighbourhood	0.9	0.4	2.6
	Proportion of households in the second income quintile with CCTV in the neighbourhood	1.5	0.5	3.9
	Proportion of households in the middle (third) income quintile with CCTV in the neighbourhood	1.9	0.6	3.9
	Proportion of households in the fourth income quintile with CCTV in the neighbourhood	2.6	0.9	4.7
	Proportion of households in the highest (fifth) income quintile with CCTV in the neighbourhood	12.6	2.4	19.3



01 Introduction

CHAPTER ONE: INTRODUCTION

1.1 Background

Information and Communication Technologies (ICTs) play a critical role in facilitating global development and addressing global challenges such as climate change, lack of access to information and economic opportunities, and social exclusion. Furthermore, ICTs are a key enabler for achievement of Sustainable Development Goals (SDGs) that focus on education, gender equality, building resilient infrastructure, education and revitalization of global partnership for sustainable development. The African Union's blueprint, Agenda 2063 emphasizes on the critical role of ICT in achieving its vision. The agenda aims to leverage ICT for digital inclusion, economic transformation, Infrastructure and skill development.

Kenya's Vision 2030 also aims to leverage on ICT for advancing the country's global competitiveness, national-building and good governance. The blueprint is implemented through 5 years plans (Medium Term Plans-MTPs) that guide implementation of policies and projects and the fourth plan (MTP IV, 2023-2027) is currently running. The country has launched major ICT projects which include the digital superhighway, Konza City and e-government projects which are part of Bottom-Up Economic Transformation Agenda (BETA), all of which are focused on enhancing infrastructure, connectivity and digital literacy.

These commitments made at international, regional and country level underscore the importance of timely, accurate, complete and reliable ICT statistics to assess, monitor and evaluate the impact of policies and projects. In 2024, the CA and the KNBS jointly developed and published an Analytical ICT report based on the 2022 Kenya Demographic and Health Survey (2022 KDHS). In the same year, KNBS carried out the 2023/24 KHS which factored indicators on ownership and usage of ICT devices and services at individual and household levels.

The Rationale

The rationale of this report is to provide essential data on ICT ownership and usage, highlighting its role in socio-economic development. The report aims to:

i. Bridge the data gap on ICT ownership and usage for informed policy making.

ii. Support evidence-based policymaking by providing current data.

iii. Monitor ICT related Sustainable Development Goals (SDGs) and other international reporting such as International Telecommunication Union (ITU), e.t.c.

iv. Track changes in ICTs adoption trends over time on different demographic groups.

v. Evaluate how individual characteristics such as education, marital status and employment influence ownership and usage of ICTs.

vi. Evaluate how household characteristics such as electricity, tenureship and income influence ownership and usage of ICTs.

vii. Highlight ICT's potential for economic empowerment.

1.2 Objectives

The primary objective of this report is to provide comprehensive, up-to-date and disaggregated data on the ownership and usage of ICTs in Kenya. Specifically, the report seeks to:

i. Measure the level of uptake of ICTs by individuals.

ii. Measure the level of uptake of ICTs by Households.

iii. Compare the 2023/24 KHS findings on ICT indicators with Kenya Population and Housing Census (2019 KPHC) ICT indicators.

1.3 Overview of the 2023/24 Kenya Housing Survey

The Kenya National Bureau of Statistics (KNBS) conducted the Kenya Housing Survey (2023/24 KHS) to update statistics on housing and residential dwellings in Kenya necessary for informing housing sector policies, compilation of national accounts statistics and international comparisons. It was imperative to undertake a new survey to update the data on housing and fill data gaps necessary for periodic monitoring of the sector given that the last National Housing Survey was conducted in 2012. The survey findings are thus instrumental for policymaking, particularly in advancing the Affordable Housing Programme (AHP) under Kenya's Bottom-Up Economic Transformation Agenda (BETA) and tracking progress towards housing-related Sustainable Development Goals (SDGs).

The primary objective of the 2023/24 Kenya Housing Survey was to provide up-to-date statistics on housing in Kenya to inform policy analysis. The specific objectives of the survey were to:

i. Assess the quality and condition of housing units.

ii. Evaluate the level of access to infrastructure and services.

iii. Evaluate housing affordability by providing insights into housing costs and rent.

iv. Assess the level of awareness and perceptions regarding the Affordable Housing Programme, housing regulations, and comfort in dwellings.

v. Track progress towards national housing goals (Vision 2030 and Sustainable Development Goals (SDG) indicators related to housing).

vi. Assess the change in land consumption using geospatial tools from 2016 to 2023.

1.4 Data and Methodology

Survey Design and Scope: The survey employed a cross-sectional study design to collect data for estimating housing indicators at national, rural, urban and county levels. To achieve this, a hybrid data collection system was incorporated, targeting both households and institutions. The household component of the survey was designed independently from that of the institutions. A sample survey was conducted for the households, while a census was carried out for all identified institutions key in the housing sector. The survey covered all the 47 counties to ensure that the coverage was comprehensive and representative of the entire country. The household component targeted residential housing units in both urban and rural areas while the institutional component targeted housing developers, real estate firms, Water Service Providers, County Governments-Physical Planning Departments, The National Environment Management Authority (NEMA) and Land Administration Department. The professional component targeted members from Engineers Board of Kenya (EBK), Kenya Institute of Planners (KIPs) and Board of Registration of Architects and Quantity Surveyors (BORAQS).

Sample Selection: The sample for the household component of the survey was drawn from the Kenya Household Master Sample Frame (K-HMSF), which was developed based on the 2019 KPHC. A total of 1,295 clusters were randomly selected from the sampling frame and 25,900 households within these clusters were selected for interviews. The institutional component of the survey was conducted using multiple lists obtained from various sources, including the State Department for Housing and Urban Development (SDHUD) and Water Service Regulatory Board (WASREB). The Built Environment Professionals (BEPs) list was sourced from Engineers Board of Kenya (EBK), Kenya Institute of Planners (KIPs) and Board of Registration of Architects and Quantity Surveyors (BORAQS). From this, a census was undertaken for all developers, water service



providers, real estate firms and built environment professionals.

Data collection and reference period: The data collection for the 2023/24 KHS was undertaken across all the 47 counties from 7th March to 17th May 2024. The reference period for the survey was 2020 to 2024.

Response Rates: Out of the 25,900 households sampled for the survey, 23,166 were found to be eligible. A household is considered eligible if it meets one of the following criteria: it is identified and successfully interviewed; it is identified but refuses to respond; it is identified but no competent respondent is available at home during visits; or it is identified, the interview is started and then postponed. Among the eligible households, 21,347 completed the questionnaire, resulting in a national household response rate of 92.1 per cent. The response rate was higher in rural areas at 94.0 per cent compared to 89.9 per cent in urban areas as shown in Table 1.

Table 1.1: Household Response Rate by Residence

Residence	Households Sampled	Eligible Households	Households that Responded	Response Rate
Kenya	25,900	23,166	21,347	92.1
Rural	14,000	12,660	11,900	94.0
Urban	11,900	10,506	9,447	89.9

Table 1.2: Household Response Rate by County

County Households Eligible Households Sampled	Households	Eligible Households Sampled	Households that Responded	Response Rate
Kenya	25,900	23,166	21,347	92.1
Mombasa	560	491	425	86.6
Kwale	500	440	410	93.2
Kilifi	520	474	434	91.6
Tana River	480	459	450	98.0
Lamu	440	381	361	94.8
Taita-Taveta	500	439	405	92.3
Garissa	600	471	468	99.4
Wajir	860	721	637	88.3
Mandera	760	539	503	93.3
Marsabit	540	488	462	94.7
Isiolo	440	365	335	91.8
Meru	580	516	412	79.8
Tharaka-Nithi	480	465	455	97.8
Embu	460	424	406	95.8
Kitui	680	628	573	91.2
Machakos	700	646	618	95.7
Makueni	480	448	409	91.3
Nyandarua	480	423	382	90.3
Nyeri	520	483	434	89.9
Kirinyaga	480	464	450	97.0
Murang'a	480	429	355	82.8
Kiambu	440	383	319	83.3
Turkana	540	422	368	87.2
West Pokot	560	521	517	99.2
Samburu	560	511	478	93.5
Trans Nzoia	440	395	373	94.4
Uasin Gishu	540	484	435	89.9
Elgeyo-Marakwet	460	438	391	89.3
Nandi	480	458	420	91.7
Baringo	460	414	382	92.3
Laikipia	480	465	445	95.7
Nakuru	820	738	686	93.0
Narok	500	484	479	99.0
Kajiado	560	471	411	87.3
Kericho	500	442	410	92.8
Bomet	480	452	422	93.4
Kakamega	580	515	480	93.2
Vihiga	520	467	400	85.7
Bungoma	580	525	462	88.0
Busia	500	457	412	90.2
Siaya	480	424	394	92.9
Kisumu	580	483	446	92.3
Homa Bay	480	443	422	95.3
Migori	440	410	403	98.3
Kisii	620	570	510	89.5
Nyamira	500	448	439	98.0
Nairobi City	1,260	1,152	1,059	91.9





02 ICT Ownership and Usage at Individual Level

CHAPTER TWO:
ICT OWNERSHIP AND USAGE AT INDIVIDUAL LEVEL

2.1 Introduction

The 2023/24 Kenya Housing Survey collected data on key Information and Communication Technology (ICT) indicators among individuals aged three (3) years and above. These indicators include ownership and use of mobile phones, use of computers, and the use of internet. This chapter presents an analysis of ICT access and usage at the individual level, highlighting variations across selected demographic and social characteristics. The analysis is disaggregated by county, place of residence (urban/rural), age group, level of education, employment status, disability status, and marital status, providing insights into digital inclusion and disparities across the population.

2.2 Mobile Phone Ownership

This section aims to provide information and insights on mobile phone ownership at individual level by age group, residence, education level, employment status, marital status, disability and main employer. Further, the section provides a comparative analysis of selected ICT indicators between 2023/24 KHS and 2019 KPHC.

2.2.1 Mobile Phone Ownership by Residence

Nationally, mobile phone ownership was 53.7 per cent while ownership in urban and rural areas was 64.6 per cent and 48.6 per cent, respectively. The proportion of males that owned mobile phones was higher at 54.5 per cent compared to that of females at 52.9 per cent. The mobile phone ownership was different across urban and rural areas with females in urban areas reporting 63.7 per cent against their rural counterparts at 47.9 per cent, as shown in Figure 2.1.

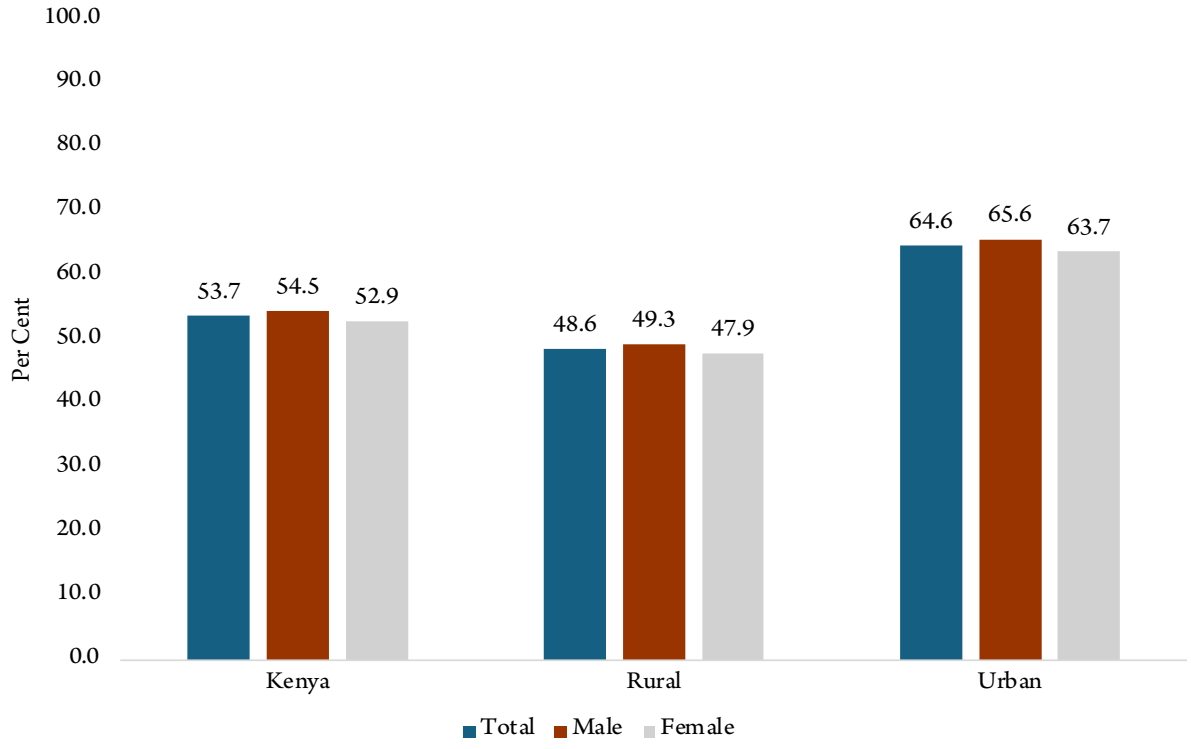


Figure 2.1: Proportion of Individuals who Owned Mobile Phones by Residence

2.2.2 Mobile Phone Ownership Comparison between 2019 KPHC and 2023/24 KHS by Residence and Sex

As shown in Figure 2.2, mobile phone ownership at the national level increased to 53.7 per cent in 2023/24 from 47.3 per cent in 2019 KPHC. Similarly, ownership in urban areas increased to 64.6 per cent whereas in rural areas it increased to 48.6 per cent from 40.5 per cent.

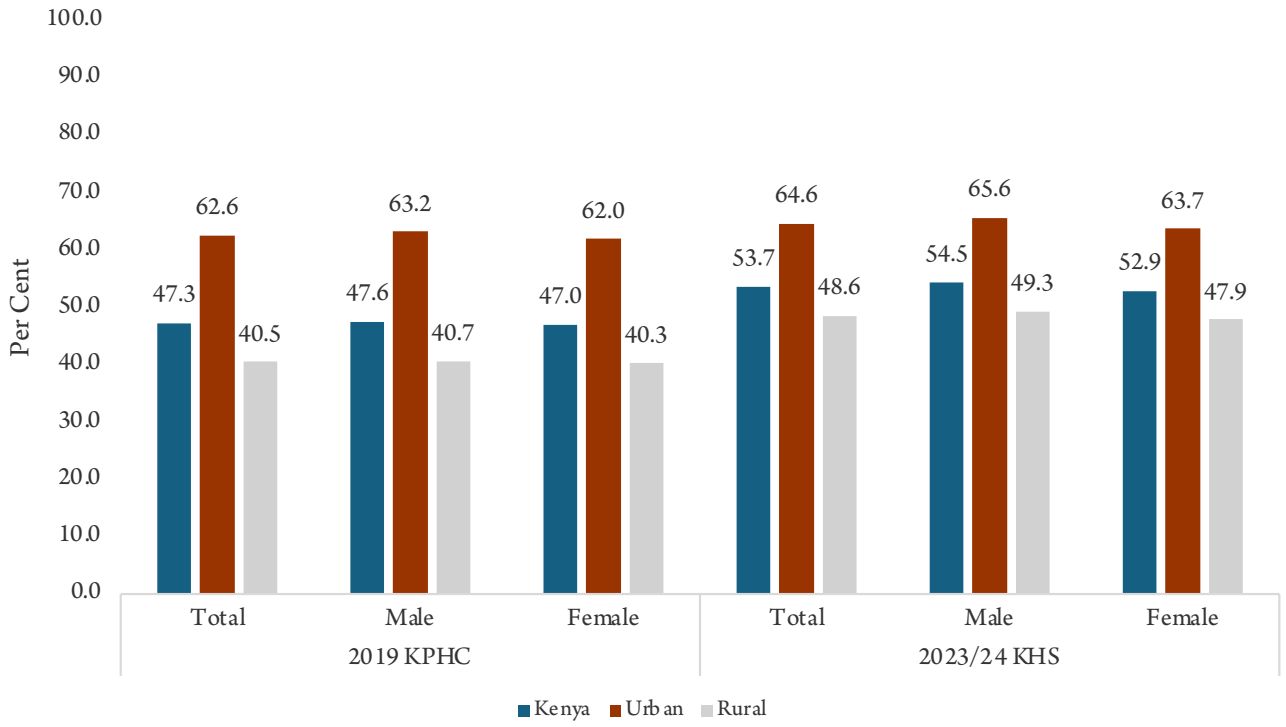


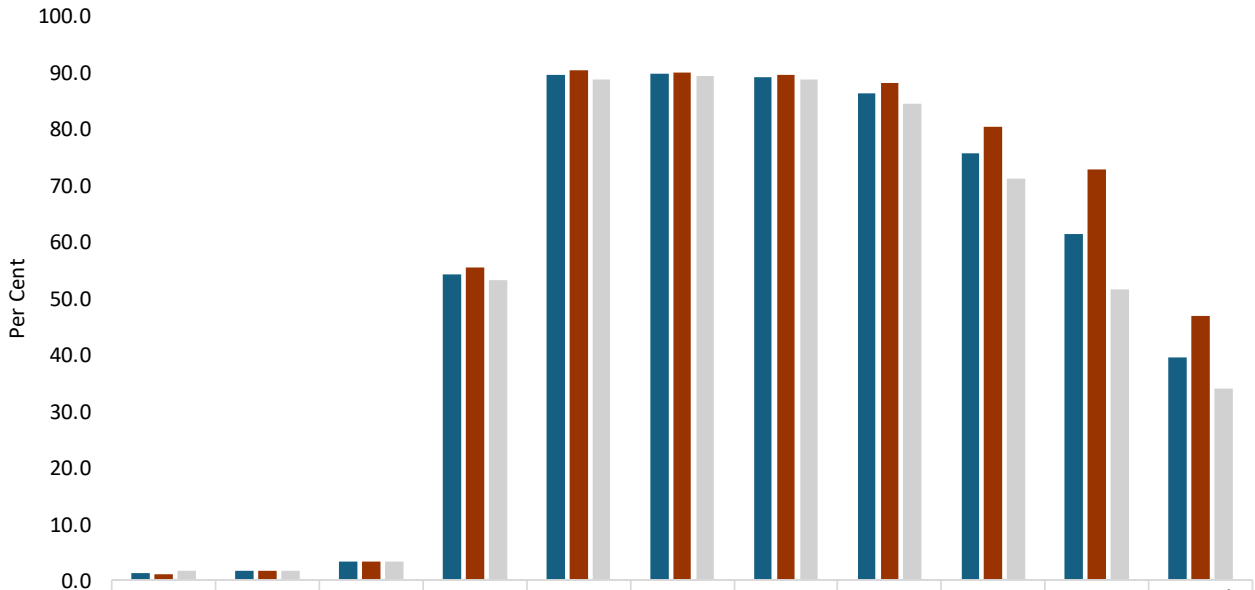
Figure 2.2: Proportion of Individuals who Owned Mobile Phones by Residence and Sex, Comparison between 2019 KPHC and 2023/24 KHS.

Mobile phone ownership was highest among age group 35-44 years at 89.8 per cent. Among males, age group 25-34 years (90.5%) was highest whereas for females age group 35-44 years (89.5%) was highest.



2.2.3 Mobile Phone Ownership by Age Group

Overall, mobile phone ownership was highest among age group 35-44 years at 89.8 per cent. Among males, age group 25-34 years (90.5%) was highest whereas for females age group 35-44 years (89.5%) was highest. Moreover, the gender gap on mobile phone ownership increases with age from age 65 and above, as shown in Figure 2.3.



	3–4	5–9	10–14	15–24	25–34	35–44	45–54	55–64	65–74	75-84	85 and above
Total	1.4	1.7	3.4	54.3	89.6	89.8	89.2	86.3	75.7	61.4	39.5
Male	1.0	1.7	3.3	55.4	90.5	90.0	89.7	88.2	80.5	72.8	46.8
Female	1.8	1.8	3.4	53.2	88.7	89.5	88.7	84.5	71.3	51.6	34.1

Figure 2.3: Proportion of Individuals who Owned Mobile Phones by Age Group



2.2.4 Mobile Phone Ownership Comparison between 2019 KPHC and 2023/24 KHS by Age Group

As shown in Table 2.1, mobile phone ownership among the population below the age of 15 years went down compared to 2019 KPHC.

However, ownership among persons above the age of 15 years went up across all age groups.

Table 2.1: Mobile Phone Ownership Comparison between 2019 KPHC and 2023/24 KHS by Age Group

	2019 KPHC			2023/24 KHS		
AGE GROUP	Male	Female	Total	Male	Female	Total
3–4	1.9	1.9	1.9	1.0	1.8	1.4
5–9	2.3	2.3	2.3	1.7	1.8	1.7
10–14	4.2	3.9	4.1	3.3	3.4	3.4
15–24	49.3	48.2	48.7	55.4	53.2	54.3
25–34	85.1	82.8	83.9	90.5	88.7	89.6
35–44	85.1	85.0	85.0	90.0	89.5	89.8
45–54	84.9	84.1	84.5	89.7	88.7	89.2
55–64	81.9	77.6	79.7	88.2	84.5	86.3
65–74	73.3	64.3	68.5	80.5	71.3	75.7
75+	54.3	40.1	45.8	59.8	42.9	50.5

2.2.5 Mobile Phone Ownership among Youth by Residence

Nationally, mobile phone ownership among the youth (persons between age 18 and 34 years) was 81.5 per cent with males (82.4%) recording higher ownership than females (80.7%). Ownership among males (91.4%) in urban areas was higher than in rural areas (75.8%). A similar trend was observed among females in urban (90.9%) and rural (74.6%) areas as shown in Figure 2.4.

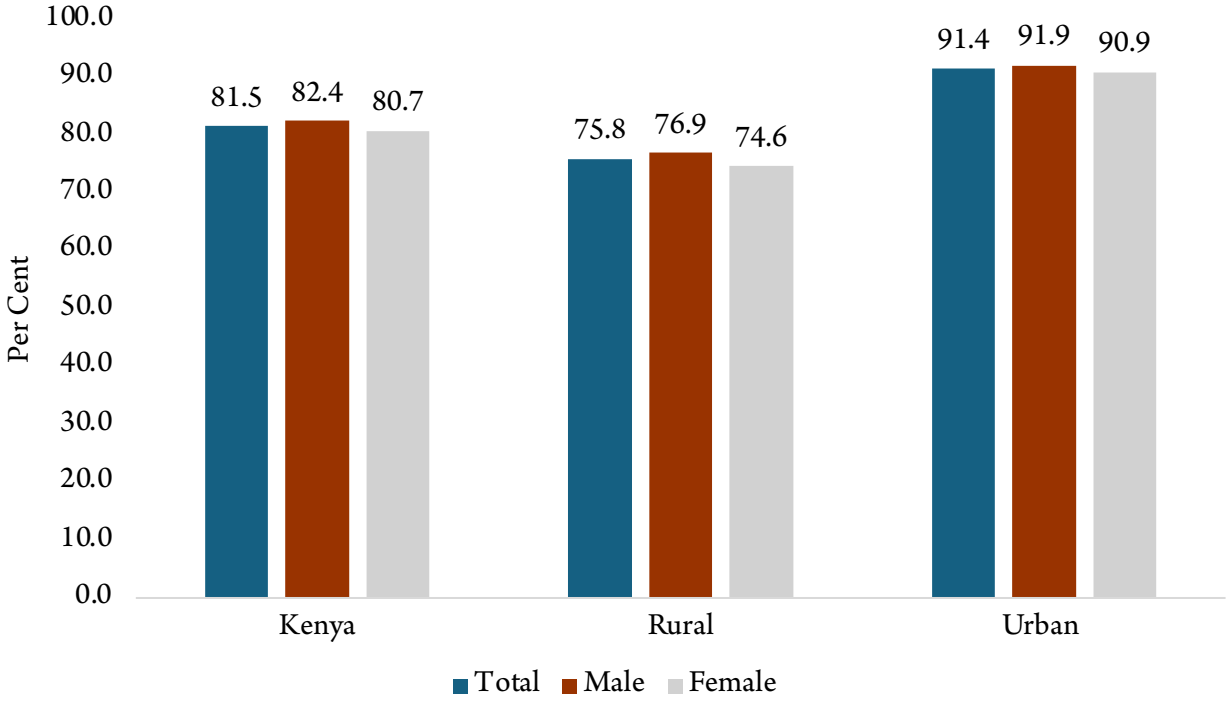


Figure 2.4: Proportion of Youths who Owned Mobile Phones by Residence

2.2.6 Mobile Phone Ownership by Youth at County Level

Nationally, the proportion of youths who owned mobile phones was 81.5 per cent as shown in Figure 2.5. Nairobi City County took lead at 93.5 per cent followed closely by Kiambu (92.0%) and Laikipia (89.8%) counties. West Pokot County came last at 52.1 per cent, with Turkana (53.3%) and Marsabit (62.1%) counties falling in second and third last positions, respectively.

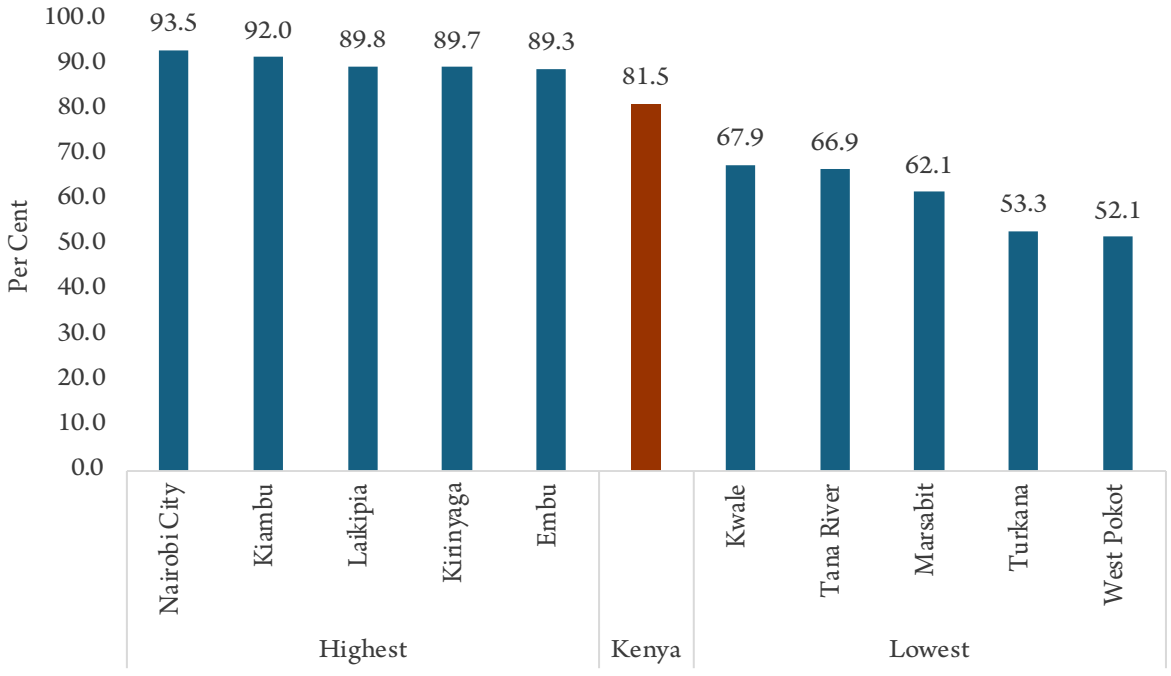
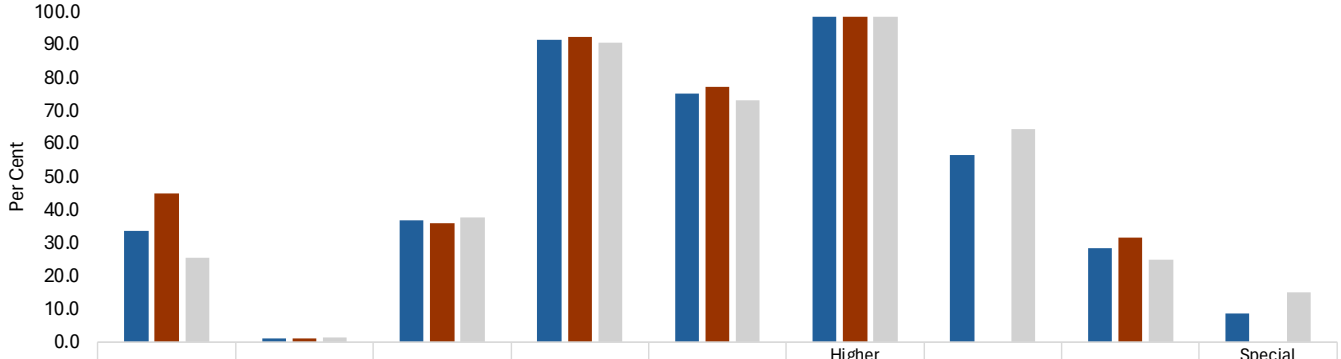


Figure 2.5: Proportion of Youth who Owned Mobile Phones by County

2.2.7 Mobile Phone Ownership by Highest Level of Education Completed

As shown in Figure 2.6, the proportion of the population that had completed higher education reported the highest mobile phone ownership with both males and females reporting equal proportion of 98.5 per cent.



	No Education	Pre-Primary	Primary/JSS	Post Primary	Secondary	Higher Education	Adult Education	Madrassa/Duksi	Special Education
Total	33.7	1.3	37.0	91.6	75.3	98.5	56.7	28.6	8.7
Male	45.0	1.1	36.0	92.4	77.2	98.5	0.0	31.7	0.0
Female	25.6	1.5	37.9	90.7	73.3	98.5	64.4	25.1	15.3

Post Primary refers to people who finished primary education and attended technical colleges
Figure 2.6: Proportion of Individuals who Owned Mobile Phones by Highest Level of Education Completed

2.2.8 Mobile Phone Ownership by Marital Status

Data on mobile phone ownership by marital status was collected from individuals aged 12 years and above. Overall, the proportion of the population in monogamous marriages reported the highest mobile phone ownership at 89.1 per cent. Males in monogamous marriages reported the highest mobile phone ownership at 91.6 per cent whereas females who had separated and those who were divorced had higher ownership at 89.5 per cent and 87.8 per cent, respectively. Notably, males (62.0%) and females (57.8%) who have never married reported the lowest mobile phone ownership.

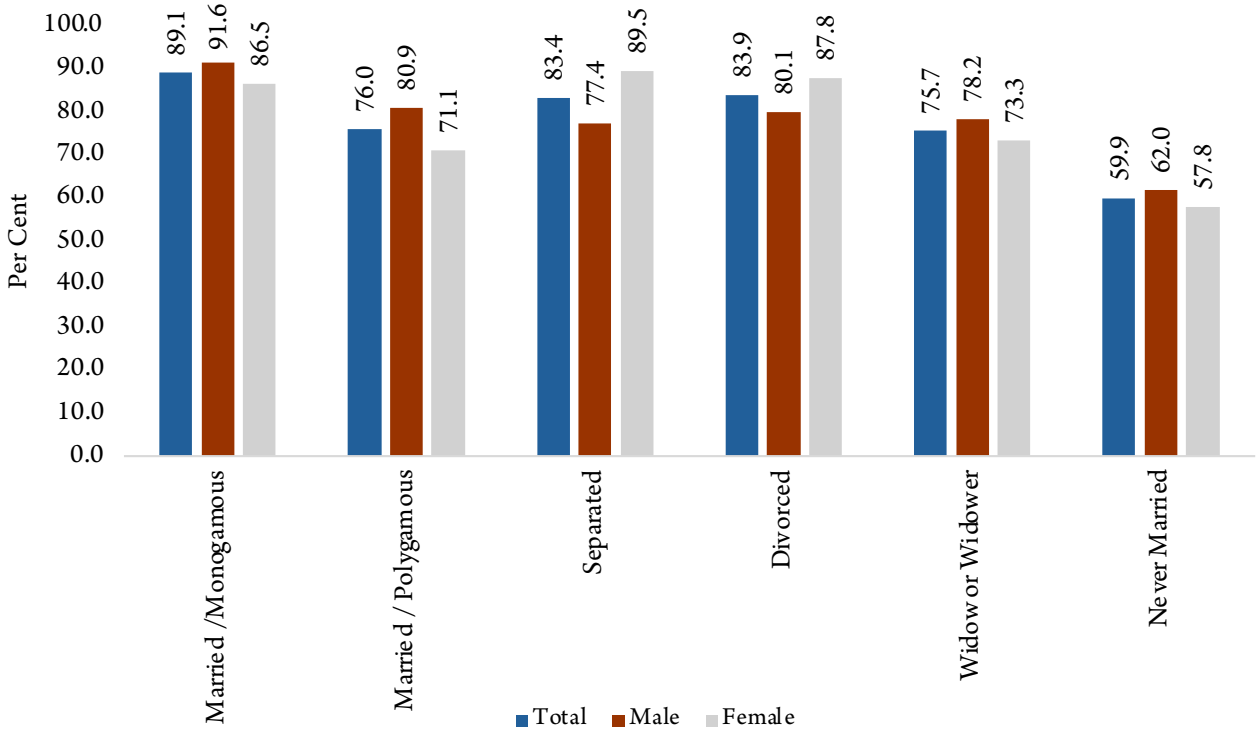


Figure 2.7: Proportion of Individuals who Owned Mobile Phones by Marital Status

> Males in monogamous marriages reported the highest mobile phone ownership at 91.6 per cent whereas females who had separated and those who were divorced had higher ownership at 89.5 per cent and 87.8 per cent, respectively.

2.2.9 Mobile Phone Ownership by Marital Status, Comparison between 2019 KPHC and 2023/24 KHS

In comparison with the 2019 KPHC, mobile phone ownership across all the different marital statuses increased, as shown in Table 2.2.

Table 2.2: Proportion of Individuals who Owned Mobile Phones by Marital Status Comparison between 2019 KPHC and 2023/24 KHS

	2019 KPHC			2023/24 KHS		
Marital Status	**Kenya**	**Rural**	**Urban**	**Kenya**	**Urban**	**Rural**
Married / Monogamous	81.4	75.8	92.2	89.1	95.6	85.5
Married/ Polygamous	71.1	67.3	89.2	76.0	90.7	72.2
Separated	80.2	72.9	90.1	83.4	92.1	79.5
Divorced	77.2	68.3	88.5	83.9	88.9	82.2
Widow/ Widower	67.8	64.4	81.7	75.7	84.2	71.2
Never Married	40.4	31.0	61.4	59.9	74.7	52.9

2.2.10 Mobile Phone Ownership by Type of Disability

As shown in Figure 2.8, mobile phone ownership was highest among the population that reported having mobility challenges at 69.7 per cent with males reporting 66.4 per cent and females 72.1 per cent. People with hearing and selfcare challenges had the least mobile phone ownership at 36.1 per cent and 35.8 per cent, respectively. Among males, those with selfcare challenges had the least mobile phone ownership whereas females with hearing challenges had the least mobile phone ownership at 36.0 per cent. For all cases, females had the highest mobile phone ownership compared to their male counterparts except for hearing.

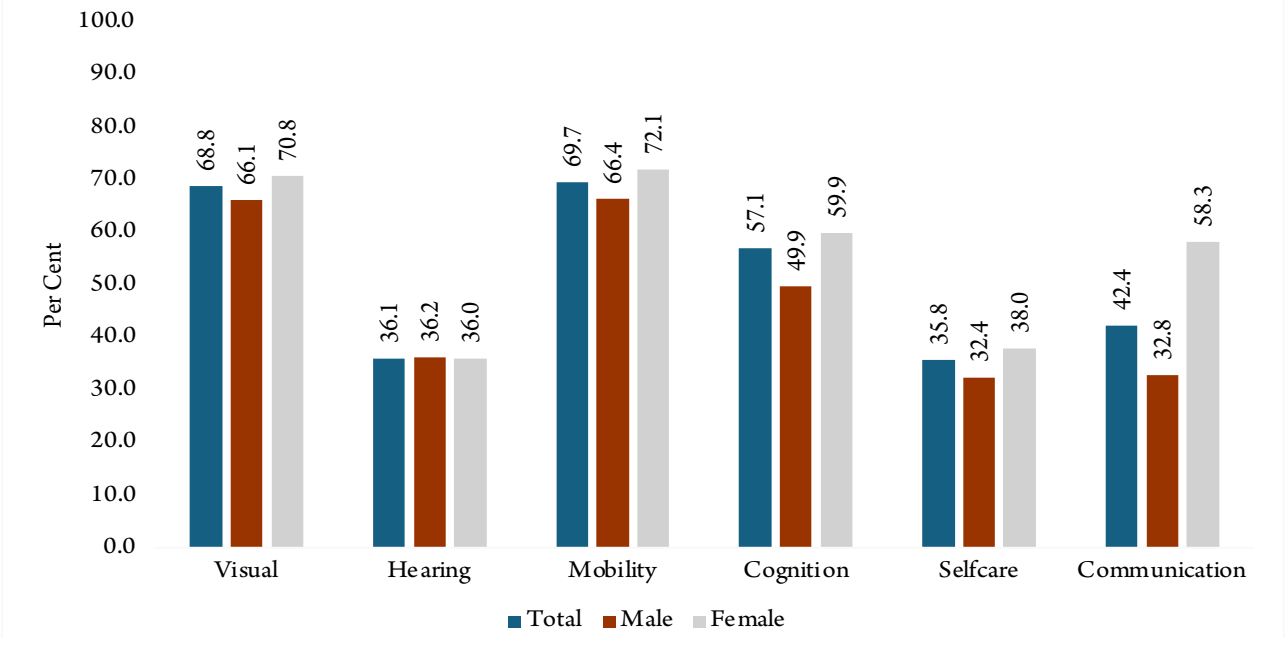


Figure 2.8: Proportion of Individuals who Owned Mobile Phones by Type of Disability

2.2.11 Mobile Phone Ownership by Status in Employment [1]

Mobile phone ownership was highest among the working employers at 96.8 per cent, with 96.4 per cent ownership among male working-employers and 97.5 per cent among female employers. Workers not classifiable by status reported the least mobile phone ownership at 57.4 per cent, with male and female ownership of 52.6 per cent and 61.4 per cent, respectively. Females reported the highest mobile phone ownership across all categories of status by employment except own-account workers, as shown in Figure 2.9.

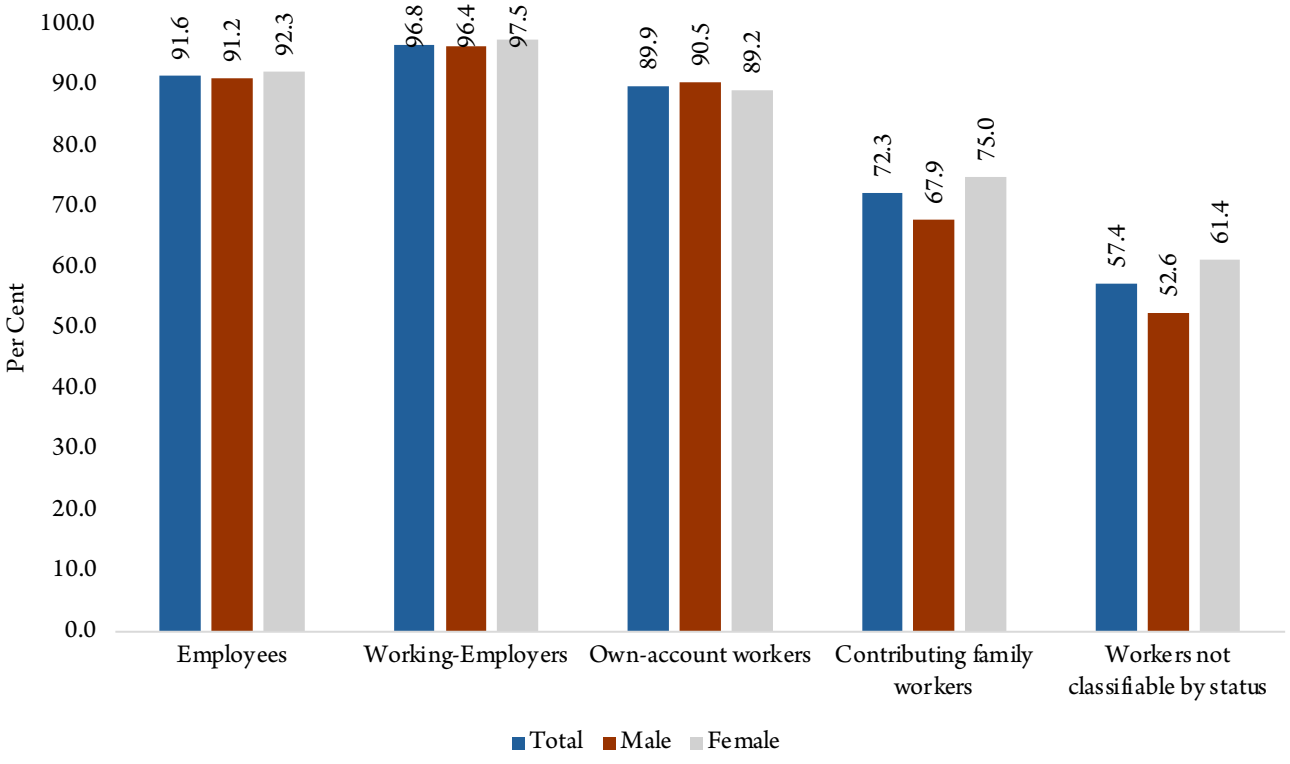


Figure 2.9: Proportion of Individuals who Owned Mobile Phone by Status in Employment

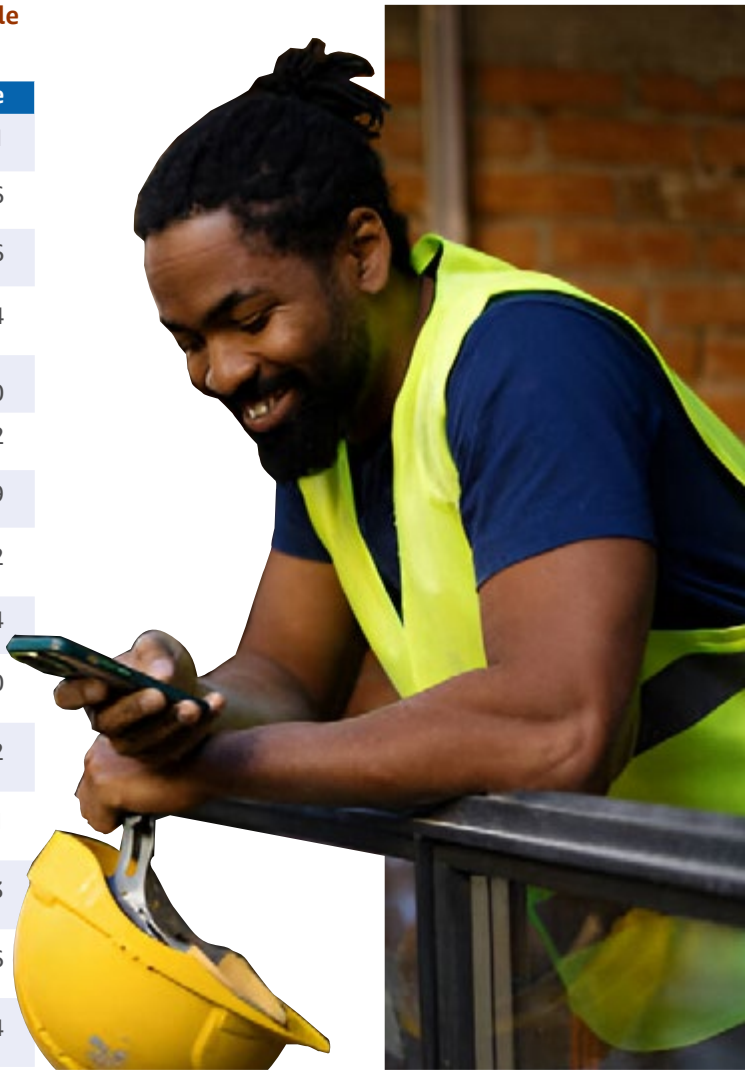
2.2.12 Mobile Phone Ownership by Main Employer

The proportion of population that reported to be employed by NGOs/CBO had the highest mobile phone ownership at 100.0 per cent for both males and females. Mobile phone ownership among those employed in pastoralist activities was the least at 40.0 per cent, with 39.1 per cent among males and 46.1 per cent among females.

1 Defined as having been engaged in an economic activity in the last 7 days.

Table 2.3: Proportion of Individuals who Owned Mobile Phone by Main Employer

Employer	Total	Male	Female
National Government	98.4	99.2	97.1
County Government	97.5	99.1	95.6
Private Sector Enterprise	96.5	96.1	97.6
International Organizations/NGO	98.3	97.5	99.4
Local NGO/CBO	100.0	100.0	100.0
Faith Based Organization	96.6	95.0	99.2
Self Employed- Formal	94.0	94.2	93.9
Informal Sector 'Jua Kali' (Employed)	91.2	91.2	91.2
Self Employed - Informal	89.2	90.0	88.4
Small Scale Agriculture (Employed)	77.0	75.4	79.0
Self-Employed Small-Scale Agriculture	84.7	85.4	84.2
Pastoralist Activities (Employed)	40.0	39.1	46.1
Self-Employed Pastoralist Activities	69.9	70.0	69.3
Individual/Private Household	81.6	80.7	82.6
School Board (BOM) Employee	97.4	96.1	98.4



2.2.13 Mobile Phone Ownership by County

Figure 2.10 shows the highest and the lowest five (5) counties in mobile phone ownership. Nationally, slightly over half of the population own mobile phones at 53.7 per cent. Nairobi City County recorded the highest proportion of population that own mobile phones at 67.7 per cent followed by Kirinyaga (65.0%) and Nyandarua (63.9%) counties. However, West Pokot County reported the least mobile phone ownership at 29.0 per cent with Turkana (29.4%) and Marsabit (34.8%) counties coming second and third last, respectively.

> Nairobi City County recorded the highest proportion of population that own mobile phones at 67.7 per cent followed by Kirinyaga (65.0%) and Nyandarua (63.9%) counties.

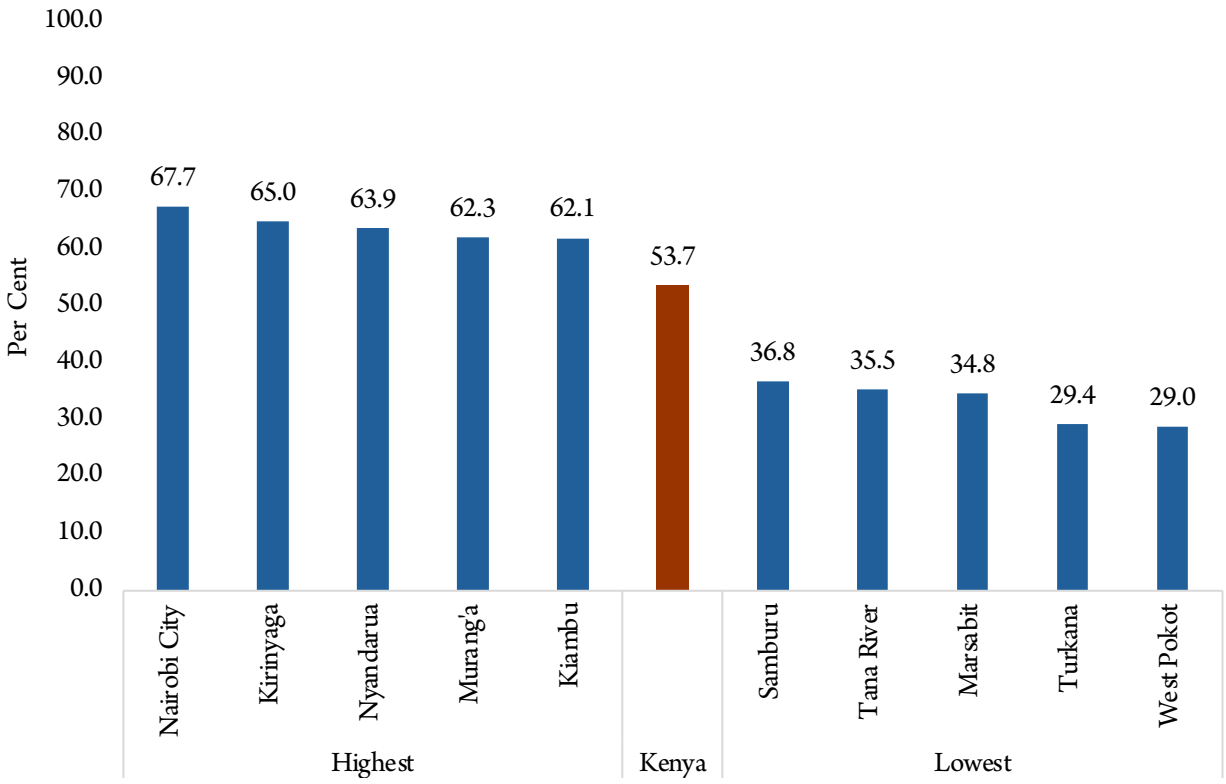


Figure 2.10: Proportion of Individuals who Owned Mobile Phone by County

2.3 Mobile Phone Usage

Mobile phone usage in Kenya remains a critical indicator of digital inclusion and access to information and communication technologies. Mobile phone usage in Kenya is widespread, with variations between individuals who own devices and those who access them through sharing. This section provides information on individuals' mobile phone usage by age group, residence, education level, employment status, marital status, and disability.

2.3.1 Mobile Phone Usage by Residence

The usage of mobile phones by residence and sex is as shown in Figure 2.11. Nationally, 64.9 per cent of individuals used a mobile phone, with males (65.5%) showing slightly higher usage than females (64.4%). The 2023/24 KHS show that there was higher levels of mobile phone usage at urban areas at 76.4 per cent with almost equal access between males (76.8%) and females (76.0%). In the rural areas, however, the overall mobile phone usage was lower, at 59.6 per cent with usage among males at 60.3 per cent compared to 59.0 per cent among females.

> Mobile phones are crucial for socio-economic development, particularly in bridging the digital divide and improving livelihoods.

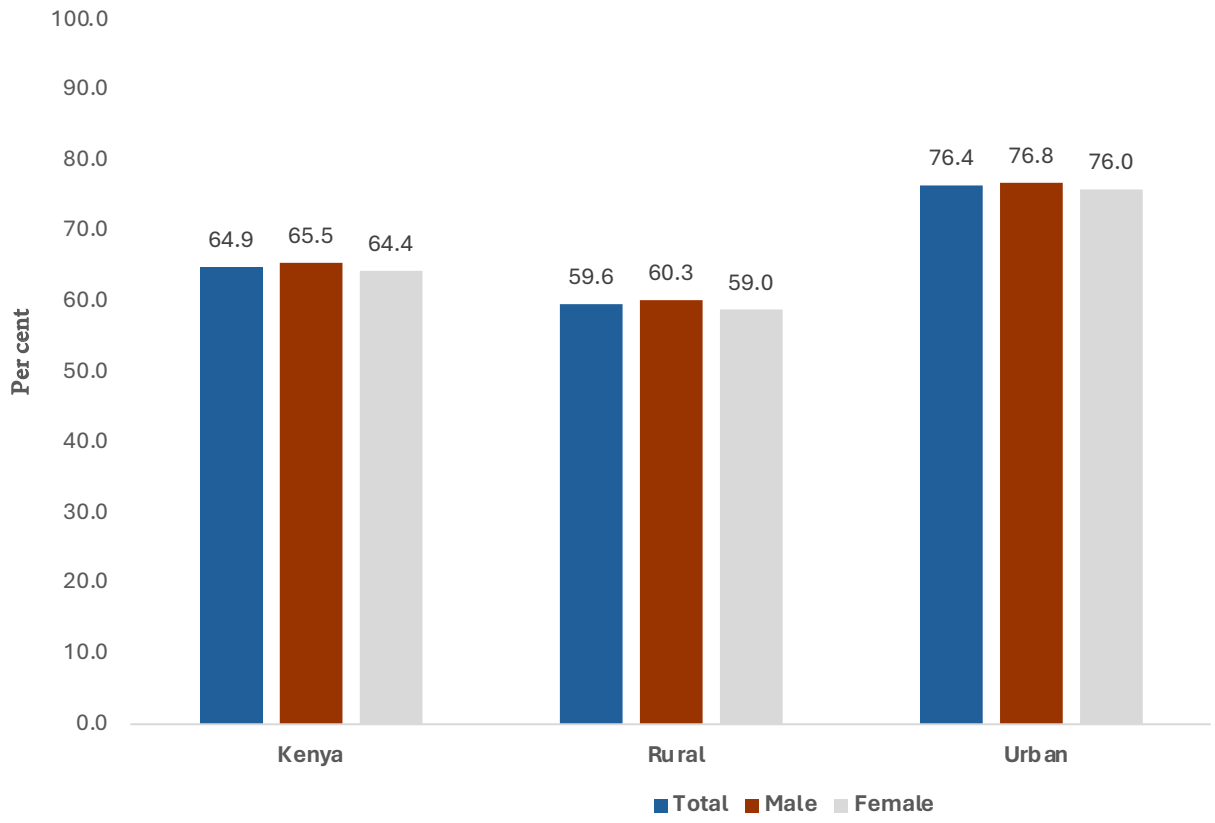


Figure 2.11: Proportion of Individuals who used a Mobile Phone by Residence

2.3.2 Mobile Phone Usage by Residence, Comparison between 2019 KPHC and 2023/24 KHS

The percentage of individuals who used a mobile phone by residence and sex between the 2019 KPHC and 2023/24 KHS is shown Figure 2.12. Overall mobile phone usage increased from 55.2 per cent to 64.9 per cent. In both periods, urban areas consistently showed a higher proportion of mobile phone users compared to rural areas, with urban usage at 71.1 per cent in 2019 KPHC and 76.4 per cent in 2023/24 KHS. The mobile phone usage in rural areas was 48.1 per cent in 2019 KPHC and 59.6 per cent in 2023/24 KHS. Across both years and all residence categories, males generally exhibited a slightly higher proportion of mobile phone usage than females.



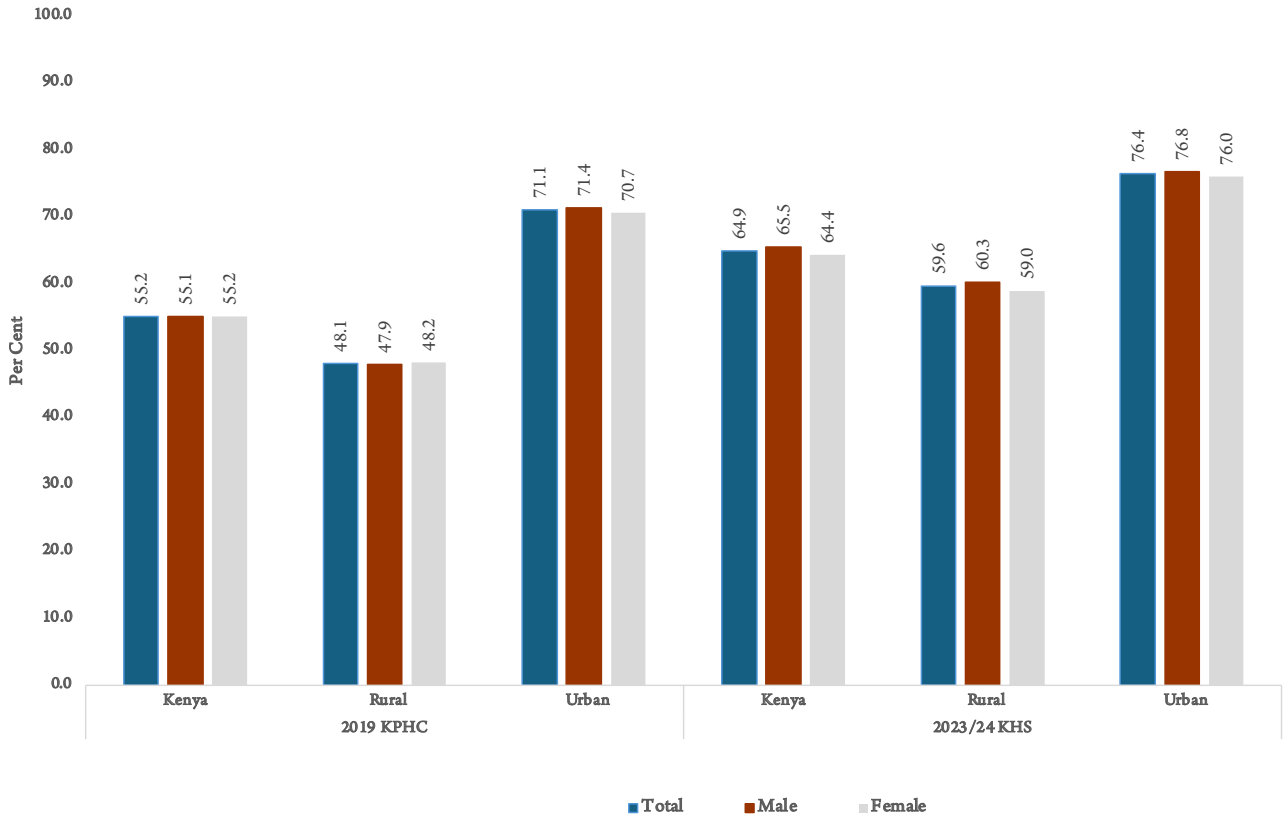


Figure 2.12: Proportion of Individuals who Used a Mobile Phone by Sex and Residence

2.3.3 Mobile Phone Usage by Age Group

The proportion of individuals who used mobile phone by age group is shown in Table 2.4. Among children aged 3–14 years, mobile phone usage was relatively low at 13.6 per cent. The mobile phone usage was 19.8 per cent for ages 5–9, and 27.6 per cent for ages 10–14. Minimal disparities were observed in these age brackets, with females slightly more likely to have used mobile phones in the youngest age group (13.7% vs. 13.5%), while males led in the 10–14 age range (29.0% vs. 26.3%).

Usage increased among youth and young adults, with 69.2 per cent of those aged 15–24 used mobile phones. This rate rose to over 93.0 per cent in the age groups 25–34, 35–44, and 45–54, representing the peak age bands for mobile phone use. Gender differences were minimal in these working-age groups, indicating widespread and equitable access to mobile technology among men and women.

Nationally, the age group 55–64 mobile phone usage stood at 90.8 per cent, dropping to 82.8 per cent for those aged 65–74, and further to 70.6 per cent for those aged 75–84. The oldest age group (85 years and above) had the lowest mobile phone usage at 48.0 per cent. In these older cohorts, a notable gender gap emerged with 57.4 per cent of males aged 85 and above used mobile phones compared to 41.1 per cent of females.

Table 2.4: Proportion of Individuals who Used Mobile Phones by Age Group

Age Group	Total	Male	Female
3–4	13.6	13.5	13.7
5–9	19.8	19.4	20.2
10–14	27.6	29.0	26.3
15–24	69.2	69.4	68.9
25–34	93.2	93.7	92.8
35–44	93.3	93.3	93.3
45–54	93.2	93.8	92.7
55–64	90.8	92.8	88.9
65–74	82.8	86.1	79.9
75-84	70.6	79.0	63.5
85 and above	48.0	57.4	41.1



2.3.4 Comparison of Mobile Phone Usage by Age Group and Sex, KPHC 2019 and 2023/24 KHS

The comparison between the 2019 KPHC and the 2023/24 KHS data revealed a notable increase in mobile phone usage across all age groups. Nationally, for ages 3–4, usage rose from 10.8 per cent in 2019 KPHC to 13.6 per cent in 2023/24 KHS. For ages 5–9, usage increased from 13.8 per cent to 19.8 per cent, while ages 10–14 increased from 18.6 per cent to 27.6 per cent over the two periods under review. Among youth aged 15–24, mobile phone usage increased from 59.0 per cent in 2019 KPHC to 69.2 per cent in 2023/24 KHS.

Mobile phone usage among ages 35-44 increased from 87.7 per cent to 93.3 per cent, while usage among ages 45-54 increased from 86.9 per cent to 93.2 per cent over the same period.

Table 2.5: Proportion of Individuals who Used a Mobile Phone by Age Group, KPHC 2019 and 2023/24 KHS

	2019 KPHC			2023/24 KHS		
Age Group	Total	Male	Female	Total	Male	Female
3–4	10.8	10.8	10.8	13.6	13.5	13.7
5–9	13.8	13.8	13.8	19.8	19.4	20.2
10–14	18.6	18.5	18.6	27.6	29.0	26.3
15–24	59.0	58.7	59.2	69.2	69.4	68.9
25–34	86.3	87.6	86.3	93.2	93.7	92.8
35–44	87.7	87.6	87.8	93.3	93.3	93.3
45–54	86.9	87.3	86.9	93.2	93.8	92.7
55–64	81.3	84.7	81.3	90.8	92.8	88.9
65–74	69.0	76.9	69.0	82.8	86.1	79.9
75-84	52.3	64.3	52.3	70.6	79.0	63.5
85 and above	31.1	44.6	31.1	48.0	57.4	41.1

2.3.5 Mobile Phone Usage by Youths

Mobile phone usage among the youth (18-34) is shown in Figure 2.13. Nationally, youth mobile usage stood at 87.8 per cent, with a notable disparity between urban and rural areas. Urban youth show significantly higher mobile phone usage at 95.2 per cent, compared to 83.5 per cent, in rural areas. Gender-wise, usage among male and female youth was nearly equal at 88.1 per cent and 87.6 per cent, respectively.

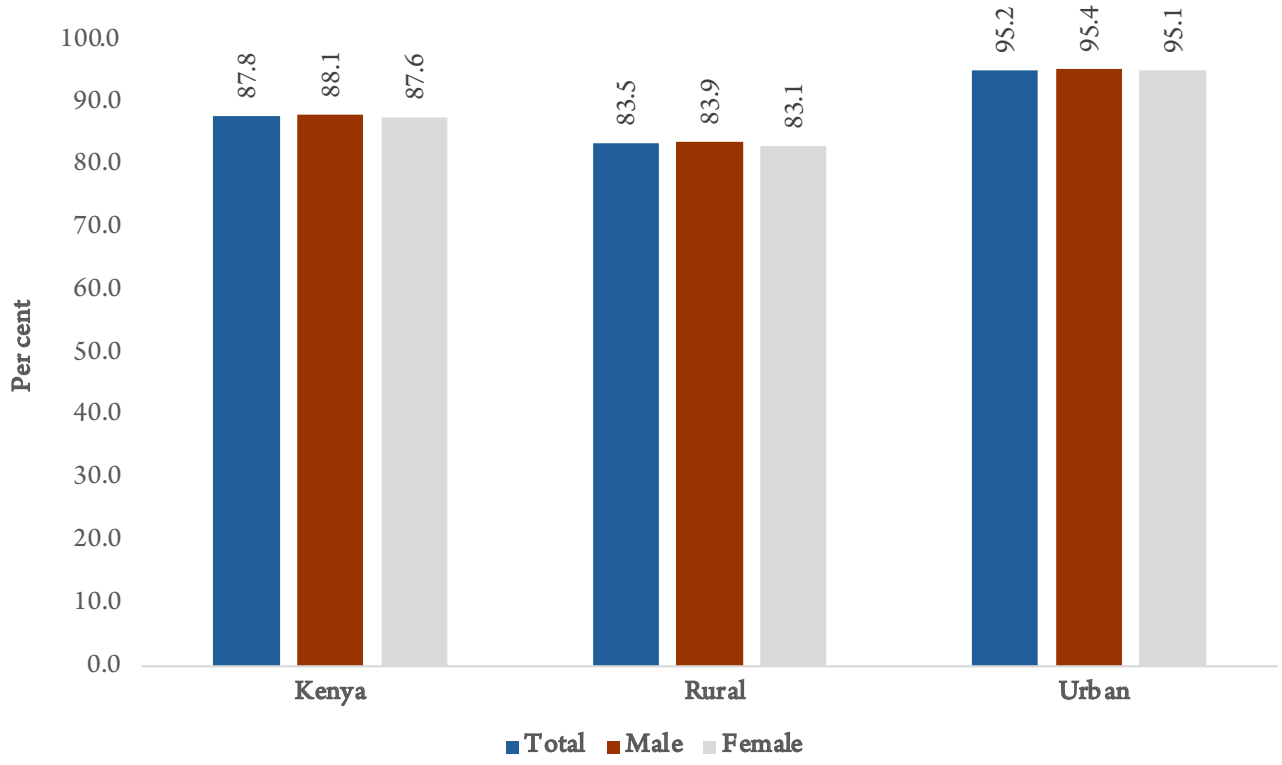


Figure 2.13: Proportion of Youths who Used Mobile Phone by Sex and Residence

2.3.6 Youths Who Used Mobile Phone by County

Mobile phone usage among the youth was highest in Nairobi City County at 97.7 per cent, this was closely followed by Taita-Taveta (97.6%), Laikipia (97.5%), Nyandarua (97.2%), and Nakuru (96.5%). Counties that observed low mobile phone usage below the national average (87.8%) included Narok (73.3%), Tana River (72.1%), Marsabit (68.9%), Turkana (65.2%), and West Pokot (64.6%).

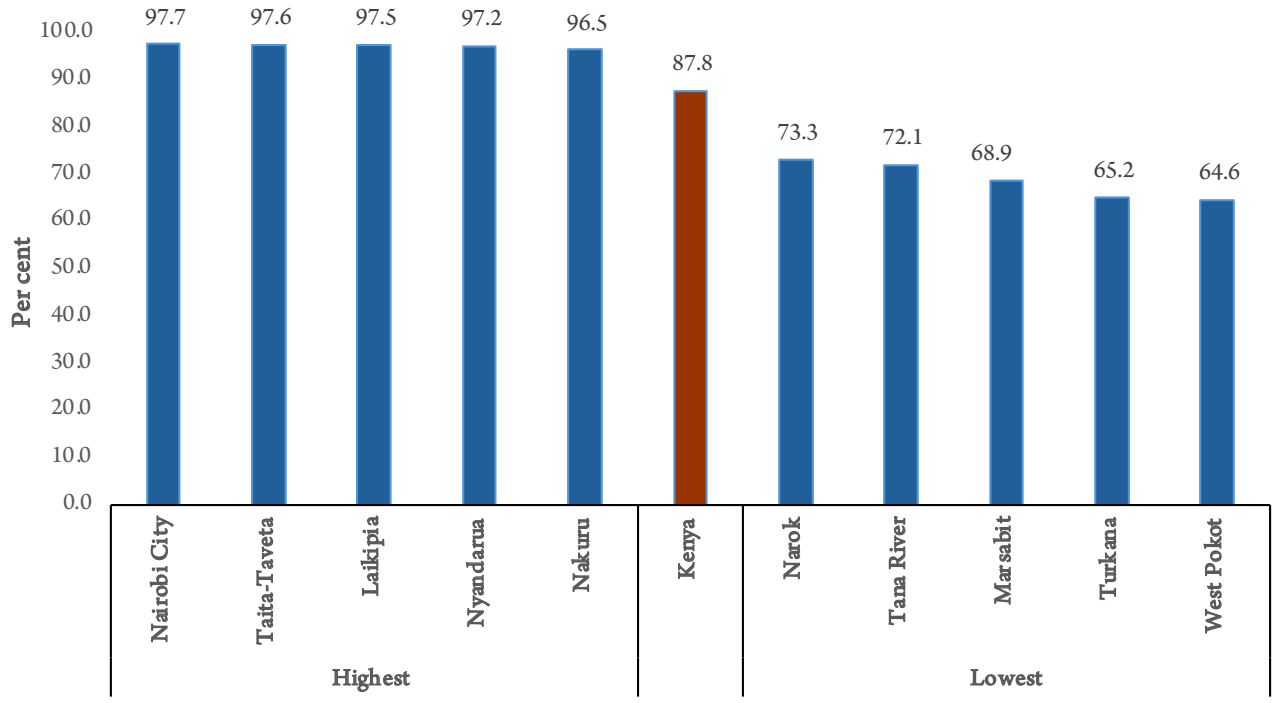


Figure 2.14: Proportion of Youths Who Used Mobile Phones by County

2.3.7 Mobile Phone Usage by Highest Level of Education Completed

The mobile phone usage by highest level of education completed is shown in Table 2.6. Individuals who have not completed any level of education reported the lowest mobile phone usage, with a national average of 33.7 per cent with 45.0 per cent of males compared to 25.6 per cent of females who used mobile phones.

Among those with pre-primary education, mobile phone usage was 14.0 per cent, with a narrow gender gap (14.7% male vs. 13.3% female). Mobile phone usage at the primary and junior secondary school (JSS) level, stood at 52.3 per cent, with usage nearly balanced between males (51.8%) and females (52.8%). For individuals who had completed post-primary education, mobile phone usage was 96.8 per cent. Similarly, among those with secondary education, usage remained high at 84.9 per cent while those with higher education averaged at 99.2 per cent.

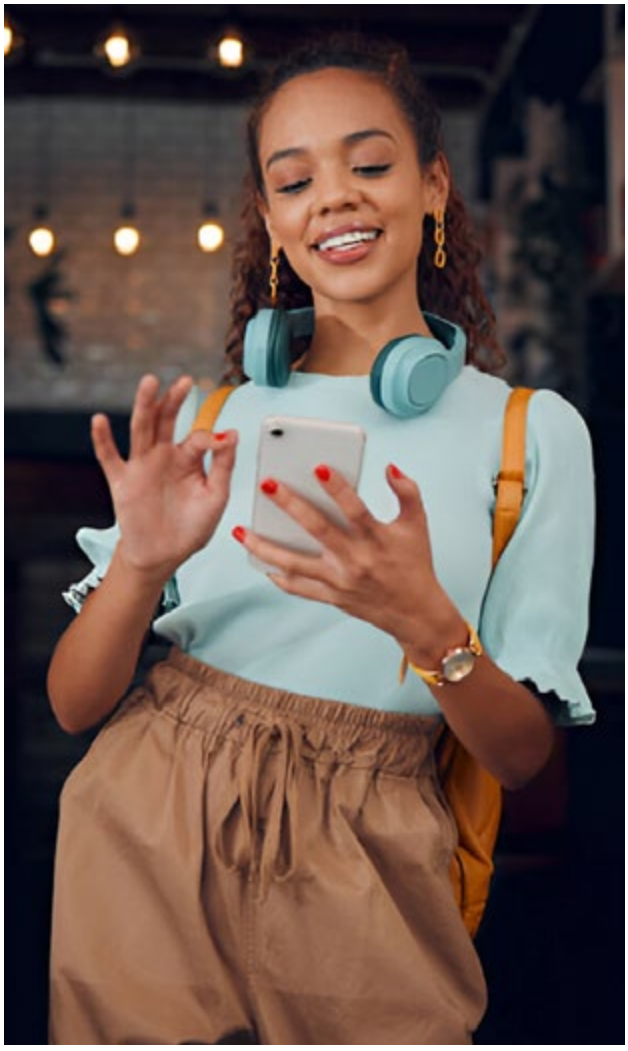


Table 2.6: Proportion of Individuals who Used Mobile Phones by Education Level Completed

Education Level Completed	Total	Male	Female
No Education	33.7	45.0	25.6
Pre-Primary	14.0	14.7	13.3
Primary/JSS	52.3	51.8	52.8
Post Primary	96.8	97.5	95.9
Secondary	84.9	85.8	83.9
Higher Education	99.2	99.2	99.2
Non Formal(Adult Education)	88.4	100.0	86.9
Madrassa/Duksi	39.8	40.6	38.8
Special Education	10.8	4.8	15.3
75-84	63.5	70.6	79.0
85 and above	41.1	48.0	57.4

2.3.8 Mobile Phone Usage by Marital Status

Mobile phone usage varied across marital statuses, with those in "Married / Living Together Monogamous" relationships exhibited the highest usage at 93.1 per cent (94.7% among males and 91.5% among females). Never-married individuals had lower mobile phone usage at 72.7 per cent (73.8% males and 71.6% females), as shown in Figure 2.15.

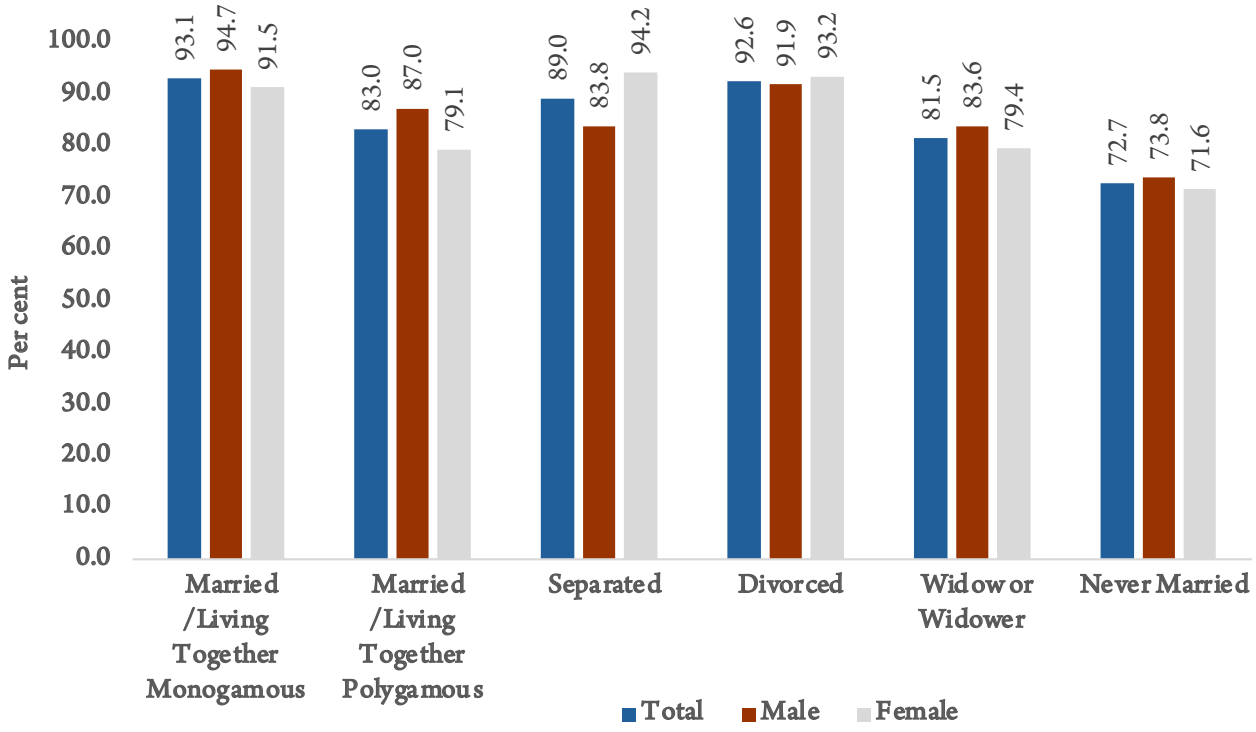


Figure 2.15: Proportion of Individuals who Used Mobile Phones by Marital Status

2.3.9 Comparison of Mobile Phone Usage by Marital Status between the 2019 KPHC and 2023/24 KHS

Table 2.7 shows the comparison of mobile phone usage by marital status between 2019 KPHC and 2023/24 KHS. Mobile phone usage increased across all marital status categories with those in monogamous marriage unions rising from 84.8 per cent in 2019 to 93.1 per cent in 2024 while usage in polygamous unions rose from 75.1 per cent to 83.0 per cent over the same period. Mobile phone usage among those who are divorced increased from 80.7 per cent to 92.6 per cent over the same review period. Widowed and those never married individuals mobile phone usage increased from 71.7 per cent in 2019 to 81.5 per cent in 2024 and 51.5 per cent in 2019 to 72.7 per cent in 2024.

Table 2.7: Comparison of Mobile Phone Usage by Marital Status, 2019 KPHC and 2023/24 KHS

	2019 KPHC			2023/24 KHS		
Marital Status	Total	Male	Female	Total	Male	Female
Married /Living Together Monogamous	84.8	87.7	82.2	93.1	94.7	91.5
Married /Living Together Polygamous	75.1	80.9	69.7	83.0	87.0	79.1
Separated	84.3	76.6	89.4	89.0	83.8	94.2
Divorced	80.7	73.7	84.5	92.6	91.9	93.2
Widow or Widower	71.8	70.5	72.0	81.5	83.6	79.4
Never Married	51.5	51.9	51.0	72.7	73.8	71.6

2.3.10 Mobile Phone Usage by Type of Disability

The mobile phone usage among individuals with different types of disabilities and by sex is shown in Table 2.8. Individuals with visual and mobility impairments reported the highest levels of mobile phone usage at 80.8 per cent and 77.3 per cent, respectively. Mobile phone usage was also relatively high among persons with cognitive (59.4%) and hearing (51.7%) difficulties. While overall usage was generally comparable between sexes, females reported higher usage in several categories. For instance, women with visual impairments had a usage rate of 83.8 per cent compared to 76.5 per cent for men, and for communication-related disabilities, 64.5 per cent of women reported usage compared to 43.5 per cent of men. Self-care was the only category where male usage (44.4%) slightly surpassed that of females (43.8%).



Table 2.8: Proportion of individuals who used Mobile Phone by Type of Disability and Sex

Type of Disability	Total	Male	Female
Visual	80.8	76.5	83.8
Hearing	51.7	51.5	51.9
Mobility	77.3	76.2	78.1
Cognition	59.4	49.9	63.1
Self-care	44.0	44.4	43.8
Communication	51.4	43.5	64.5

2.3.11 Comparison of Mobile Phone Usage by Type of Disability, 2019 KPHC and 2023/24 KHS

The comparison of mobile phone usage among persons with different types of disabilities between the 2019 KPHC and the 2023/24 KHS by sex is shown in Tabe 2.9. Mobile phone usage among persons with disabilities increased between 2019 and 2024. The highest usage was reported among individuals with visual impairment, rising from 63.9 per cent in 2019 to 80.8 per cent in 2024. Similar trends were observed in other disability types; for mobility-related disability, mobile phone usage rose from 60.1 per cent to 77.3 per cent, hearing impairments from 40.3 per cent to 51.7 per cent, and cognitive disabilities from 37.8 per cent to 59.4 per cent, over the two periods, respectively. Self-care and communication-related disabilities also increased in mobile phone usage, with self-care disability rising to 44.0 per cent in 2024 from 25.4 per cent in 2019 while communication disability rose to 51.4 per cent in 2024 from 17.8 per cent in 2019.

Table 2.9: Proportion of Individuals who used Mobile Phone by Type of Disability between the 2029 KPHC and 2023/24 KHS

	2019 KPHC			2023/24 KHS		
Type of Disability	Total	Male	Female	Total	Male	Female
Visual	63.9	63.4	64.2	80.8	76.5	83.8
Hearing	40.3	41.4	39.4	51.7	51.5	51.9
Mobility	60.1	58.3	61.2	77.3	76.2	78.1
Cognition	37.8	30.7	42.9	59.4	49.9	63.1
Self-care	25.4	24.0	26.7	44.0	44.4	43.8
Communication	17.8	18.9	16.4	51.4	43.5	64.5

2.3.12 Mobile Phone Usage by Status in Employment

Mobile phone usage varied by the status in employment, with the highest usage recorded among working employers (97.7%) and employees (95.2%). Among employees, women reported slightly higher usage (95.8%) compared to men (94.9%), while female working employers also higher usage at 98.7 per cent compared to 97.1 per cent for males. Own-account workers had usage at 94.0 per cent, while contributing family workers had usage at 82.2 per cent. The lowest usage was among individuals not classifiable by employment status, at 72.6 per cent, with higher female usage at 75.7 per cent compared to males at 68.8 per cent.

Table 2.10: Proportion of Individuals who Used Mobile Phones by Status in Employment

Status in Employment	Total	Male	Female
Employees	95.2	94.9	95.8
Working Employers	97.7	97.1	98.7
Own-account workers	94.0	94.4	93.7
Contributing family workers	82.2	77.8	84.9
Workers not classifiable by status	72.6	68.8	75.7

2.3.13 Mobile Phone Usage by Main Employer

The proportion of Individuals who used mobile phone by the main employer is shown in Table 2.11. Mobile phone usage was remarkably high compared to most employers. County government employees reported mobile phone usage at 99.7 per cent, followed closely by those in national government at 98.8 per cent and school boards (99.2%). Usage was also nearly universal among employees of international organizations/NGOs (99.9%), local NGOs/CBOs (100%), and faith-based organizations (99.7%). In the private sector, mobile phone usage was high at 98.2 per cent, while formally self-employed individuals also showed high usage at 95.8 per cent.

Among those in the informal sector (Jua Kali), usage stood at 95.0 per cent, with female slightly higher (96.6%) than males (94.6%). The lowest mobile usage was found among employed pastoralist, at 53.1 per cent for employed and 79.1 per cent for self-employed.

Table 2.11: Proportion of Individuals who Used Mobile Phone by Main Employer

Main Employer	Total	Male	Female
National Government	98.8	99.7	97.6
County Government	99.7	100.0	99.4
Private Sector Enterprise	98.2	98.1	98.5
International Organizations/NGO	99.9	99.9	100.0
Local NGO/CBO	100.0	100.0	100.0
Faith Based Organization	99.7	100.0	99.2
Self Employed- Formal	95.8	96.3	95.0
Informal Sector 'Jua Kali' (Employed)	95.0	94.6	96.6
Self Employed - Informal	93.5	93.9	93.2
Small Scale Agriculture (Employed)	86.2	85.7	86.9
Self Employed Small Scale Agriculture	90.9	90.7	91.0
Pastoralist Activities (Employed)	53.1	54.1	46.1
Self Employed Pastoralist Activities	79.1	79.6	76.7
Individual/Private Household	88.8	87.7	90.1
School Boards (BOM) Employees	99.2	99.1	99.3

2.3.14 Mobile Phone Usage by County

As shown in Figure 2.16, mobile phone usage in Kenya showed variations across counties. The highest levels were observed in Nyandarua (86.1%), Nairobi City (81.3%), Taita-Taveta (80.4%), Nakuru (79.3%), and Nyeri (79.0%) counties, where all were surpassing the national average of 64.9 per cent. The lowest mobile phone usage rates were found in Turkana (38.8%), Tana River (38.8%), Narok (41.3%), Marsabit (41.4%) and West Pokot (43.8%) counties.

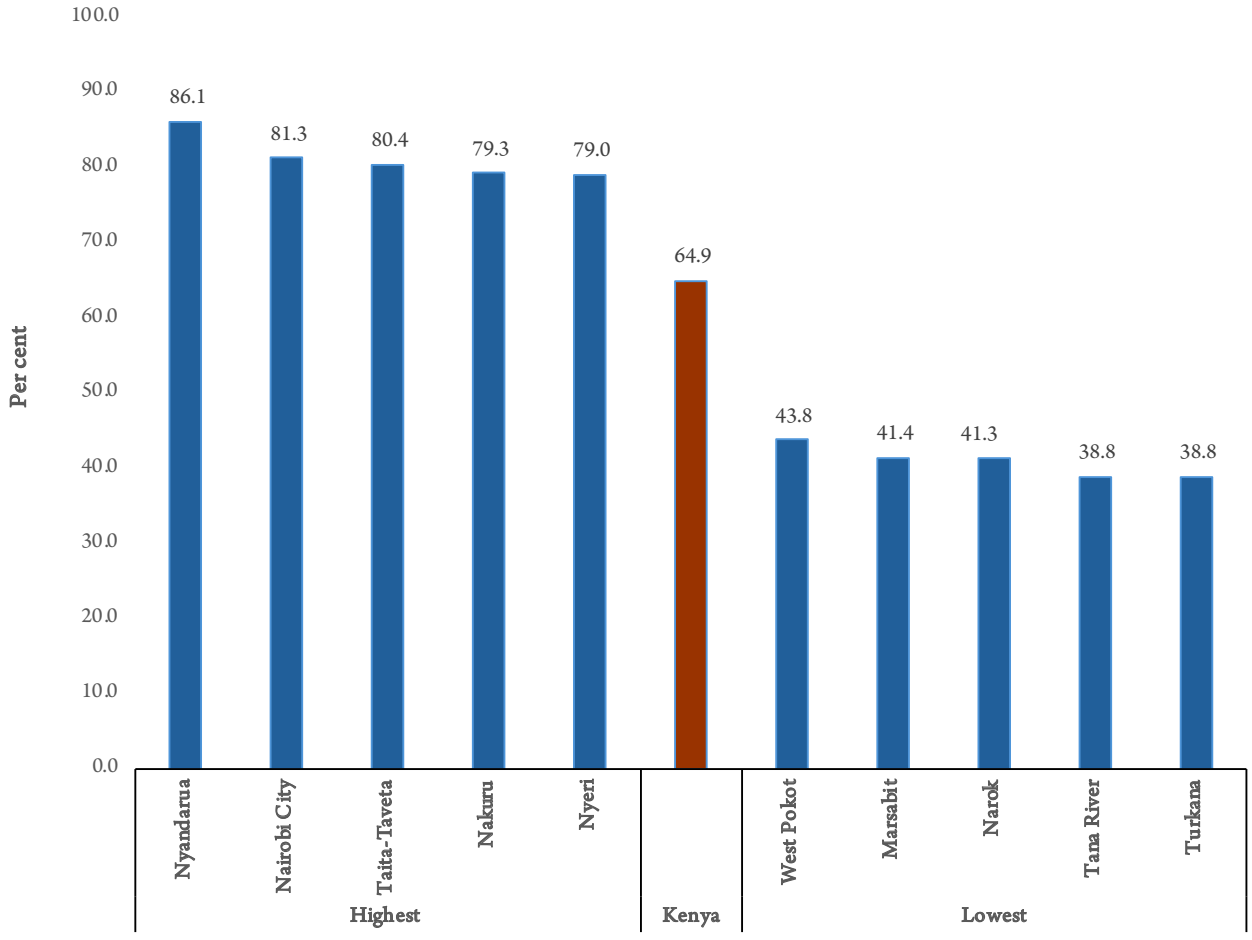


Figure 2.16: Mobile Phone Usage by County

2.4 Mobile Phone Sharers

Mobile phone sharers, defined as individuals who used a mobile phone without owning one, represented an important dimension of ICTs that warranted attention in policy formulation. These individuals typically relied on borrowing mobile phones from relatives, friends, or guardians, thereby limiting their autonomy and privacy in mobile use. While mobile ownership was associated with a range of benefits such as unrestricted use of digital services, communication, and financial inclusion, a portion of the population continued to use mobile services through shared arrangements, highlighting underlying inequalities in digital inclusion. This section examines the demographic and socio-economic characteristics of mobile phone sharers to inform more inclusive ICT policy and programming.

2.4.1 Mobile Phone Sharers by Residence

The analysis of mobile phone sharers by sex and residence revealed relatively small but notable variations across national, urban, and rural contexts. Nationally, 11.3 per cent of individuals reported using a mobile phone without owning one, with a slightly higher proportion among females (11.5%) compared to males (11.0%), as shown in Figure 2.17. In urban areas, mobile phone sharing was marginally higher at 11.8 per cent, with 12.4 per cent of females and 11.2 per cent of males using phones they did not own.

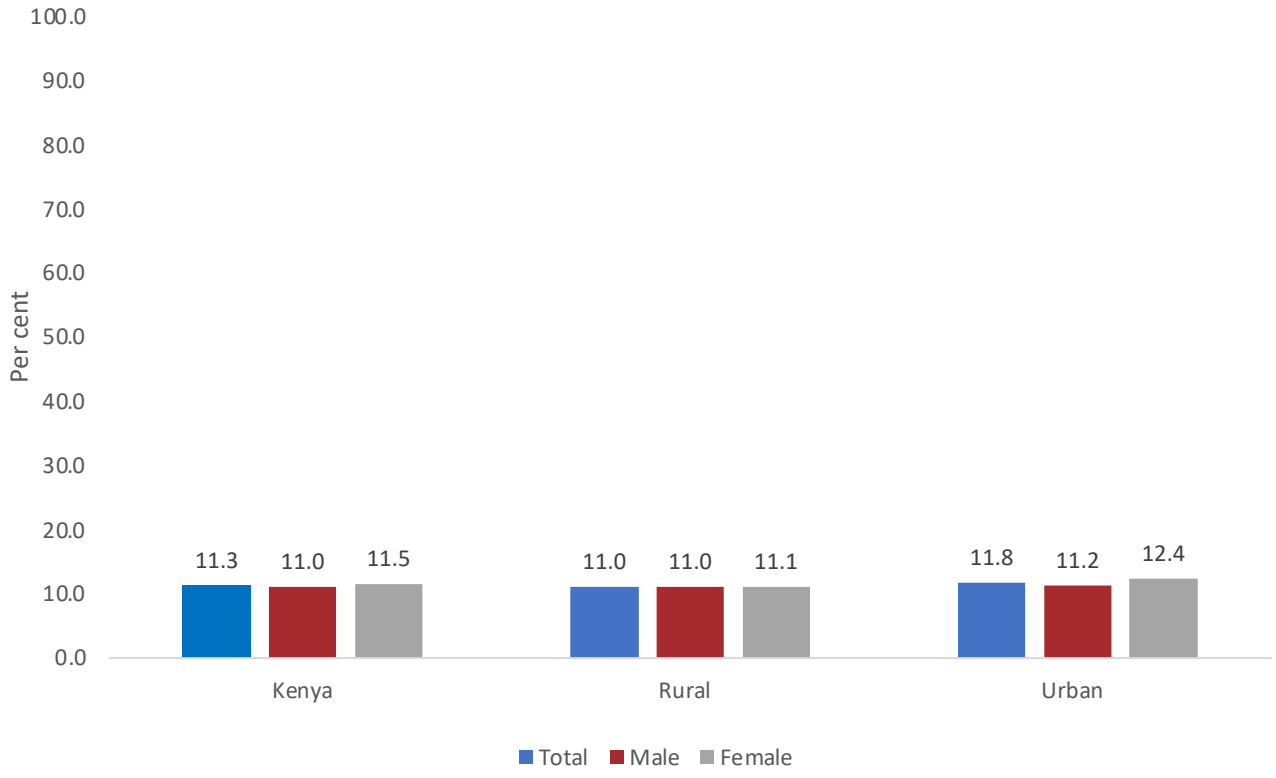


Figure 2.17: Proportion of Individuals who Used a Mobile Phone without Owning by Residence

2.4.2 Comparison of Mobile Phone Sharers by Residence and Sex, 2019 KPHC and 2023/24 KHS

A comparative analysis of mobile phone sharers based on data from the 2019 KPHC and the 2023/24 KHS revealed a decline in the proportion of individuals who used mobile phones without owning them. As illustrated in Figure 2.18, national levels dropped from 14.9 per cent in 2019 to 11.3 per cent in 2024. This decline was observed across all categories with urban areas showing the highest reduction. The downward trend points to improved mobile phone ownership and reduced dependency on shared devices.

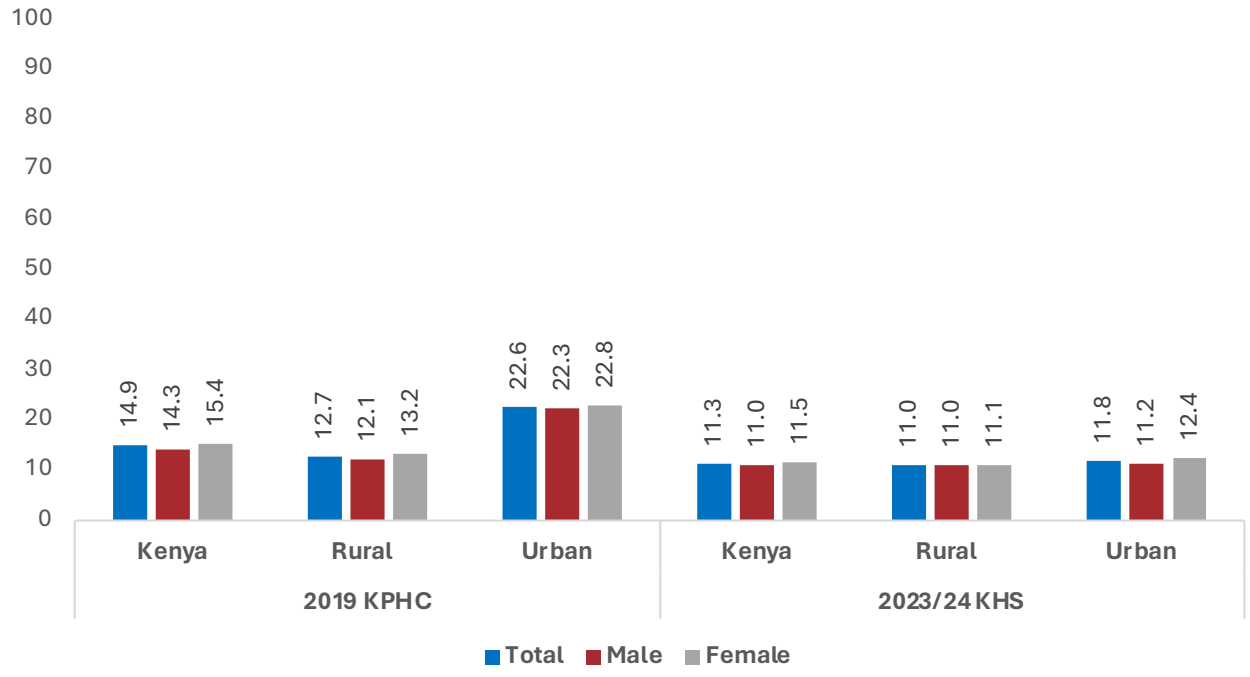


Figure 2.18: Proportion of Individuals who Used a Mobile Phone without Owning by Sex and Residence, 2019 KPHC, 2023/24 KHS

2.4.3 Mobile Phone Sharers by Age Group

The distribution of mobile phone sharers by age group, as presented in the Figure 2.19, reveals that sharing was most common among individuals aged 10–14 years, with a total of 24.3 per cent, followed by those aged 5–9 years (18.0%) and 15–24 years (14.9%). These findings suggest that children and adolescents, who are less likely to own mobile phones, relied more on borrowing or using mobile phones owned by others. Notably, female sharers exceeded males in most younger age groups, particularly 5–9 and 15–24 years. In contrast, among the older age groups (65 years and above), the proportion of female sharers remained consistently higher, especially in the 75–84 age group, where 11.9 per cent of females shared mobile phones compared to 6.2 per cent of males.



	3–4	5–9	10–14	15–24	25–34	35–44	45–54	55–64	65–74	75+	75–84	85 and above
Total	12.2	18.0	24.3	14.9	3.7	3.5	4.1	4.5	7.1	9.0	9.2	8.5
Male	12.5	17.7	25.6	14.0	3.2	3.3	4.1	4.6	5.5	7.3	6.2	10.6
Female	12.0	18.4	22.9	15.7	4.1	3.8	4.0	4.1	8.6	10.4	11.9	7.1

Figure 2.19: Proportion of Individuals who Used a Mobile Phone without Owning by Age Group

2.4.4 Comparison of Mobile Phone Sharers by Age Group, 2019 KPHC and 2023/24 KHS

The comparison between the 2019 KPHC and the 2023/24 KHS highlights shifting dynamics in mobile phone sharing across age groups as presented in Table 2.12. In the 2023/24 KHS, the highest prevalence of mobile sharers was observed among children aged 10–14 (24.3%) and 5–9 (18.0%), a notable increase from 15.1 per cent and 11.7 per cent respectively in 2019. Conversely, significant declines were observed among youth and adults. The proportion of mobile sharers among individuals aged 25–34 dropped sharply from 19.0 per cent in 2019 to 3.7 per cent in 2024, indicating a strong shift toward ownership in this economically active group. A similar pattern is seen in the 35–44 age group, dropping from 17.9 per cent in 2019 to 3.5 per cent in 2024. Among the older population (65+), the proportion of mobile sharers declined only modestly, but women in these age groups consistently reported higher rates of mobile sharing than men, suggesting ongoing barriers to ownership for older females. Overall, the data indicates that mobile phone sharing is increasingly concentrated among children and the elderly, while ownership has expanded significantly among working-age adults.



Table 2.12: Comparison of Mobile Phone Sharers by Age group, 2019 KPHC and 2023/24 KHS

	2019 KPHC			2023/24 KHS		
Age Group	Total	Male	Female	Total	Male	Female
3–4	9.1	9.1	9.1	12.2	12.5	12.0
5–9	11.7	11.7	11.8	18.0	17.7	18.4
10–14	15.1	14.9	15.3	24.3	25.6	22.9
15–24	20.1	18.7	21.4	14.9	14.0	15.7
25–34	19.0	17.2	20.4	3.7	3.2	4.1
35–44	17.9	17.0	18.8	3.5	3.3	3.8
45–54	17.1	16.2	17.9	4.1	4.1	4.0
55–64	16.0	15.4	16.5	4.5	4.6	4.1
65–74	13.2	13.6	13.0	7.1	5.5	8.6
75+	9.3	10.0	9.0	9.0	7.3	10.4

2.4.5 Mobile Phone Sharers among Youths by Residence

Among youths 18 to 34 years, mobile phone sharing was more prevalent in rural areas than in urban settings as shown in Figure 2.20. Nationally, 6.3 per cent of youth reported using a mobile phone without owning one, with a slightly higher share among females (6.9%) than males (5.7%). Rural youth were more likely to be mobile sharers, at 7.7 per cent, compared to just 3.9 per cent in urban areas. This pattern suggests that while phone ownership among youth is generally high, rural youth particularly females (8.5%) continue to face greater challenges in owning personal devices. These findings highlight the need for policies that close rural-urban and gender gaps in phone ownership among young people.

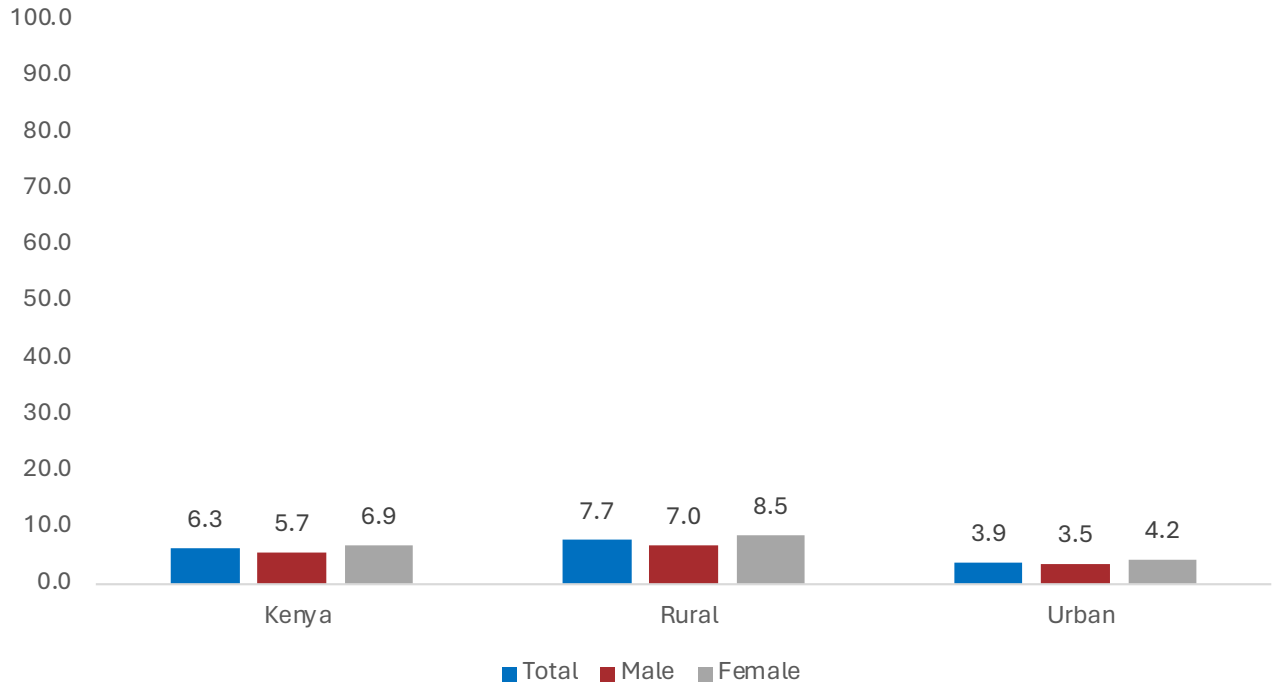


Figure 2.20: Proportion of youths who Used a Mobile Phone without Owning by Residence



2.4.6 Mobile Phone Sharers among Youths by County

The analysis by county on the youths who used a mobile phone without owning is presented in Figure 2.21. The highest proportions were recorded in Isiolo (13.4%), West Pokot and Kwale (both at 12.5%), Samburu (12.0%), and Turkana (11.9%)—all significantly above the national average of 6.3 per cent. In contrast, counties with the lowest incidence of mobile sharing included Narok (1.8%), Lamu (2.0%), Kisii (2.1%), Nyamira (2.2%), and Kiambu (2.8%). These findings suggest that mobile phone sharing among youth is more pronounced in counties that are likely characterized by limited ownership to personal ICT device, underscoring the need for targeted interventions to enhance digital inclusion.

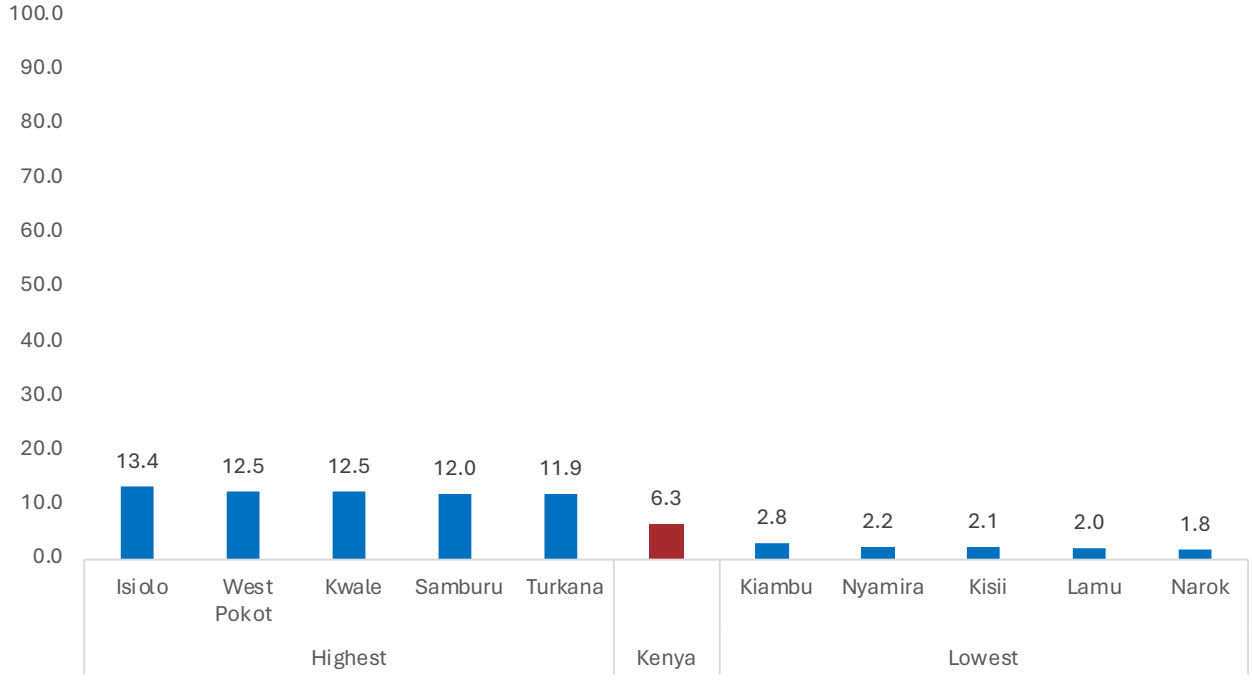
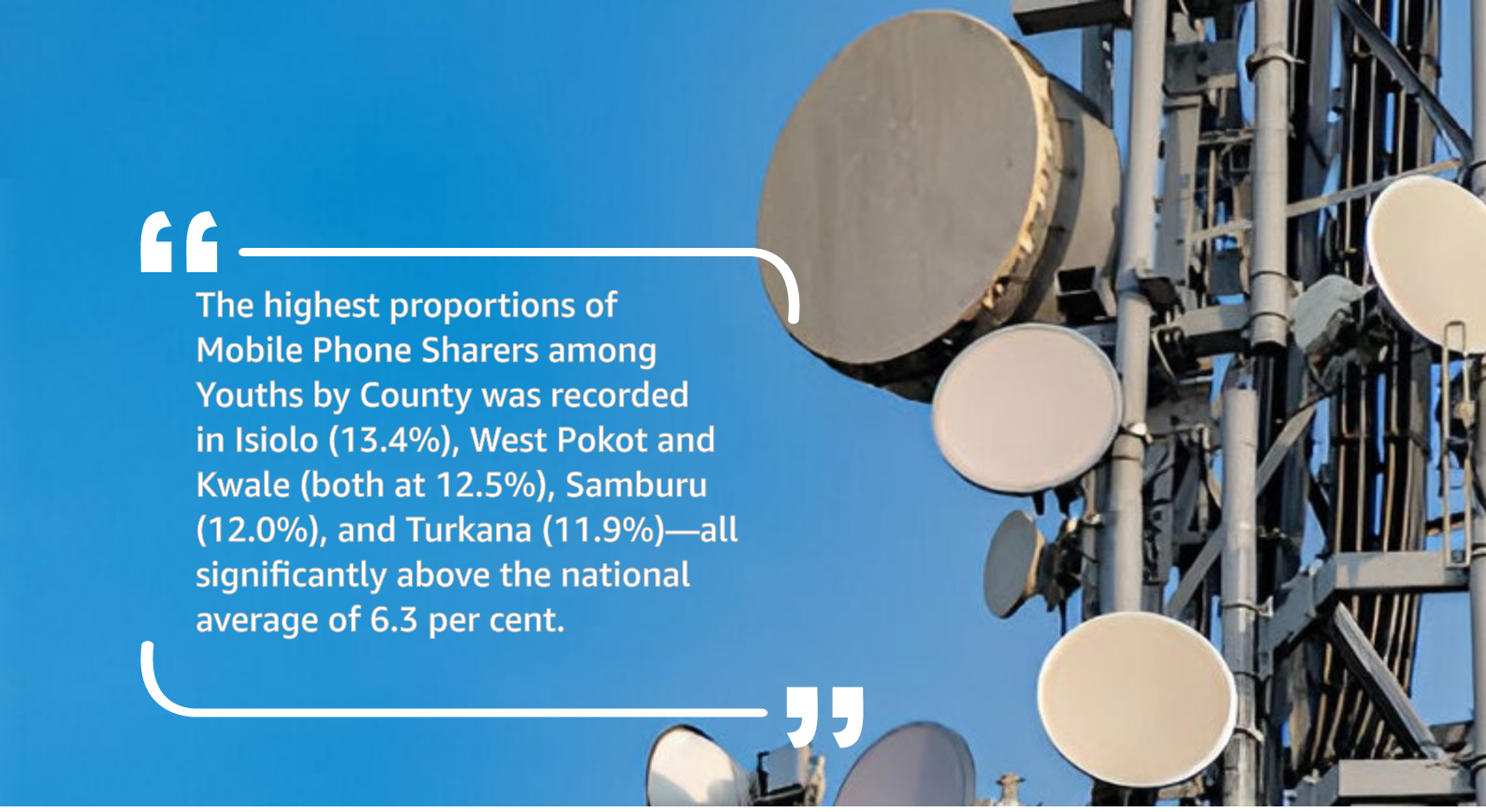
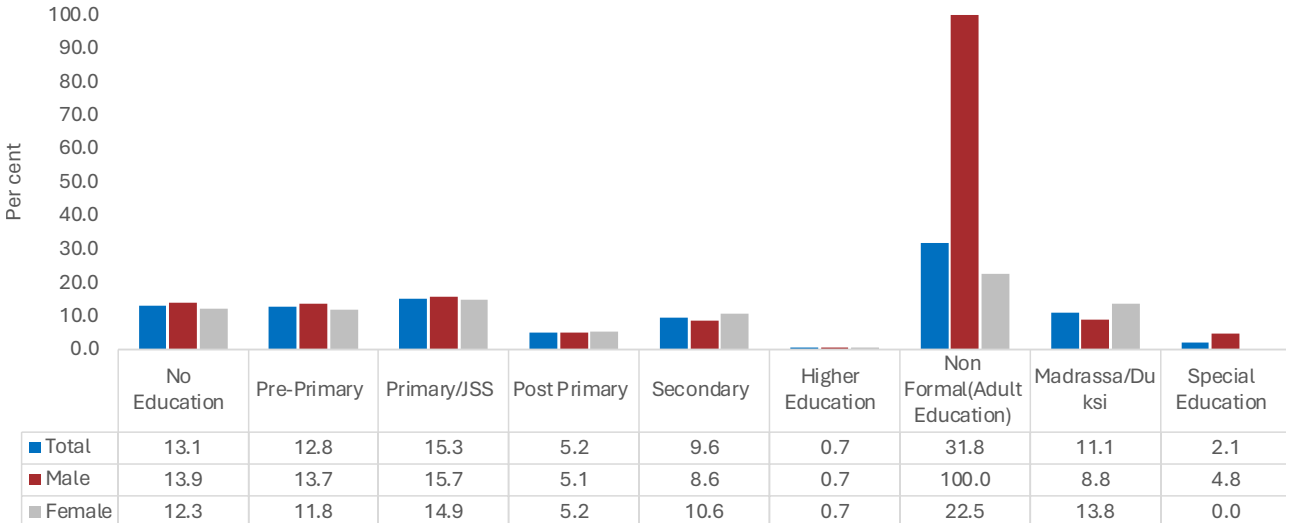


Figure 2.21: Proportion of Youths who Used a Mobile Phone without Owning by County



2.4.7 Mobile Phone Sharers by Highest Level of Education Completed

Individuals with non-formal (adult) education recorded the highest proportion of mobile sharing at 31.8 per cent, with a high rate among males at 100.0 per cent compared to 22.5 per cent among females, as shown in Figure 2.22. In contrast, those with higher education reported the lowest mobile sharing levels at only 0.7 per cent across both sexes, highlighting a strong association between educational attainment and likelihood of owning a mobile phone. These findings emphasize the role of education in enabling independent ICT access and underscore the need to support underserved populations with lower educational attainment.



	No Education	Pre-Primary	Primary/JSS	Post Primary	Secondary	Higher Education	Non Formal(Adult Education)	Madrassa/Duksi	Special Education
Total	13.1	12.8	15.3	5.2	9.6	0.7	31.8	11.1	2.1
Male	13.9	13.7	15.7	5.1	8.6	0.7	100.0	8.8	4.8
Female	12.3	11.8	14.9	5.2	10.6	0.7	22.5	13.8	0.0

Figure 2.22: Proportion of Individuals who Used a Mobile Phone without Owning phones by Education Level Completed

2.4.8 Mobile Phone Sharers by Marital Status

Analysis of mobile phone sharers by marital status was among individuals 12 years and above as shown in Figure 2.23. Individuals who had never married reported the highest rate of phone sharing at 12.7 per cent, with females (13.9%) slightly more likely to share phones than males (11.8%). This was followed by those who were divorced (7.7%) and married in polygamous unions (7.2%). Notably, divorced males had the highest sharing rate among all male subgroups at 11.8 per cent. These findings highlight the need to target digital inclusion efforts toward unmarried and formerly married individuals who are more likely to rely on shared mobile devices.

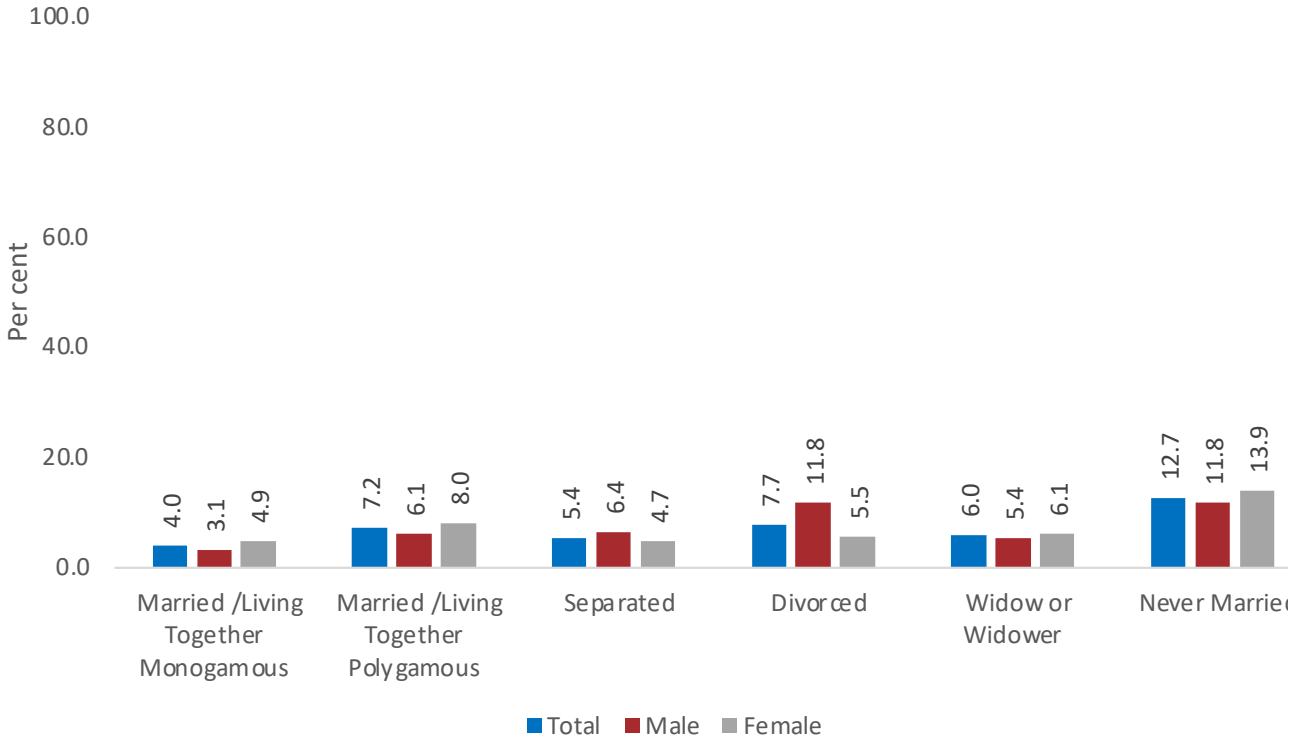


Figure 2.23: Proportion of Individuals who Used a Mobile Phone without Owning by Marital Status

2.4.9 Comparison of Mobile Phone Sharers by Marital Status, 2019 KPHC and 2023/24 KHS

A comparison of mobile phone sharers by marital status between the two surveys revealed a decline in overall mobile sharing across most groups, indicating improved phone ownership over time as presented in Table 2.13. In both 2019 KPHC and 2023/24 KHS, individuals who had never married were the most likely to share mobile phones, though the proportion slightly declined from 10.7 per cent to 12.5 per cent. Notably, among those divorced, mobile sharing more than doubled, from 3.5 per cent in 2019 to 7.7 per cent in 2024 suggesting a potential decline in digital independence within this group. Meanwhile, the proportion among those in monogamous unions remained low and stable (3.4% in 2019 to 4.0% in 2023/24), reflecting higher phone ownership within these households. This trend underscores the relationship between marital status and digital inclusion, with never-married and separated individuals showing the greatest dependency on shared phones.

Table 2.13: Comparison of Mobile Phone Sharers by Marital Status between 2019 KPHC and 2023/24 KHS

	2019 KPHC			2023/24 KHS		
Marital Status	**Total**	**Male**	**Female**	**Total**	**Male**	**Female**
Married /Living Together Monogamous	2.4	4.3	3.4	3.1	4.9	4.0
Married /Living Together Polygamous	2.7	5.1	4.0	6.1	8.0	7.2
Separated	5.7	2.9	4.0	6.4	4.7	5.4
Divorced	4.9	2.8	3.5	11.8	5.5	7.7
Widow or Widower	4.2	4.0	4.1	5.4	6.1	6.0
Never Married	10.1	11.5	10.7	11.8	13.9	12.7

2.4.10 Mobile Phone Sharers by Type of Disability

Figure 2.24 presents the distribution of individuals five (5) years and above who shared a mobile phone and reported difficulties across key functional domains. Individuals with hearing difficulty reported the highest mobile phone sharers at 15.6 per cent while cognition was the least reported at 2.3 per cent. Mobile phone sharing varied by sex with males with communication difficulty reporting at 10.6 per cent, while those with self-care reported 12.0 per cent compared to females with similar disabilities reporting 6.3 and 5.9 per cent, respectively. These findings highlight the need to ensure that mobile phone sharing practices and related ICT policies are inclusive of individuals with functional limitations, particularly those with hearing and communication challenges.

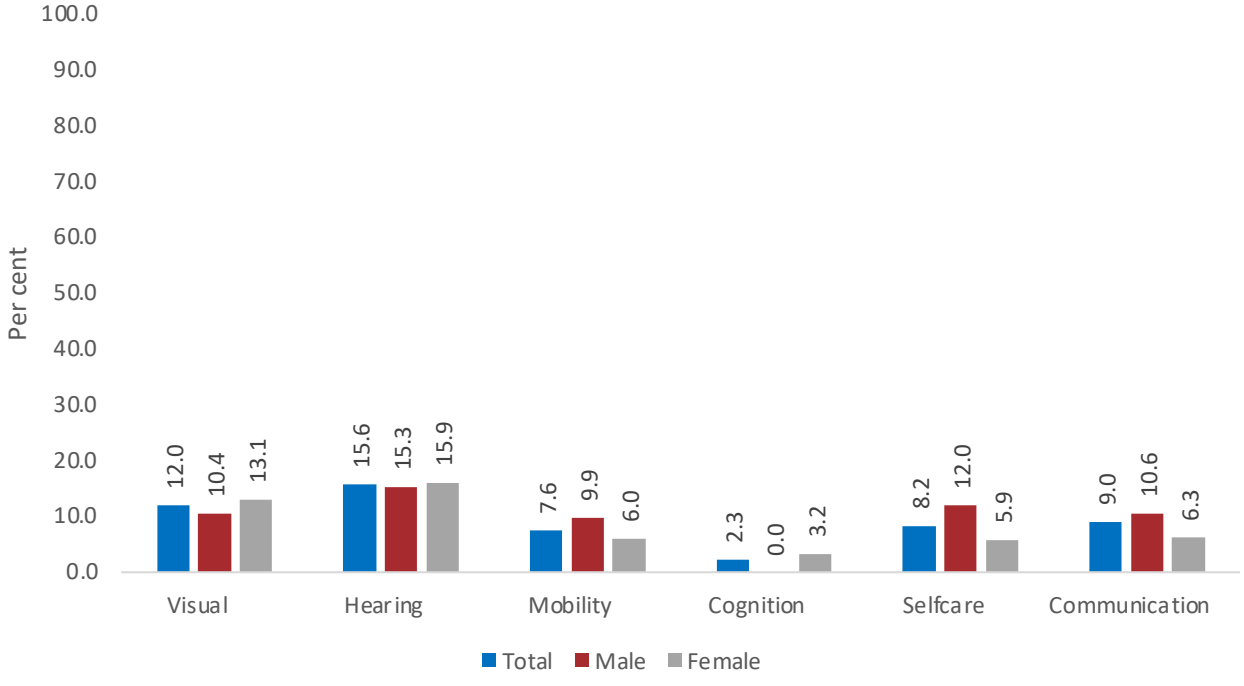


Figure 2.24: Proportion of Individuals who Used a Mobile Phone without Owning by Type of Disability

2.4.11 Mobile Phone Sharers by Status in Employment

The distribution of mobile phone sharers among individuals (5) years and above, by status in employment, is presented in Figure 2.25. The highest proportion of mobile phone sharers was observed among workers not classifiable by status (15.2%), with males (16.2%) slightly higher than females (14.3%), underscoring the intersection between employment precarity and limited digital autonomy.

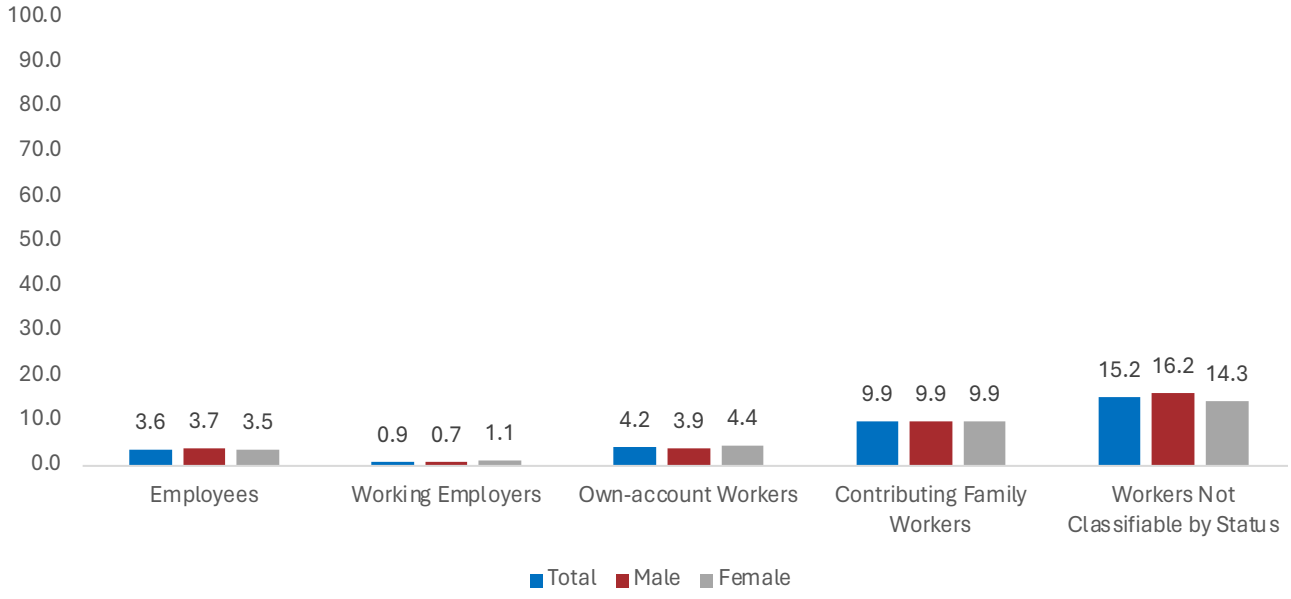


Figure 2.25: Proportion of Individuals who Used a Mobile Phone without Owning by Status in Employment

2.4.12 Mobile Phone Sharers by Main Employer

The analysis of mobile phone sharers (5) years and above by main employer reveals that pastoralist activities (employed) stood out as the leading source of employment, particularly among males (15.0%) compared to zero among females as presented in Table 2.14. This was followed by self-employed pastoralist activities (9.2%), and small-scale agriculture (employed) at (9.2%), with males again having a higher share (10.3%) than females (8.0%). In contrast, faith-based organizations were cited only by males (5.0%) and none by females. These results highlight that mobile phone sharing is more common among individuals engaged in informal, agricultural, or non-institutional forms of employment.

Table 2.14: Proportion of Individuals who Used a Mobile Phone without Owning by Status in Employment

Main Employer	Total	Male	Female
National government	0.7	0.8	1.0
County government	2.2	0.8	3.8
Private sector enterprise	1.7	2.0	0.9
International organizations/NGO	1.6	2.3	0.6
Local NGO/CBO	0.0	0.0	0.0
Faith based organization	3.1	5.0	0.0
Self employed- formal	1.8	2.2	1.2
Informal sector 'jua kali' (employed)	3.8	3.4	5.4
Self employed - informal	4.3	3.9	4.8
Small scale agriculture (employed)	9.2	10.3	8.0
Self-employed small-scale agriculture	6.2	5.3	6.8
Pastoralist activities (employed)	13.1	15.0	0.0
Self employed pastoralist activities	9.2	9.6	7.4
Individual/private household	7.2	7.0	7.5
School boards (BOM) employees	1.9	3.0	0.9



2.4.13 Mobile Phone Sharers by County

The analysis of mobile phone sharers (3) years and above reveals county-level differences in reliance on shared mobile. Counties such as Nyandarua (22.2%), Nakuru (20.9%), Laikipia (20.8%) recorded the highest proportions, nearly double the national average of 11.3 per cent. In contrast, counties like Narok and Bomet (2.0%), Lamu (2.2%) had significantly lower levels of mobile sharing. These findings underscore varying levels of mobile ownership across regions, especially in counties with high mobile sharing rates.

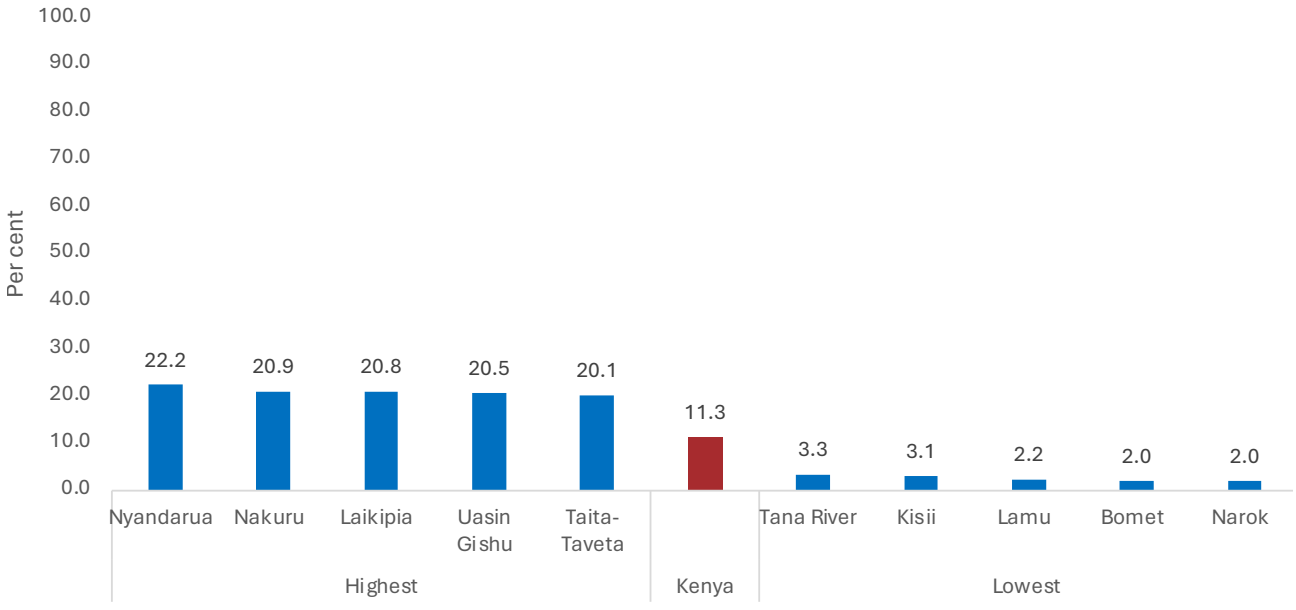


Figure 2.26: Proportion of Individuals who Used a Mobile Phone without Owning, by County

> Nyandarua (22.2%), Nakuru (20.9%), Laikipia (20.8%) recorded the highest proportions, nearly double the national average of 11.3 per cent. In contrast, counties like Narok and Bomet (2.0%), Lamu (2.2%) had significantly lower levels of mobile sharing.

2.5 Computer Usage

At the individual level, computer usage is influenced by a combination of socio-demographic and economic factors such as age, sex, place of residence, education level, employment status, and disability. Generally, younger individuals, those with higher levels of education, urban residents, and people engaged in formal employment are more likely to use computers. The nature of daily activities such as work or school play a critical role in determining the likelihood of computer usage across different population groups. The 2023/24 KHS collected data on use of computers by individuals from three (3) years and above.

2.5.1 Computer Usage by Residence

Computer usage is generally higher in urban areas than in rural areas, due to better access to infrastructure such as electricity, internet connectivity, among others. Urban residents were also more likely to be employed in the formal sector, attend institutions with ICT facilities, and have higher income levels; factors that enhance access to computers.

Figure 2.27 presents the proportion of individuals who reported having used a computer, disaggregated by sex and residence. Nationally, 11.6 per cent of individuals reported computer usage a slight increase in comparison to 10.7 per cent reported in 2019 KPHC indicating gradual improvement in digital access. Usage was significantly higher in urban areas (20.9%) compared to rural areas (7.3%). Notably, usage was higher in urban settings for both sexes 23.8 per cent for males and 18.1 per cent for females.

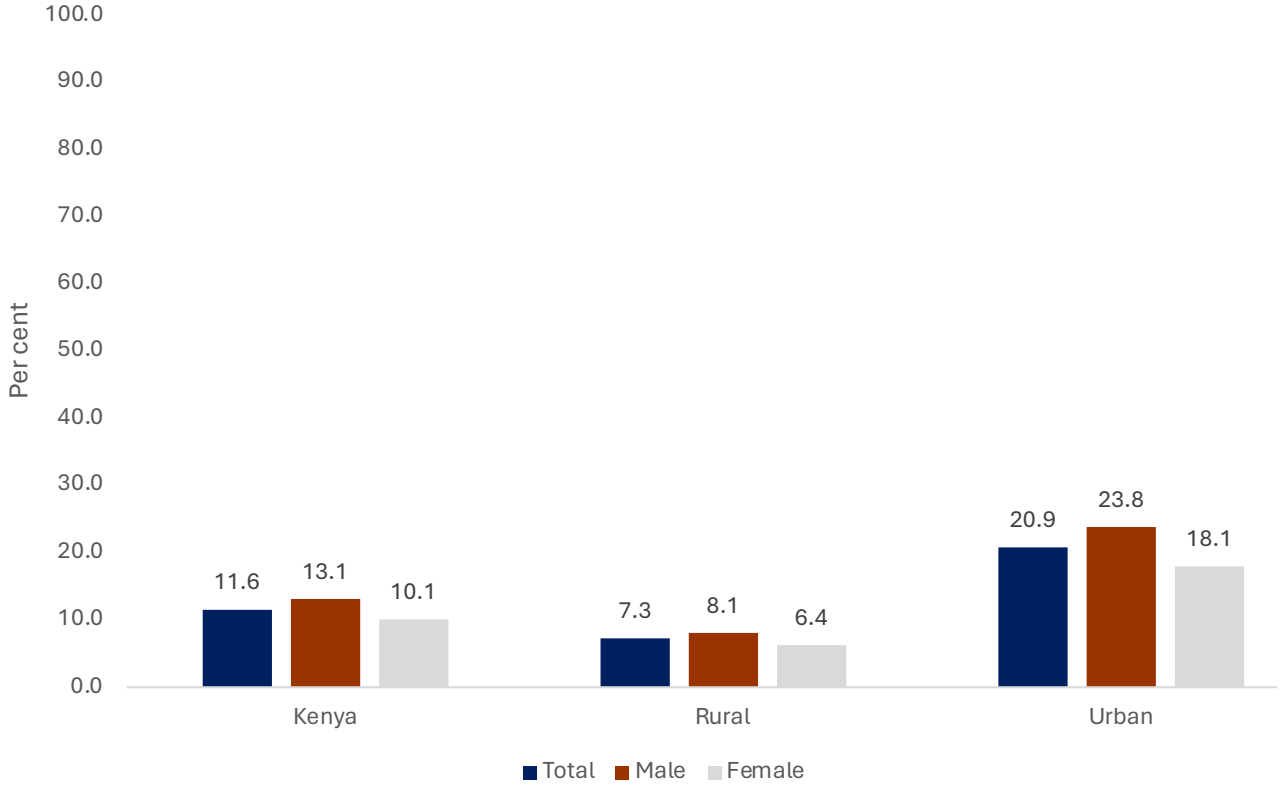


Figure 2.27: Proportion of Individuals aged 3 years and above who Used a Computer by Residence and Sex



2.5.2 Comparison of Computer Usage by Residence, 2019 KPHC and 2023/24 KHS

A comparison between the 2019 KPHC and the 2023/24 KHS shows that overall usage of computers increased especially in rural areas from 5.6 per cent in 2019 to 7.3 per cent in 2024 as shown in Table 2.15.

Table 2.15: Proportion of Individuals who Used a Computer by Residence and Sex comparison with 2019 KPHC and 2023/24 KHS

	2019 KPHC			2023/24 KHS		
Residence	Total	Male	Female	Total	Male	Female
Kenya	10.7	12.0	9.4	11.6	13.1	10.1
Rural	5.6	6.5	4.7	7.3	8.1	6.4
Urban	22.1	24.4	19.9	20.9	23.8	18.1

2.5.3 Computer Usage by Age

Age plays a significant role in computer usage, with usage generally declining as age increases. Younger individuals are more likely to be in school or at early stages of employment where digital literacy is essential, and they tend to have greater exposure to technology. In contrast, older age groups may face challenges such as lower digital literacy, or less motivation to use digital devices. Table 2.16 shows the proportion of individuals who used computers by age group and sex. The lowest usage was among children aged 3–4 years, at only 1.6 per cent. Among males, the highest computer usage was reported in the 25–34 age group (20.7%), while among females, the highest usage was in the 15–24 age group (18.0%). Individuals aged 35 and older showed a consistent decline in computer usage: 35–44 (13.4%), 45–54 (11.0%), 55–64 (9.2%), 65–74 (4.2%), 75–84 (1.6%), and those 85 and above (1.3%).

Table 2.16: Proportion of Individuals who Used a Computer by Age Group and Sex

Age Group	Total	Male	Female
3–4	1.6	2.1	1.1
5–9	2.8	2.6	3.0
10–14	5.6	5.9	5.4
15–24	18.6	19.2	18.0
25–34	17.8	20.7	14.9
35–44	13.4	17.1	9.7
45–54	11.0	13.3	8.8
55–64	9.2	10.9	7.6
65–74	4.2	5.4	3.1
75-84	1.6	3.0	0.4
85 and above	1.3	3.1	0.0

2.5.4 Comparison of Computer Usage by Age and Sex, 2019 KPHC and 2023/24 KHS

Table 2.17 presents the proportion of individuals who used a computer by age group and sex in 2023/24 KHS in comparison with 2019 KPHC. The highest usage of computers was among individuals 15–24 years at 18.6 per cent based on the 2023/24 KHS a slight increase compared to 16.1 per cent reported in 2019 KPHC.

Table 2.17: Proportion of Individuals who Used a Computer by Age Group and Sex, 2019 KPHC and 2023/24 KHS

	2019 KPHC			2023/24 KHS		
Age Group	Total	Male	Female	Total	Male	Female
3–4	1.9	1.9	1.9	1.6	2.1	1.1
5–9	3.4	3.4	3.3	2.8	2.6	3.0
10–14	4.1	4.2	4.0	5.6	5.9	5.4
15–24	16.1	17.1	15.2	18.6	19.2	18.0
25–34	18.7	22.3	15.4	17.8	20.7	14.9
35–44	14.0	15.9	11.9	13.4	17.1	9.7
45–54	11.7	14.3	9.0	11.0	13.3	8.8
55–64	7.6	10.3	5.1	9.2	10.9	7.6
65–74	3.3	4.9	1.9	4.2	5.4	3.1
75-84	1.6	2.5	1.0	1.6	3.0	0.4
85 and above	0.8	1.2	0.6	1.3	3.1	0.0



2.5.5 Computer Usage among Youth by Residence

Nationally, youth computer usage was 19.8 per cent with urban youth (30.0%) being far more likely to use computers than rural youth (13.9%) as shown in Figure 2.28. Overall computer usage was higher for males at 22.0 per cent compared to females at 17.7 per cent nationally. Computer usage was higher in males at 34.3 per cent and females at 25.7 per cent.

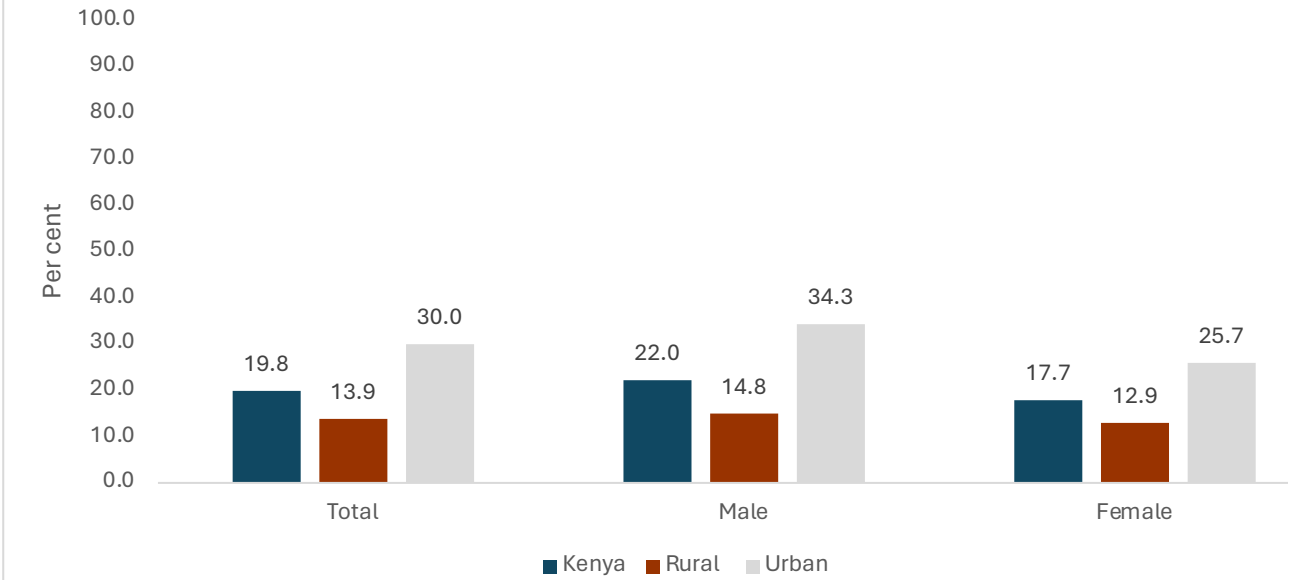


Figure 2.28: Proportion of Individuals aged 18-34 years who Used a Computer by Residence and Sex

2.5.6 Computer Usage among Youth by County

Nationally, the usage of computers among the youths showed significant disparities along the lines of residence, sex, and geography. Nairobi's uptake contrasts sharply with under connected counties like Wajir. Figure 2.29 shows computer usage among the youth aged (18–34) by county, the five (highest and lowest) counties Youth computer usage varies significantly across counties. The highest usage being in Nairobi City (39.0%), Nyeri (32.5%), Kisumu (28.9%), Laikipia (28.6%), and Nyamira (27.8%) with all of them being above the national average (19.8%). Counties with that recorded lowest usage of computers were Wajir (4.5%), Lamu (6.5%), Turkana (6.7%), Tana River (7.4%) and Kwale (7.8%).

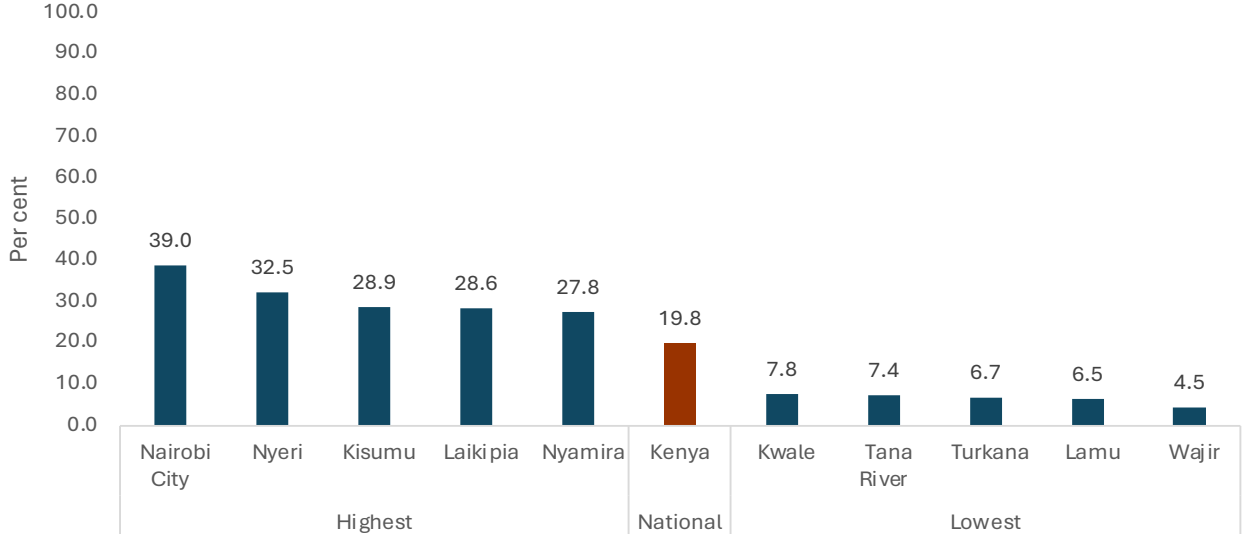


Figure 2.29: Proportion of Individuals aged 18-34 years who Used a Computer by County

2.5.7 Computer Usage by Education Level Completed

Computers are an integral part of the education system, enhancing both teaching and learning. In the modern world, education increasingly depends on access to technology. Figure 2.30 presents the proportion of individuals four (4) years and above who used a computer, disaggregated by the highest level of education completed.

The data showed a clear trend computer usage increased with education level. Individuals with higher education recorded the highest usage rate at 55.9 per cent, while those with no education reported 0 per cent usage. Similarly in both males and female populations highest usage of computers was among those with higher education at 58.2 and 53.1 per cent respectively. This suggests that higher educational attainment is strongly associated with greater use and familiarity with computer technology.

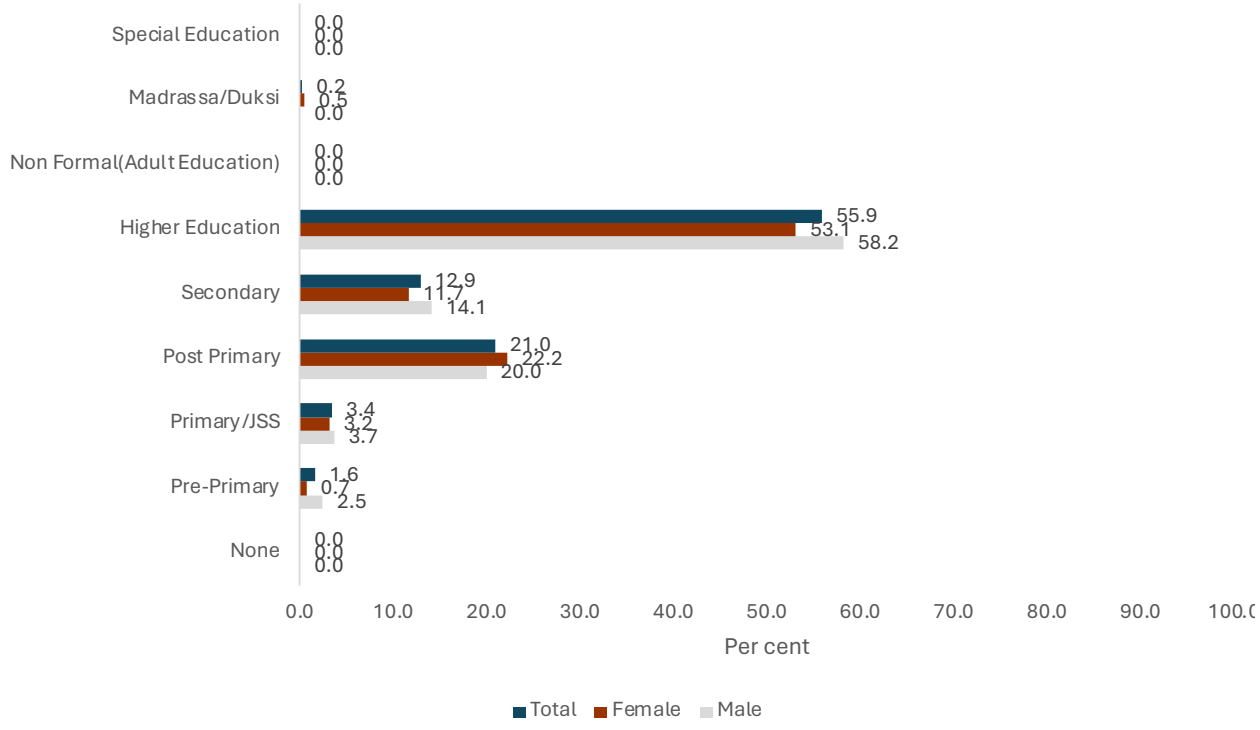


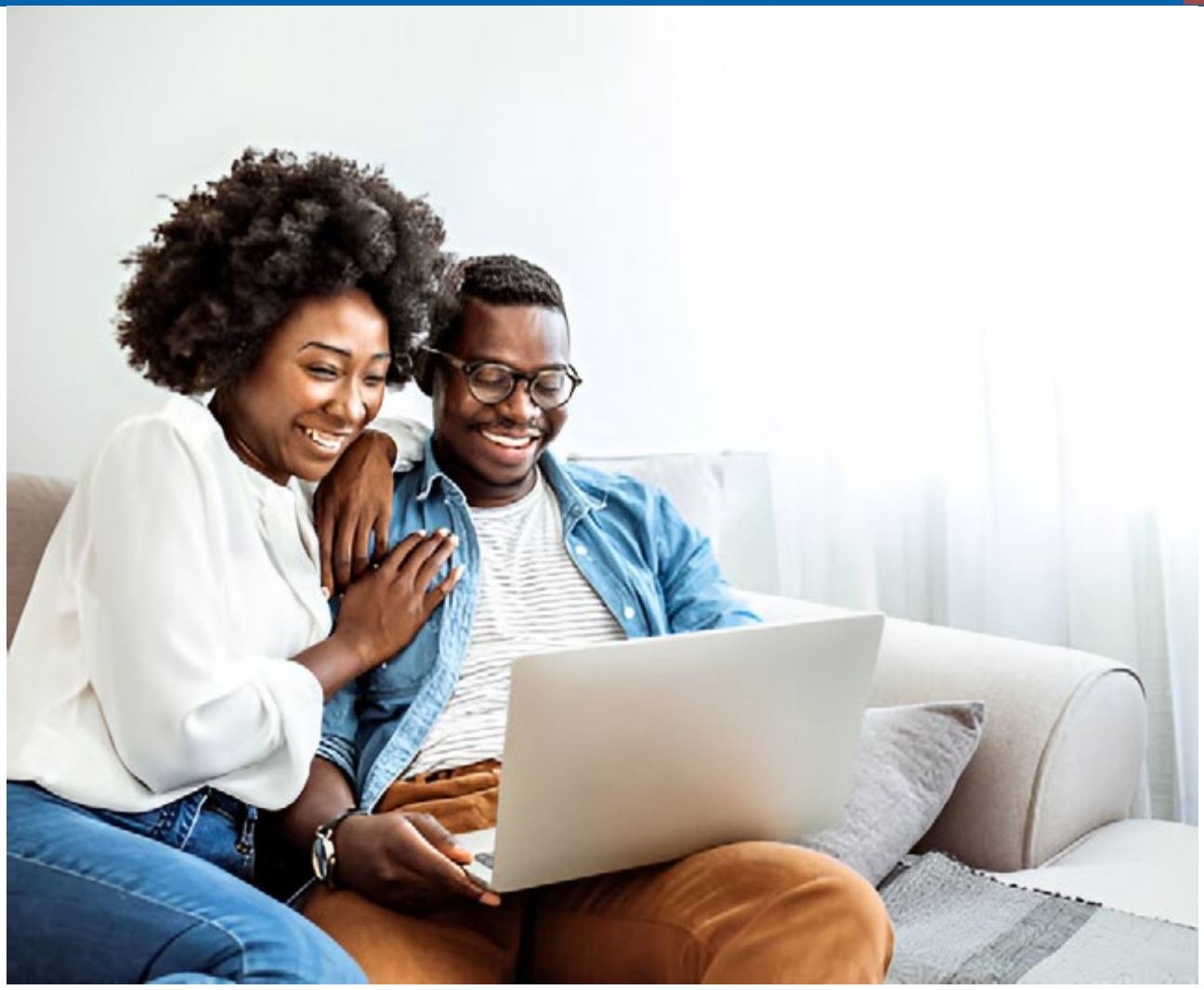
Figure 2.30: Proportion of individuals aged 4 years and above who used a computer by highest education level completed

2.5.8 Computer Usage by Marital Status

As shown in Table 2.18, males reported the highest usage across most marital categories. Individuals never married had the highest usage rate at 20.8 per cent while widowed individuals had the lowest usage at 4.3 per cent. Computer usage among males and females in married monogomous unions stood at 15.7 per cent and 10.5 per cent, respectively.

Table 2.18: Proportion of Individuals who Used a Computer by Marital Status and Sex

Marital Status	Total	Male	Female
Married /Living Together Monogamous	13.1	15.7	10.5
Married /Living Together Polygamous	6.5	8.7	4.2
Separated	7.3	6.6	8.0
Divorced	10.8	11.7	9.8
Widow or Widower	4.3	5.6	3.1
Never Married	20.8	20.8	20.8



2.5.9 Comparison of Computer Usage by Marital Status and Sex, (2019 KPHC and 2023/24 KHS)

There was a slight increase in computer usage among individuals who reported being never married, for both males and females, rising to 20.8 per cent in the 2023/24 KHS compared to 15.6 per cent for males and 15.2 per cent for females in the 2019 KPHC. A similar upward trend was observed among individuals who were divorced, married, or living together both in polygamous and monogamous unions as shown in Table 2.19.

Table 2.19: Proportion of Individuals who Used a Computer by Marital Status and Sex, (2019 KPHC and 2023/24 KHS)

	2019 KPHC			2023/24 KHS		
Marital Status	**Total**	**Male**	**Female**	**Total**	**Male**	**Female**
Married /Living Together Monogamous	12.8	15.7	10.2	13.1	15.7	10.5
Married /Living Together Polygamous	5.7	8.3	3.3	6.5	8.7	4.2
Separated	8.8	7.8	9.6	7.3	6.6	8.0
Divorced	8.5	8.9	8.3	10.8	11.7	9.8
Widow or Widower	3.5	5.4	3.3	4.3	5.6	3.1
Never Married	15.4	15.6	15.2	20.8	20.8	20.8



2.5.10 Computer Usage by Type of Disability

The proportion of individuals living with disabilities who reported using a computer was notably lower than that of individuals without disabilities, highlighting a significant digital divide. Disaggregated analysis by type of disability reveals marked differences in usage rates across various domains.

Among persons with disabilities, individuals with visual impairments reported the highest levels of computer usage. Specifically, 20.0 per cent of males and 16.9 per cent of females with visual impairments indicated that they had used a computer as shown in Figure 2.31.

On the other hand, persons with cognitive difficulties recorded the lowest levels of computer usage. Only 0.9 per cent of individuals in this group reported using a computer, with a gender breakdown of 3.1 per cent for males and 0.0 per cent for females.

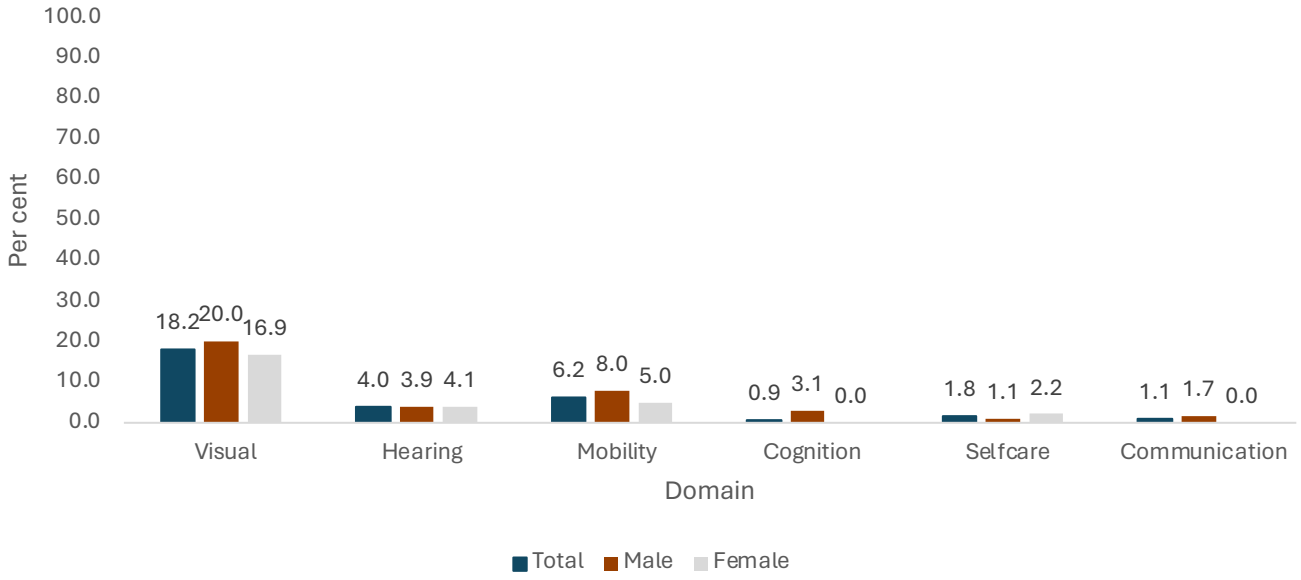


Figure 2.31: Proportion of Individuals who Used a Computer by Disability

2.5.11 Computer Usage by Status in Employment

Computer usage varied significantly by employment status. Employed individuals and the self-employed are more likely to use computers, particularly those working in formal or office-based roles that demand digital skills. Self-employed individuals engaged in ICT or service industries also commonly use computers for managing operations and customer relations.

Figure 2.32 shows that employers had the highest computer usage overall (29.8%), with male employers at 32.4 per cent and female employers at 25.7 per cent. The lowest usage was among workers not classifiable by status, at 6.1 per cent.

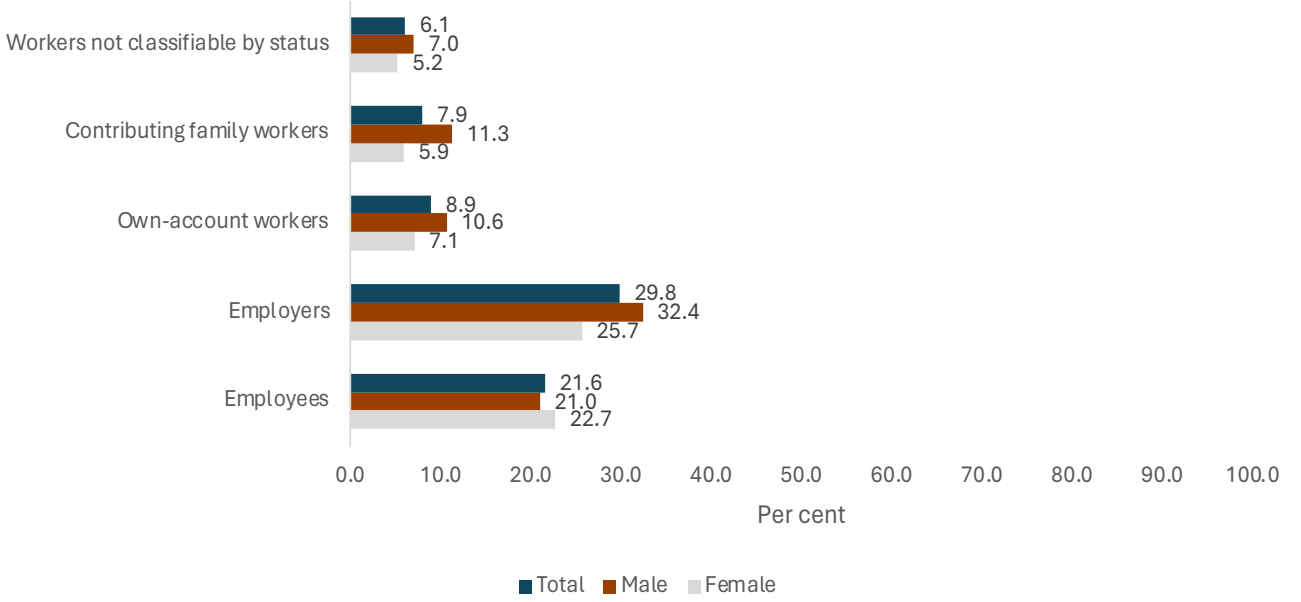


Figure 2.32: Proportion of Individuals who Used Computer by Status in Employment

2.5.12 Computer Usage by Main Employer

Table 2.20 provides data on computer usage by main employer. Individuals employed by county governments reported the highest usage at 55.3 per cent. Males working with international organizations/NGOs had the highest usage at 61.0 per cent while females employed by the national government had the highest computer usage at 65.6 per cent. In contrast, individuals engaged in pastoralist activities did not use computer.

Table 2.20: Proportion of Individuals who Used a Computer by Main Employer

Main Employer	Total	Male	Female
National Government	51.7	44.9	65.6
County Government	55.3	56.6	53.7
Private sector enterprise	27.4	25.7	31.7
International organizations/NGO	54.3	61.0	44.8
Local NGO/CBO	49.8	53.4	43.8
Faith based organization	38.1	28.8	52.6
Self employed-Formal	23.4	26.8	18.0
Informal sector 'jua kali' (employed)	8.5	9.9	2.8
Self employed - Informal	8.6	10.2	7.1
Small scale agriculture (employed)	4.1	4.1	4.1
Self employed small scale agriculture	4.0	5.2	3.1
Pastoralist activities (employed)	0.0	0.0	0.0
Self employed pastoralist activities	0.6	0.7	0.0
Individual/private household	6.3	6.7	5.7
School boards (BOM) employees	34.2	36.8	32.0

2.5.13 Computer Usage by County of Residence

Figure 2.33 presents county-level statistics on computer usage, disaggregated by top five and bottom five counties. Nationally, 11.6 per cent of individuals reported having used a computer. Nairobi City County recorded the highest level of computer usage at 27.8 per cent.

The other four counties with high computer usage were Nyeri (21.3%), Kisumu (15.8%), Mombasa (15.4%) and Kiambu (14.7%). Conversely, Wajir County reported the lowest computer usage, with only 2.0 per cent of individuals using it. Turkana, Tana River, Mandera, and Marsabit recorded low computer usage rates of 4.3, 3.7, 3.6, and 3.5 respectively, all significantly below the national average of 11.6 per cent.

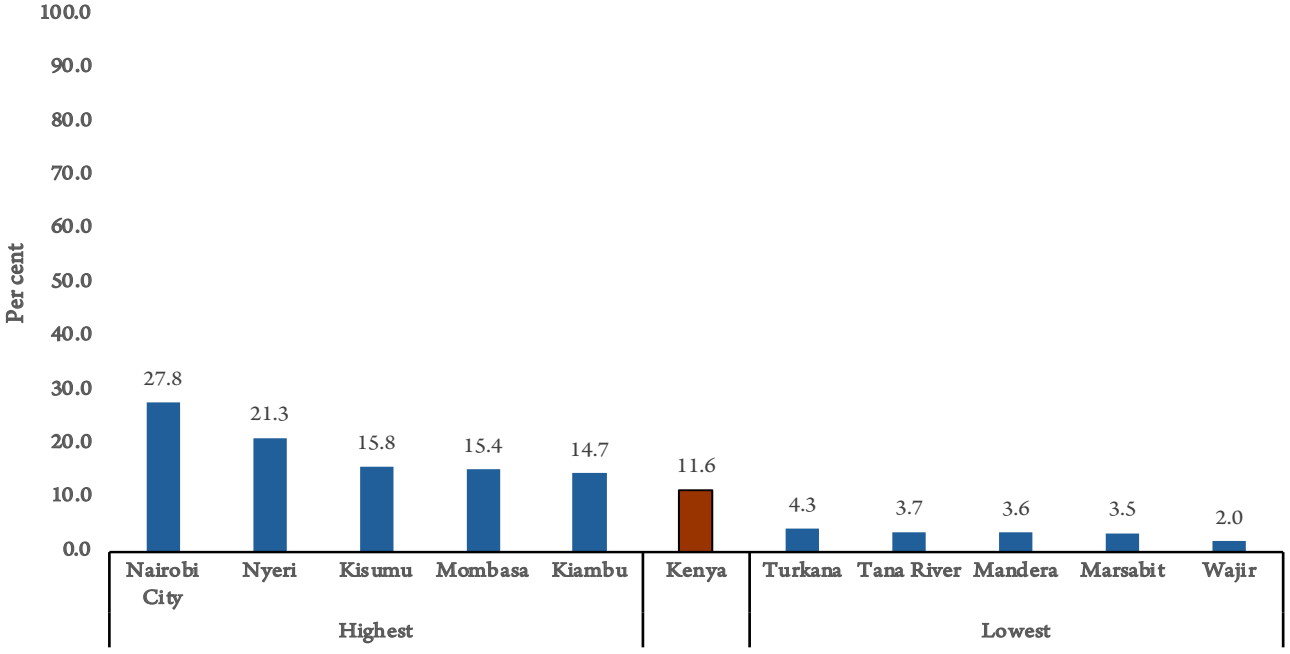


Figure 2.33: Proportion of Individuals Aged 3 Years and Above who Used a Computer by County

2.6 Internet Usage

Internet usage is vital for social, economic, and personal development. It enhances access to information, education, healthcare, and employment opportunities. At the individual level, the internet enables communication, online learning, financial transactions, and participation in digital markets. Internet has become a powerful tool for bridging geographic and socio-economic divides, promoting e-commerce, enabling e-government services, and empowering youth and marginalized communities.

2.6.1 Internet Usage by Residence

The distribution of population that used the internet by residence is shown in Figure 2.34. Nationally, internet usage was 35.0 per cent with urban areas at 56.6 per cent compared to 25.0 per cent in rural areas. There was higher Internet usage among males (37.8%) than females (32.2%).

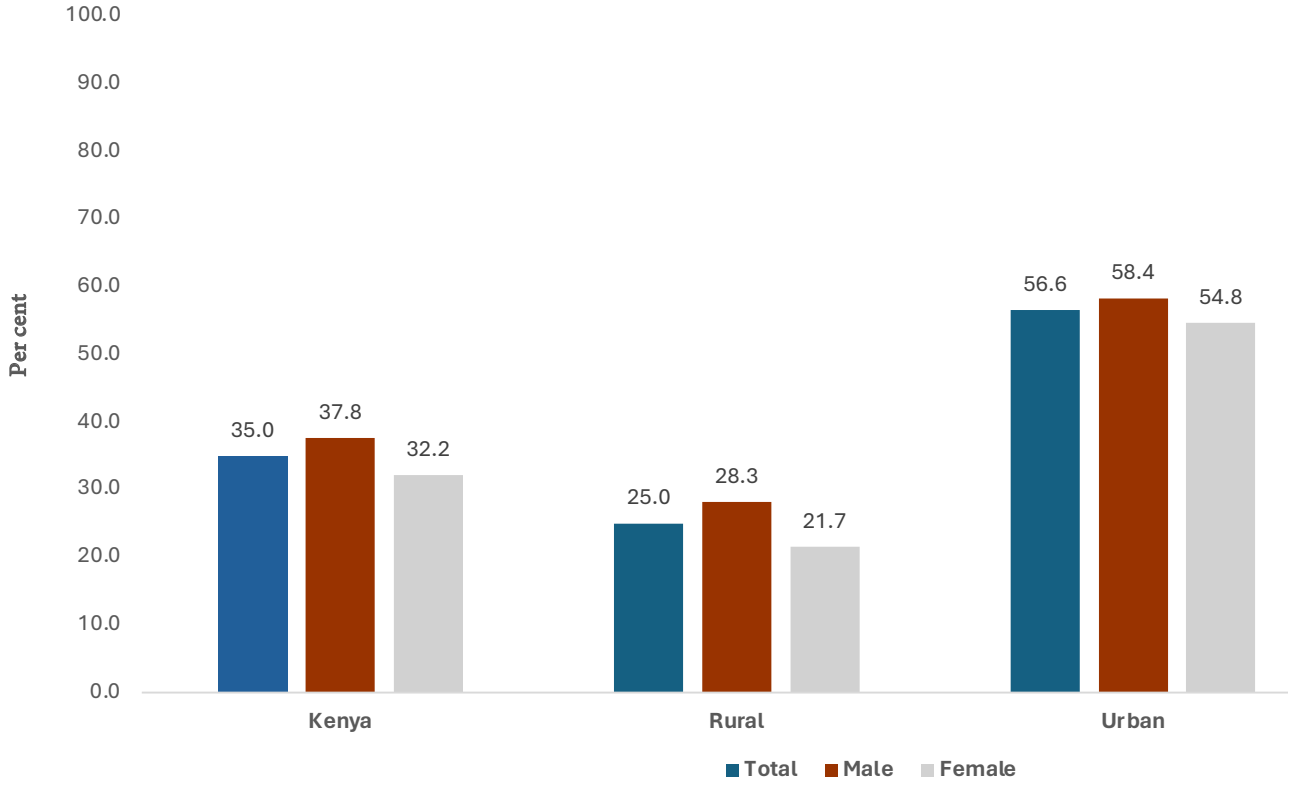


Figure 2.34: Proportion of Individuals that Used the Internet by Residence and Sex

2.6.2 Comparison of Internet Usage by Residence between 2019 KPHC and 2023/24 KHS

The individuals who used internet by residence and sex in the 2019 KPHC and 2023/24 KHS is shown in Figure 2.35. Internet usage increased nationally from 22.7 per cent in 2019 to 35.0 per cent in 2024. This growth was observed across both genders where internet usage by males increased from 25.2 per cent in 2019 to 37.8 per cent in 2024, while female internet usage rose from 20.2 per cent to 32.2 per cent, over the same period.

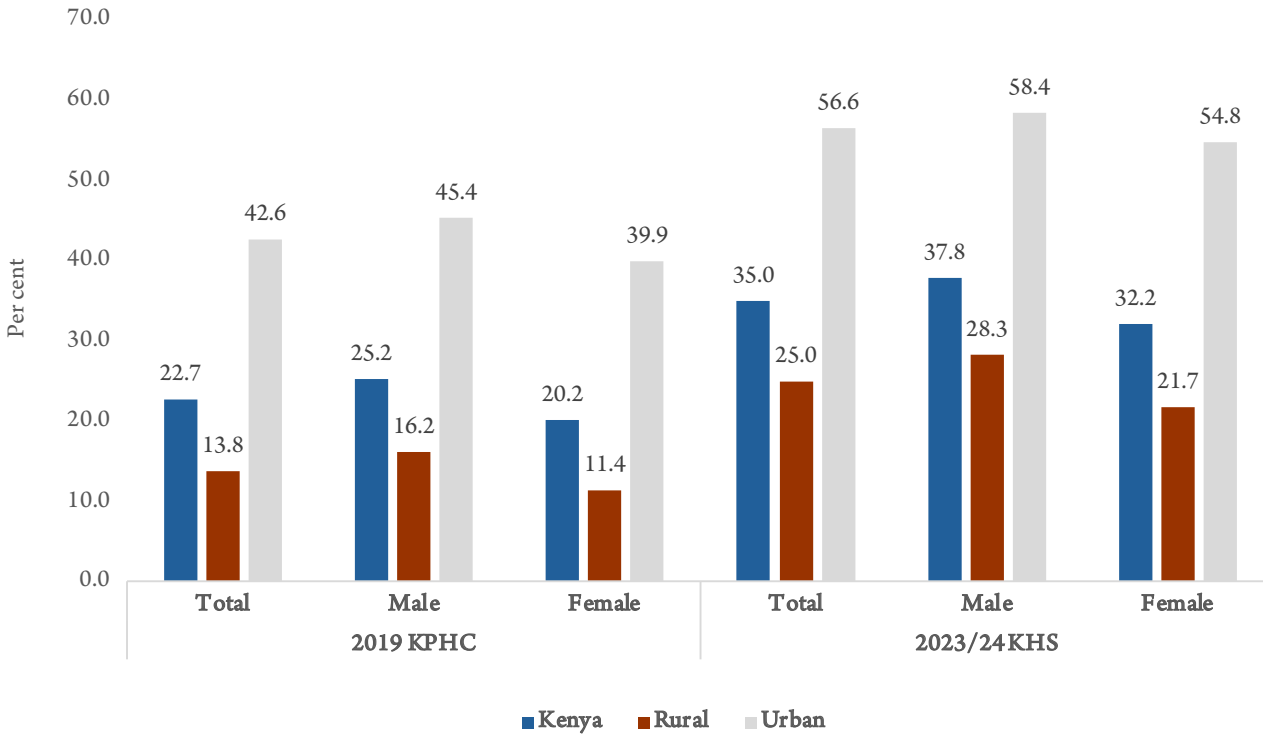


Figure 2.35: Proportion of Individuals that Used the Internet by Residence, 2019 KPHC and 2023/24 KHS

2.6.3 Internet Usage by Age-Group and Sex

The internet is a crucial tool for information, communication, and access to services. The 2023/24 KHS data showed that males consistently reported higher internet use than females across all age groups, as shown in Figure 2.36. Internet usage was highest among persons (25–34 years) at 59.3 per cent, with males at 64.0 per cent and females at 54.5 per cent. Internet usage was lowest among children (3–14 years) and the elderly (65+ years).

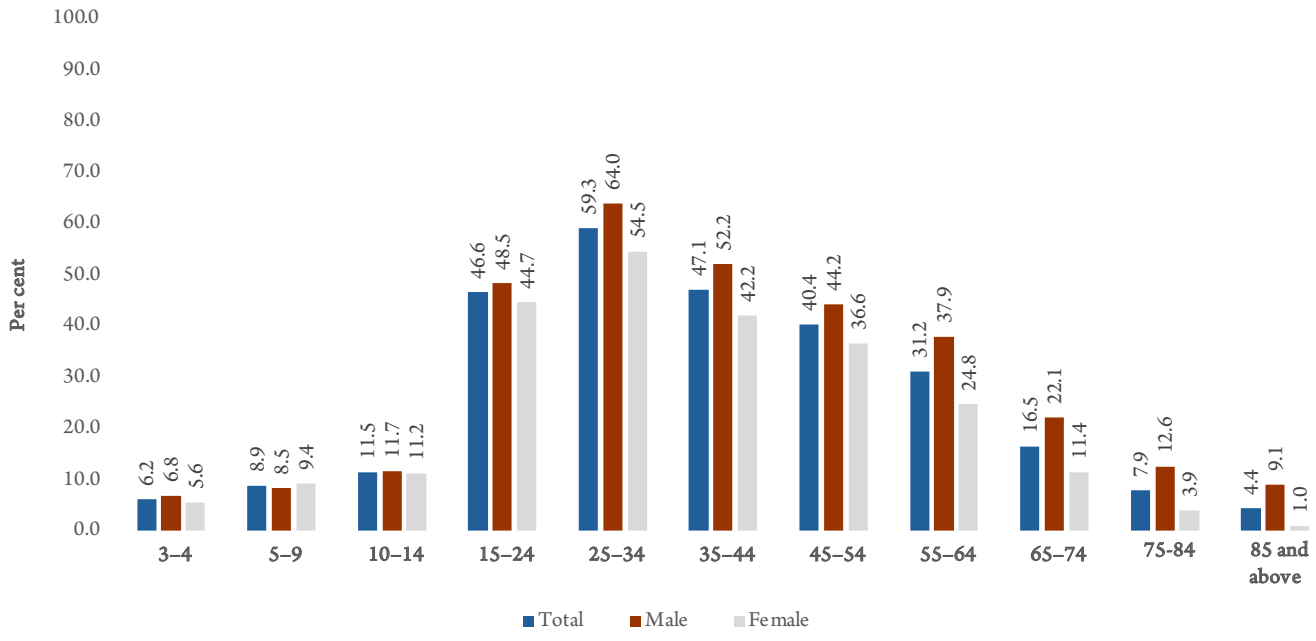
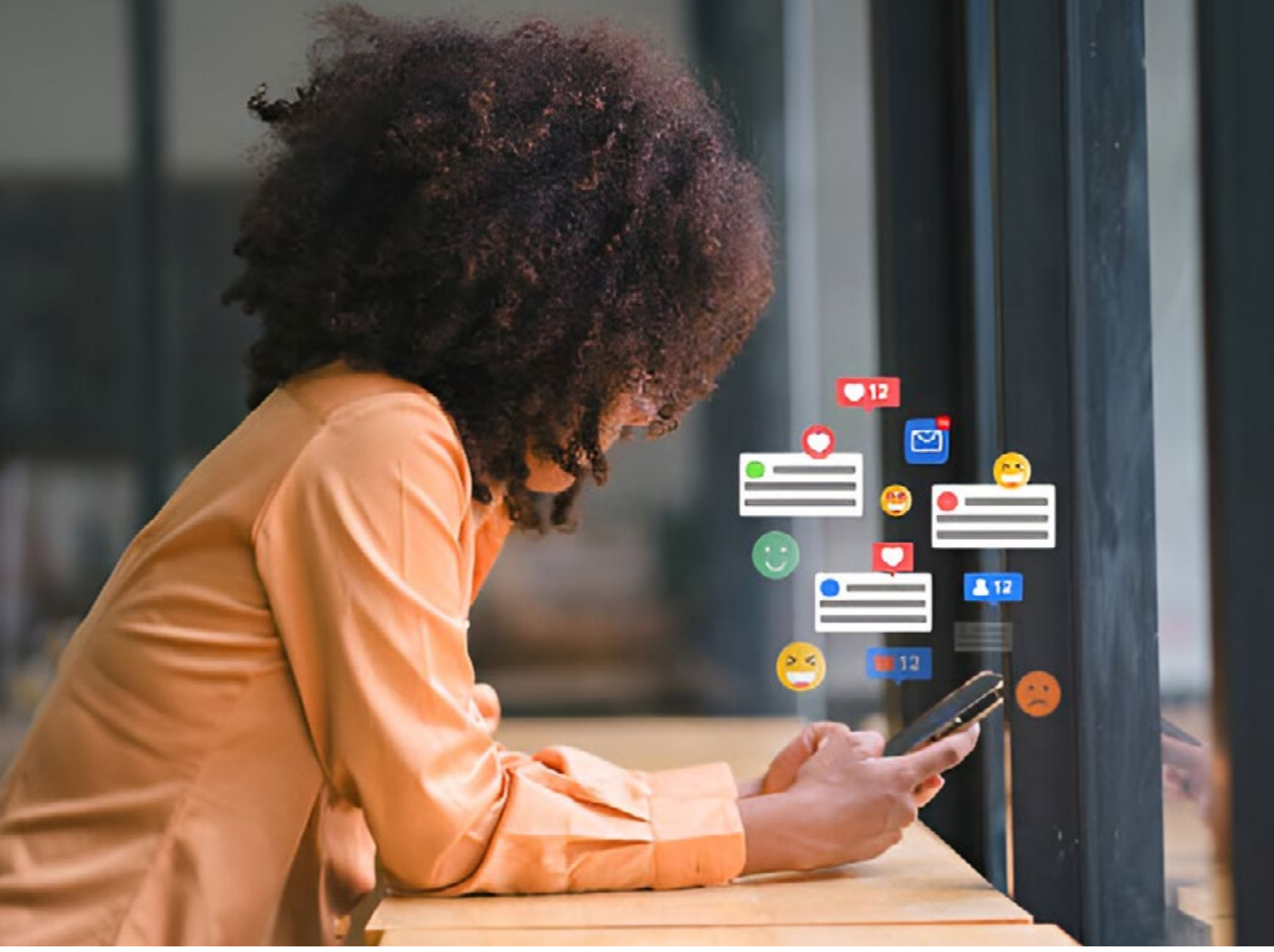


Figure 2. 36: Proportion of Individuals that Used the Internet by Age



2.6.4 Comparison of Internet Usage by Age-Group and Sex between 2019 KPHC and 2023/24 KHS

Internet usage increased across all age groups between the 2019 KPHC and the 2023/24 KHS. Notably, the highest usage was recorded among the 25–34 age group rising from 44.5 per cent in 2019 to 59.3 per cent in 2024. Internet usage by individuals aged 15–24 increased from 32.3 per cent in 2019 to 46.6 per cent in 2024.

Table 2.21: Proportion of Individuals who used Internet by Age-Group and Sex, 2019 KPHC and 2023/24 KHS

	2019 KPHC			2023/24 KHS		
Age Group	Total	Male	Female	Total	Male	Female
3–4	**2.1**	2.1	2.1	**6.2**	6.8	5.6
5–9	**2.7**	2.8	2.7	**8.9**	8.5	9.4
10–14	**4.0**	4.2	3.8	**11.5**	11.7	11.2
15–24	**32.3**	34.7	29.9	**46.6**	48.5	44.7
25–34	**44.5**	50.6	39.1	**59.3**	64.0	54.5
35–44	**35.4**	39.3	31.3	**47.1**	52.2	42.2
45–54	**27.6**	32.4	22.7	**40.4**	44.2	36.6
55–64	**18.3**	23.5	13.4	**31.2**	37.9	24.8
65–74	**9.3**	12.7	6.3	**16.5**	22.1	11.4
75-84	**4.8**	6.7	3.5	**7.9**	12.6	3.9
85 and above	**2.7**	3.6	2.2	**4.4**	9.1	1.0

2.6.5 Internet Usage among the Youths by Residence and Sex

Internet usage among youth (aged 18–34) by sex and county is shown in Figure 2.37. The national youth internet usage was 58.6 per cent with youth in urban areas (78.7%) being far more likely to use the internet than youth in the rural areas (46.7%). Similarly, males (62.3%) reported higher internet usage compared to females (54.8%).

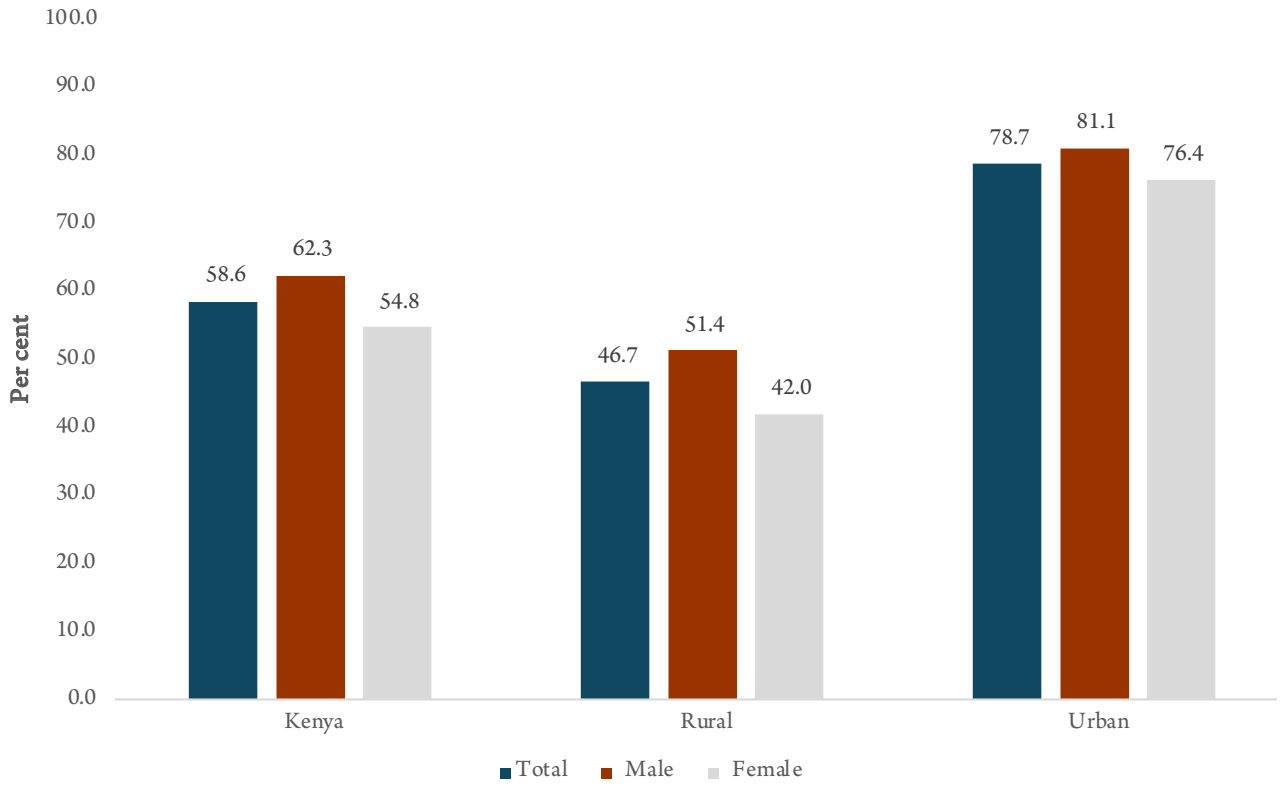


Figure 2.37: Proportion of Youths who used Internet by Residence and Sex

> **Low internet usage was common in the Informal sector/Jua Kali (54.6%), Self-employed informal (48.1%), Small-scale agriculture (25.5%), Pastoralist activities (10.8%) and Private household workers (38.2%).**



2.6.6 Internet Usage among the Youth by County

Internet Usage among the varied significantly across counties. The highest usage was in Nairobi City (83.1%), Kiambu (80.6%), Nyeri (70.5%), Mombasa (70.4%), and Kirinyaga (69.0%) counties. Counties with the lowest usage were West Pokot (17.9%), Turkana (28.0%), Marsabit (32.7%), Tana River (34.3%) and Vihiga (34.3%).

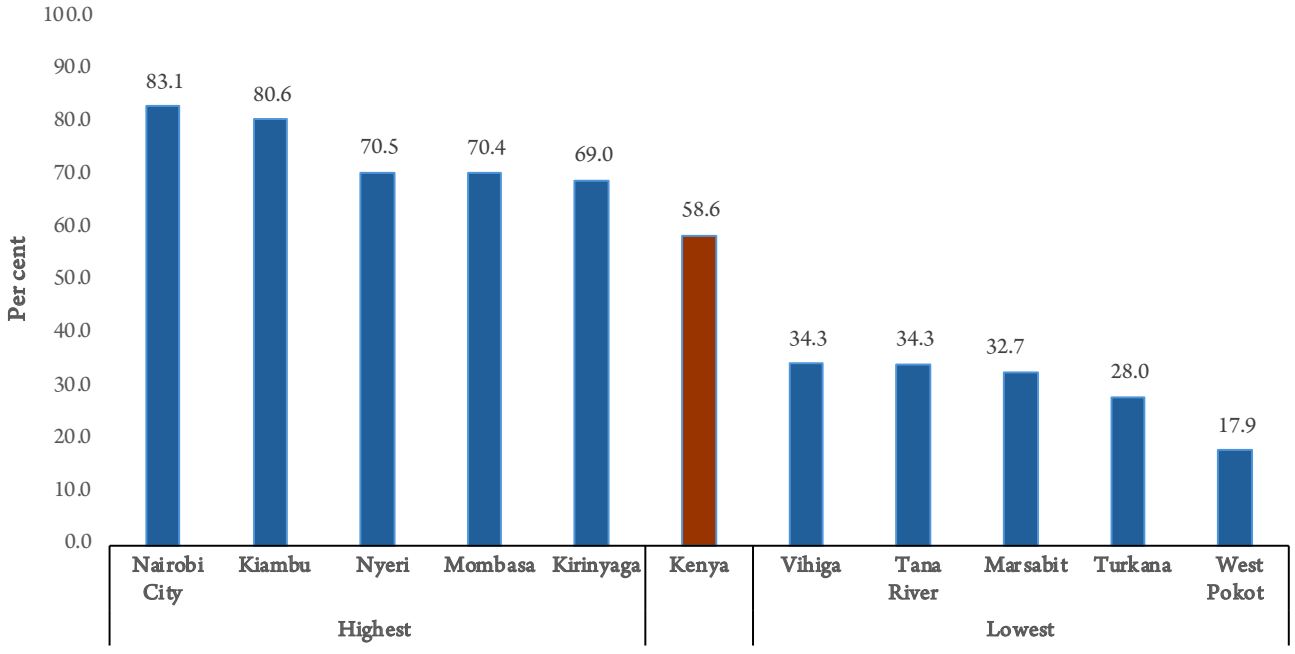


Figure 2.38: Proportion of Youth who used the Internet by County

2.6.7 Internet Usage by Completed Education Level

The proportion of individuals who used the internet by education level completed is shown in Figure 2.39. Individuals with higher education levels reported higher internet usage at 92.3 per cent while those with post primary (65.0%) and secondary education (54.6%). In contrast, those with lower levels of education such as Pre-Primary (6.6%), Adult Education (8.2%), and Madrassa/Duksi (8.3%) reported much lower internet usage. There was no recorded usage among those with no education.

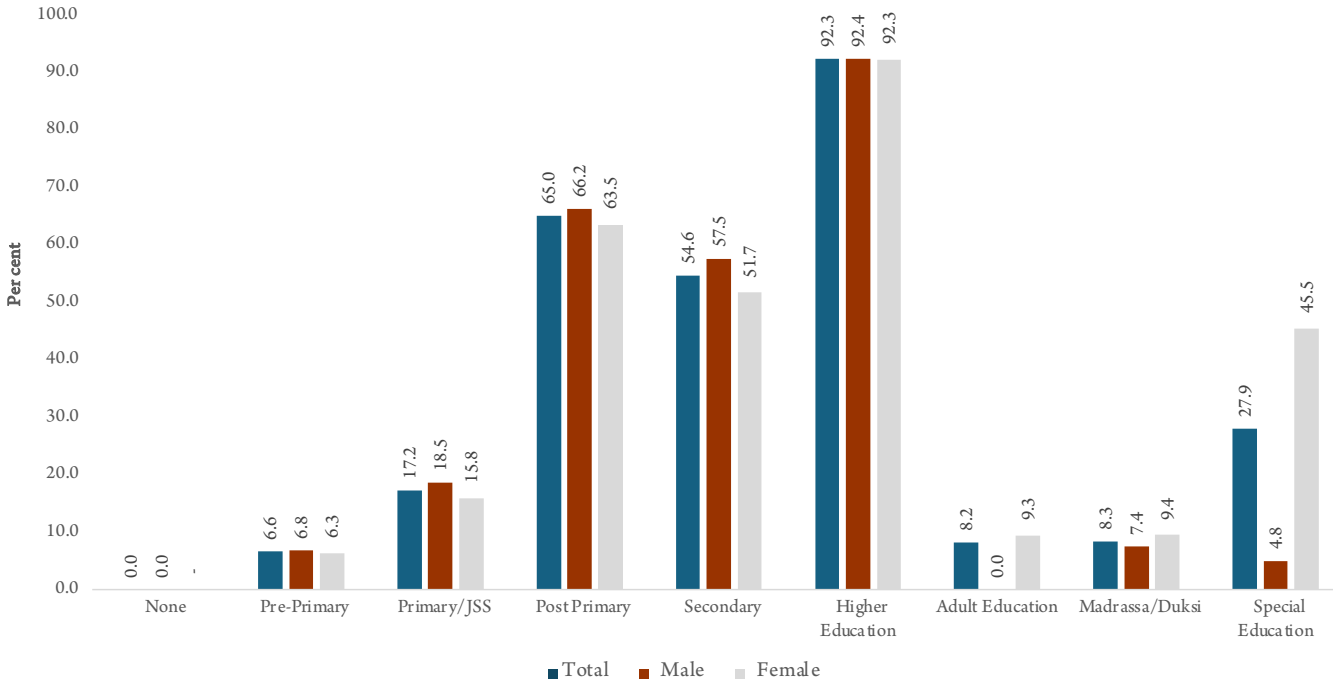


Figure 2.39: Proportion of Individuals Who Used Internet by Education Level Completed

2.6.8 Internet Usage by Marital Status

Internet usage was highest among individuals who were married monogamously (53.3% males, 42.5% females) and those who had never married (51.1% males, 49.3% females). Nationally, lower internet usage rates were observed among those who were polygamously married, separated, divorced, and widowed. Males recorded higher internet usage compared to females across marital statuses, except among the separated and divorced.

Table 2.22: Proportion of Individuals Who Used Internet Services by Marital Status

Marital Status	Total	Male	Female
Married /Living Together Monogamous	47.9	53.3	42.5
Married /Living Together Polygamous	24.1	28.2	20.0
Separated	40.4	31.4	49.4
Divorced	41.7	39.4	43.9
Widow or Widower	20.1	23.7	16.5
Never Married	50.2	51.1	49.3

2.6.9 Comparison of Internet Usage by Marital Status, 2019 KPHC and 2023/24 KHS

Internet usage has increased across all marital status categories between the 2019 KPHC and the 2023/24 KHS. The internet usage among the never-married population increased from 28.3 per cent in 2019 to 50.2 per cent in 2024. This was followed closely by those in monogamous unions, which rose from 33.0 per cent in 2019 to 47.9 per cent in 2024. Internet usage by those who had separated also increased from 28.9 per cent to 40.4 per cent over the same period.

Table 2.23: Proportion of Individuals who used the Internet by Marital Status, 2019 KPHC and 2023/24 KHS

	2019 KPHC			2023/24 KHS		
Marital Status	**Total**	**Male**	**Female**	**Total**	**Male**	**Female**
Married /Living Together Monogamous	**33.0**	38.7	27.7	**47.9**	53.3	42.5
Married /Living Together Polygamous	**17.4**	23.6	11.6	**24.1**	28.2	20.0
Separated	**28.9**	23.2	32.7	**40.4**	31.4	49.4
Divorced	**27.0**	24.7	28.3	**41.7**	39.4	43.9
Widow or Widower	**11.2**	14.1	10.7	**20.1**	23.7	16.5
Never Married	**28.3**	29.2	27.2	**50.2**	51.1	49.3

2.6.10 Internet Usage by Persons Living with Disability

Internet usage by persons living with disabilities varied by the type of disability as shown in Figure 2.25. Persons with visual (35.0%) and mobility (24.3%) disabilities reported the highest internet usage. In contrast, those with communication (6.4%) and self-care (10.5%) disabilities had the lowest internet use. Males generally reported higher internet usage across most disability domains compared to females, except in mobility and cognition.

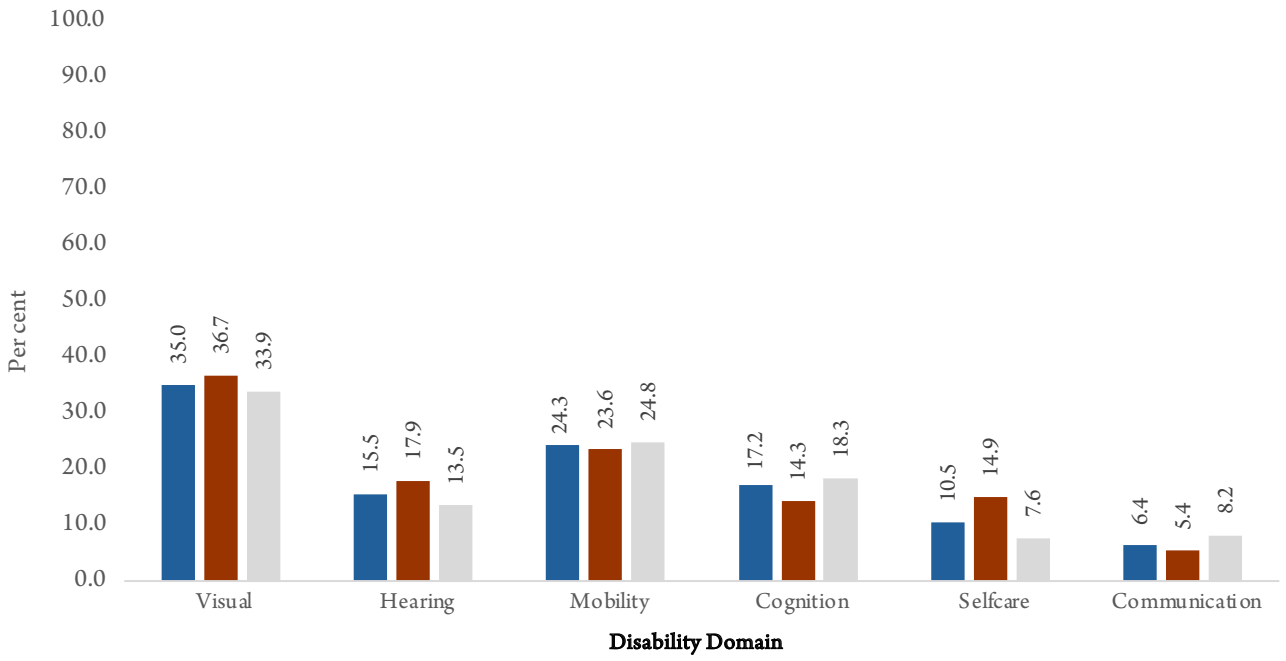


Figure 2.40: Proportion of Individuals who Used the Internet by different types of Disabilities

2.6.11 Internet Usage by Status in Employment

Internet usage was generally higher among working employers (70.3%) and employees (60.9%) as shown in Figure 2.41. Own-account workers showed lower internet usage (44.3%). There was low internet usage among contributing family workers (32.4%) and unclassified workers (24.8%). Males consistently have higher usage across all employment categories.

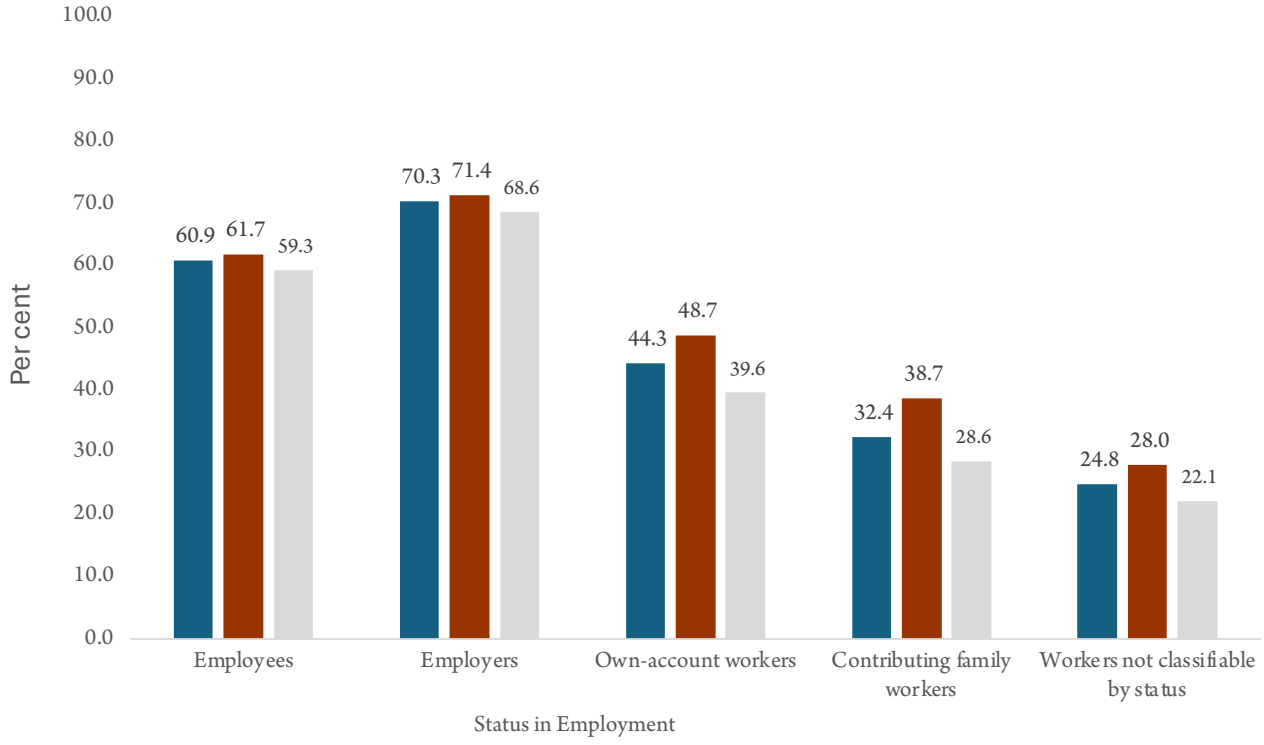


Figure 2.41: Proportion of Individuals Who Used the Internet by Employment Status

2.6.12 Internet Usage by Main Employer

The distribution of individuals' internet usage by main employer is shown in Table 2.24. The highest internet usage was found in International NGOs (96.1%), followed by National government (92%). Low internet usage was in the self-employed pastoralist (10.8%) and employed pastoralist (12.5%).

Table 2.24: Proportion of Individuals Who Used Internet by Main Employer and Sex

Main Employer	Total	Male	Female
National Government	**92.0**	92.1	92.1
County Government	**86.0**	86.3	85.6
Private Sector Enterprise	**74.1**	72.3	78.4
International Organizations/Ngo	**96.1**	95.9	96.4
Local NGO/CBO	**72.4**	69.9	76.6
Faith Based Organization	**78.5**	77.1	80.8
Self Employed- Formal	**67.0**	68.9	63.9
Informal Sector 'Jua Kali' (Employed)	**54.6**	54.9	53.1
Self Employed - Informal	**48.1**	51.1	44.9
Small Scale Agriculture (Employed)	**25.5**	32.1	17.6
Self Employed Small Scale Agriculture	**29.5**	36.2	24.2
Pastoralist Activities (Employed)	**12.5**	14.3	0.0
Self Employed Pastoralist Activities	**10.8**	11.9	5.4
Individual/Private Household	**38.2**	41.7	33.8
School Boards (Bom) Employees	**72.4**	72.0	72.8
Self Employed Small Scale Agriculture	**29.5**	36.2	24.2
Pastoralist Activities (Employed)	**12.5**	14.3	-
Self Employed Pastoralist Activities	**10.8**	11.9	5.4
Individual/Private Household	**38.2**	41.7	33.8
School Boards (Bom) Employees	**72.4**	72.0	72.8

2.6.13 Internet Usage by County

Figure 2.42 presents the county-level internet usage disaggregated by county. Nairobi City County led in the use of internet at 64.7 per cent (Males 66.7%, Females 62.8%). This was followed by Kiambu (54.0%), Nyeri (50.1%), Mombasa (46.9%) and Uasin Gishu (42.1%). Counties with the lowest internet usage were West Pokot (9.1%), Turkana (12.7%), Tana River (15.5%), Marsabit (16.3%) and Garissa (16.5%).

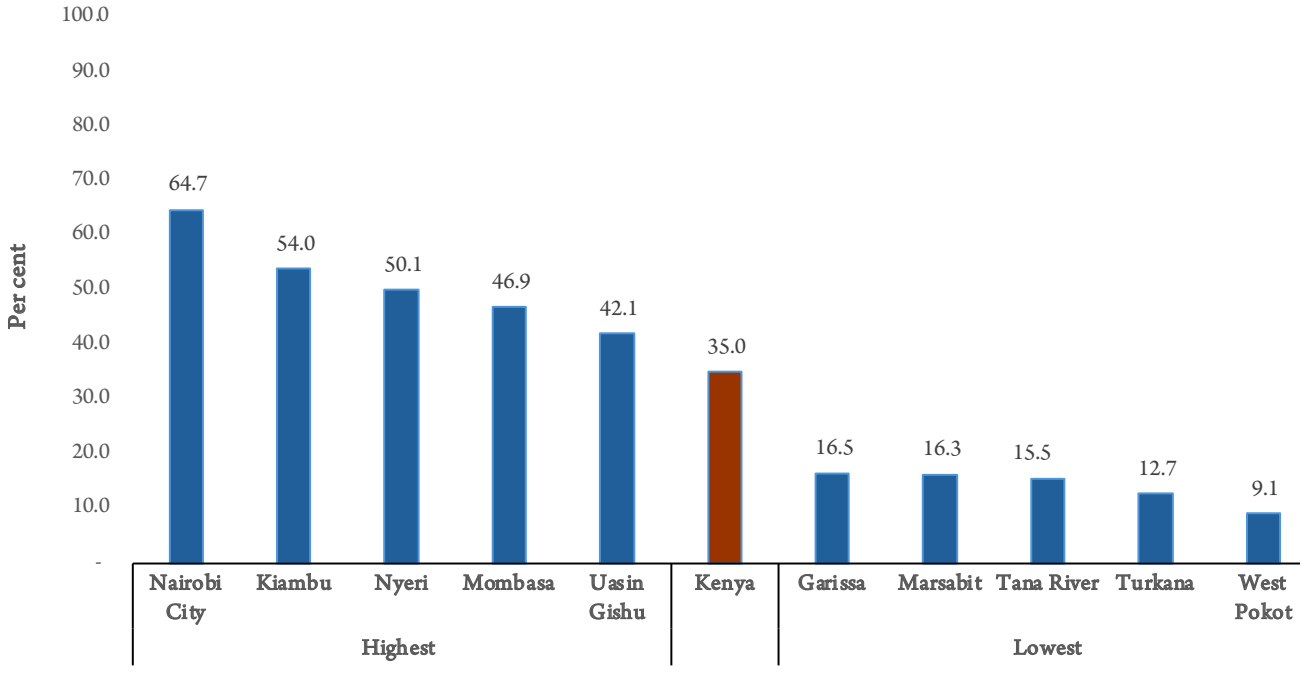


Figure 2.42: Proportion of Individuals who Used the Internet by County



03 Household Characteristics and Information and Communication Technologies

CHAPTER 3: HOUSEHOLD CHARACTERISTICS AND INFORMATION AND COMMUNICATION TECHNOLOGIES

This chapter examines the ownership and use of Information and Communication Technologies (ICTs) at the household level, with particular emphasis on the uptake of smart technologies. The analysis draws on data from the 2023/24 Kenya Housing Survey (KHS) and explores how ICT ownership and usage vary according to key household characteristics such as electricity connection, dwelling type, tenure status, household composition, and income levels. The chapter also includes a comparative analysis of ICT indicators between the 2019 Kenya Population and Housing Census (KPHC) and the 2023/24 KHS to highlight progress in digital inclusion over time. The findings illustrate the extent of digital access across households and reveal persistent disparities between urban and rural areas. Overall, the chapter provides insights into national patterns of ICT adoption and underscores the critical role of infrastructure, affordability, and socio-economic factors in shaping digital connectivity in Kenya.

3.1 Ownership of ICTs and Smart Technologies

The findings show notable digital divide in ICT infrastructure and smart technology adoption between rural and urban households. The overall proportion of households with Internet connections stood at 36.3 per cent, with mobile Internet being the dominant mode of connectivity (34.9%) as shown in Figure 3.1. Fixed Internet connections remained low at 7.0 per cent, with 17.3 per cent of urban households connected, compared to 0.6 per cent in rural areas.

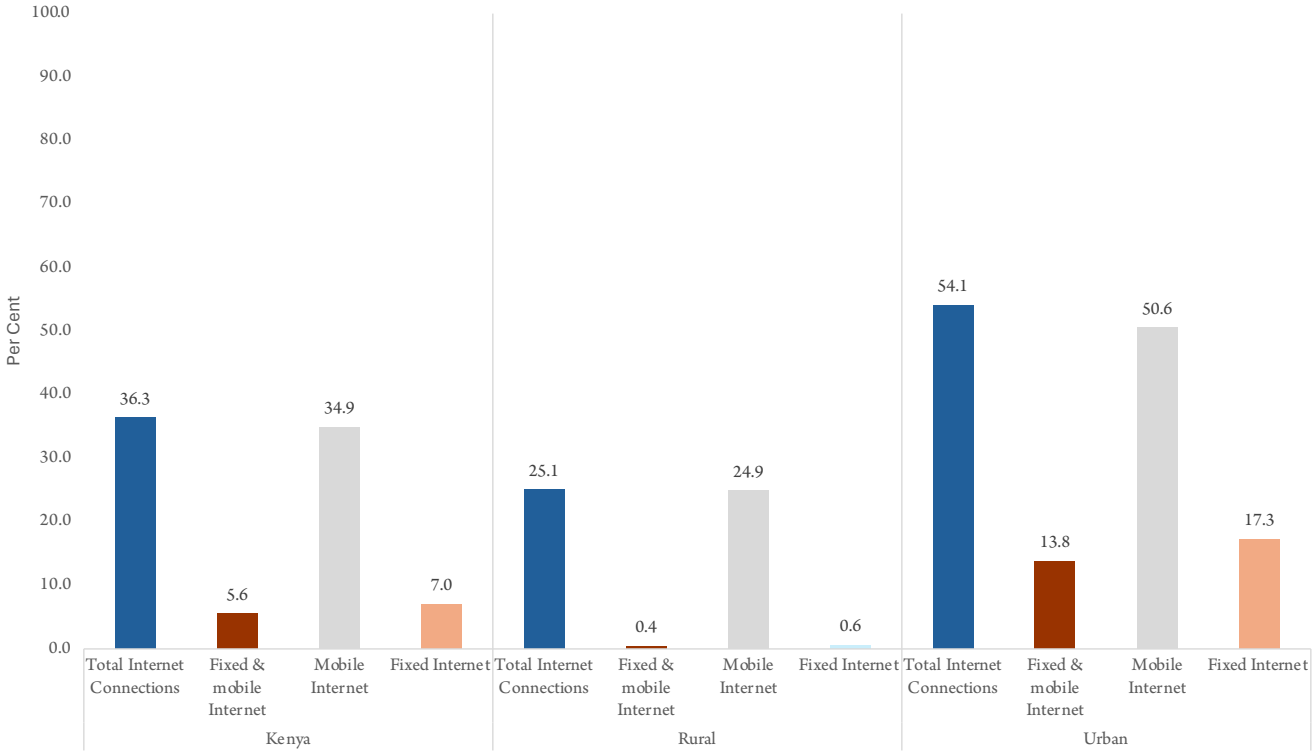


Figure 3.1: Proportion of households connected to internet by residence

At the national level, 8.8 per cent of households reported owning a computer as shown in Figure 3.2. In this context, computers refer to laptops, desktops and tablets. Computer ownership in urban areas stood at 17.9 per cent compared to 3.0 per cent in rural areas. Generally, households in urban areas reported high proportions of Internet connectivity and greater usage of computers at household level.

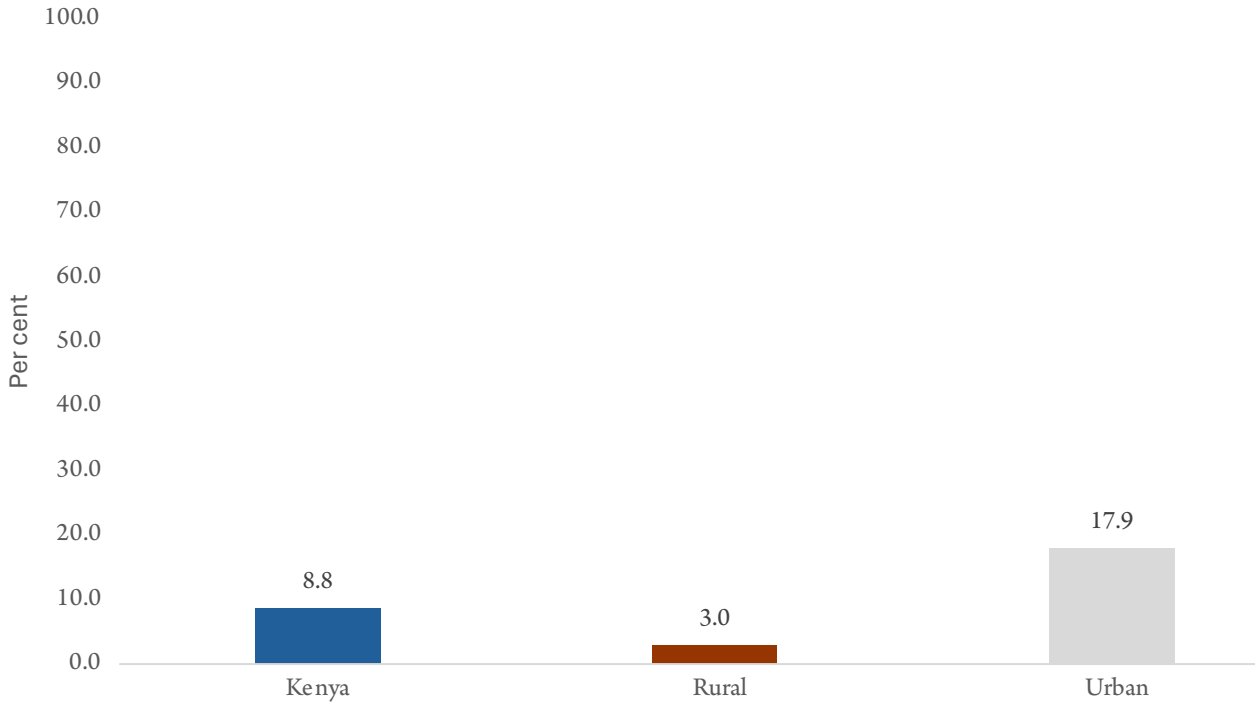


Figure 3.2: Proportion of households with computers by residence

Adoption of smart home technologies remained at an emerging stage across the country. As shown in Table 3.1, only 1.7 per cent of households reported having smart lighting systems, while 2.0 per cent had smart security systems such as alarms, cameras, smoke detectors, or sensors. These technologies, which are foundational components of the Internet of Things (IoT) ecosystem, were more prevalent in urban households, recorded at 2.4 per cent and 4.2 per cent, respectively, compared to 1.3 per cent and 0.6 per cent in rural areas. The presence of surveillance infrastructure, such as neighborhood Closed Circuit Television (CCTV) cameras, was also more pronounced in urban settings, with 8.6 per cent of households reporting such infrastructure compared to just 0.8 per cent in rural areas.

Smart lighting systems emerged as the most used smart technology in rural areas, whereas smart security systems and sensors were more widely adopted in urban households. Smart plugs remained the least used technology across both rural and urban settings. The low overall uptake of IoT-based technologies highlights a significant digital gap and suggests limited household readiness for interconnected devices, particularly in underserved areas. These findings underscore the need for targeted investment in digital infrastructure, affordability measures, and digital literacy to unlock the full potential of IoT in enhancing home security, energy efficiency, and quality of life in Kenyan households.

Table 3.1: Proportion of households with smart technologies by residence

Residence	Smart Lighting Systems	Smart Security Systems	Smart door locks and garage door openers	Smart plugs	CCTV
Kenya	1.7	2.0	0.4	0.2	3.8
Rural	1.3	0.6	0.2	0.1	0.8
Urban	2.4	4.2	0.8	0.4	8.6

3.2 Comparison of ICTs uptake between the 2019 KPHC and 2023/24 KHS by residence

Total Internet access for both fixed and mobile connections doubled in 2023/24 KHS (36.3%) compared to the 2019 KPHC (18.0 %), as provided in Figure 3.3. Nationally, fixed Internet connections rose from 3.5 per cent in the 2019 KPHC to 7.0 per cent in the 2023/24 KHS, whereas mobile Internet connection grew to 34.9 per cent from 16.9 per cent. A similar trend was observed in urban areas where fixed Internet connections increased from 7.9 per cent in 2019 KPHC to 17.3 per cent in 2023/24 KHS.

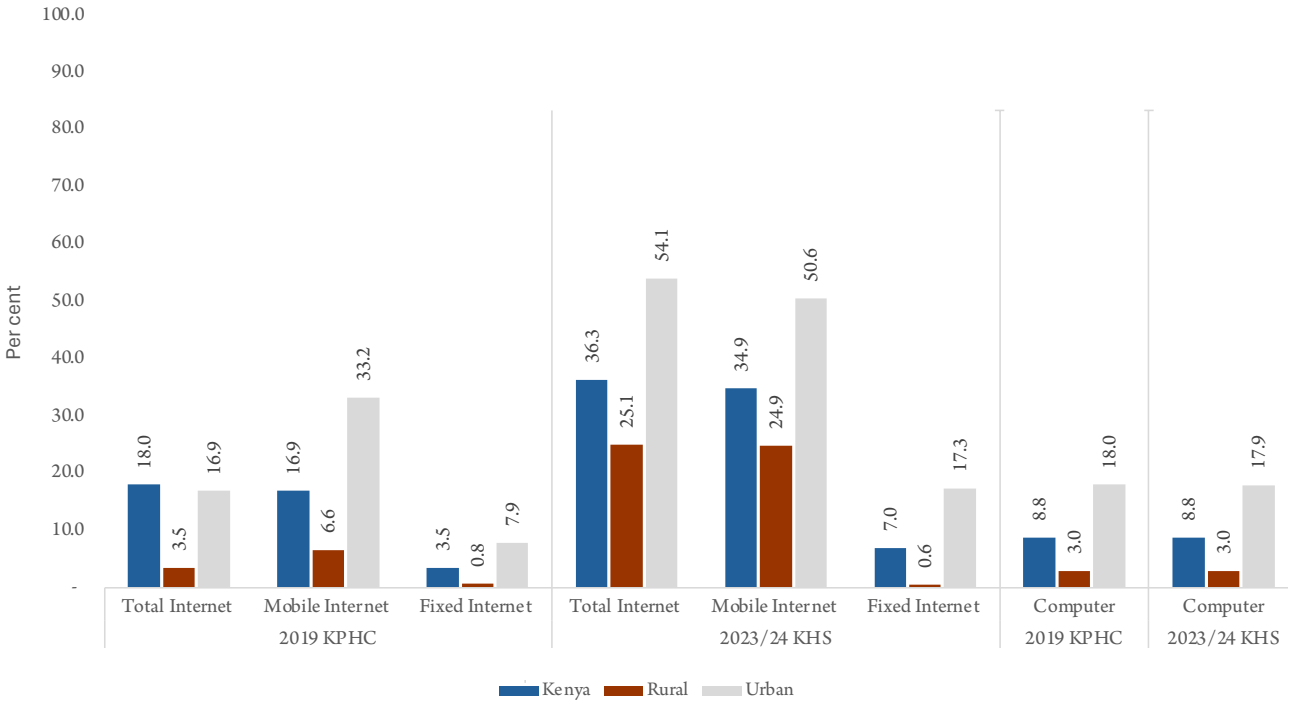


Figure 3.3: Proportion of households connected to internet, owned computer by residence, 2019 KPHC and 2023/24 KHS

3.3 Household level - Ownership and Usage of Mobile Phones, Internet, and Computers

Ownership and usage of ICTs by at least one member of the household reflect the extent to which members are digitally included and able to participate in an increasingly connected society. Mobile phones are the most owned followed by use of internet and computers at the household level.

Nationally, 93.8 per cent of households reported having at least one member who owned a mobile phone, while 95.8 per cent had at least one member who used a mobile phone. Urban households recorded the highest levels of access, with 97.6 per cent reporting ownership and 98.6 per cent reporting usage. In rural areas, ownership and usage were slightly lower, at 91.4 per cent and 94.0 per cent, respectively.

Internet usage revealed a more pronounced digital divide between the urban and rural areas. While 81.9 per cent of urban households had at least one member using the internet, only 48.8 per cent of rural households reported the same. At the national level, 61.6 per cent of households had at least one member using the Internet.

Computer usage was the least common across all ICTs categories, with only 25.5 per cent of households nationally reporting at least one member using a computer. This low rate of computer-use shows continued disparities in access to digital tools, particularly in rural areas.

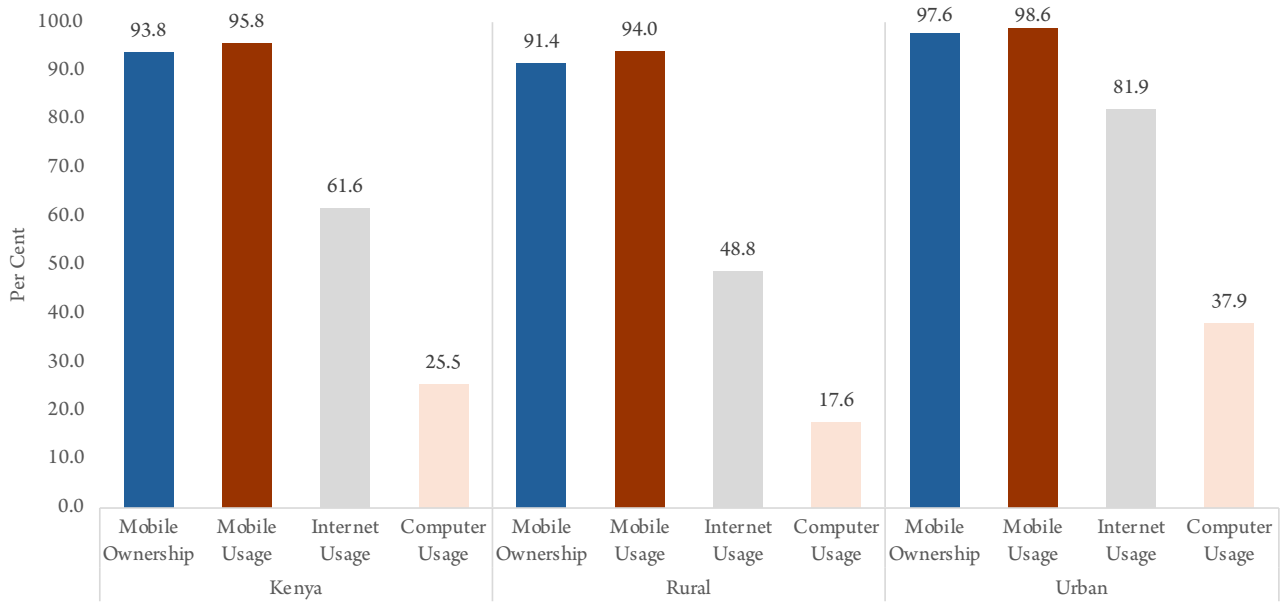


Figure 3.4: Proportion of households with at least one member who owned mobile phone, used mobile phone, used internet, and used computers

3.4 Households with Electricity in Relation to ICTs

The 2023/24 KHS data showed that access to electricity remains a key enabler for digital inclusion in Kenyan households. The most common electricity sources included; the national grid (KPLC), mini grids (private), generators, solar systems or panels, wind energy, among others. Nationally, 66.0 per cent of households reported having access to electricity. While nearly all urban households (92.7%) reported having electricity, less than half (49.2%) of rural households were connected to any form of electricity source. Among households that reported having electricity, 45.3 per cent had some form of internet connection, with mobile internet being the most common at 43.4 per cent. Urban households with electricity that reported internet ownership were 56.6 per cent compared to 34.4 per cent in rural areas. Ownership of computers, tablets, or laptops among households connected to electricity followed this trend, with urban areas recording 18.9 per cent compared to 5.1 per cent in rural areas.

Among households with electricity, adoption of smart technologies remained limited but showed clear urban-rural disparities. Nationally, only 2.7 per cent of households connected to electricity reported having smart lighting and smart security systems. Rural households showed lower adoption, particularly for smart security systems (1.0%) and CCTV (1.2%). In contrast, urban households were more likely to have adopted such technologies, with 4.4 per cent reporting smart security systems and 9.0 per cent indicating the presence of CCTV in their neighborhoods.

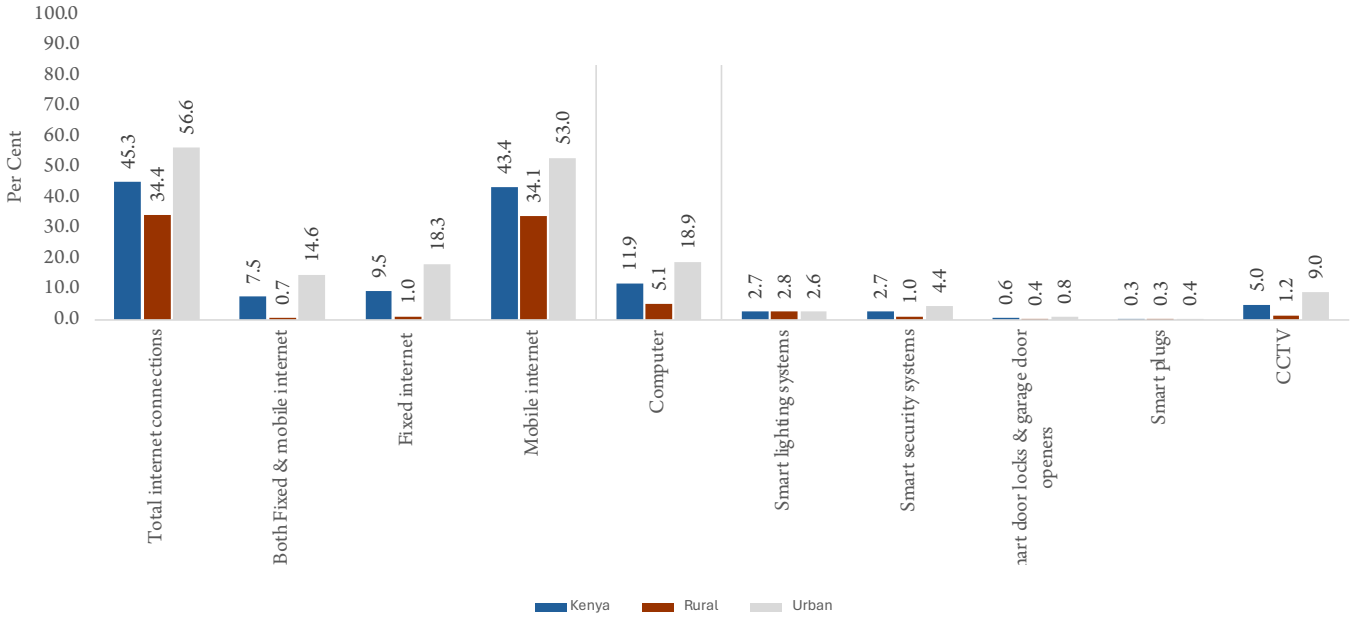


Figure 3.5: Proportion of households with electricity by adoption of ICTs and smart technologies



3.5 Households with Internet Connection and Smart Device by Dwelling Type

ICT adoption by dwelling type reveals contrasts in ICT uptake and smart technology usage, with maisonettes and flats/apartments reporting higher levels of connectivity, while shanties and traditional houses (manyattas) had minimal adoption. About 71.8 per cent of households living in flats/apartments and 67.9 per cent of those living in maisonettes had internet. Swahili/compound houses (shared facilities) and compounds without shared facilities had mobile internet connectivity at 41.4 and 50.3 per cent, respectively.

Table 3.2: Proportion of households with Internet connection and smart devices by dwelling type

Dwelling Type		Kenya	Rural	Urban
Bungalow	Fixed internet	1.9	0.4	11.7
	Mobile internet	28.0	25.2	46.5
	Both Fixed and mobile Internet	1.5	0.3	9.7
	Total Internet connections	28.4	25.4	48.5
	Computer	3.9	2.6	13.1
	Smart lighting systems	1.7	1.5	3.0
	Smart security systems	0.9	0.5	4.0
	Smart door locks and garage door openers	0.3	0.2	0.8
	Smart plugs	0.2	0.1	0.6
	CCTV	1.3	0.6	5.5
Flat / Apartment	Fixed internet	37.6	4.1	38.9
	Mobile internet	64.1	48.8	64.7
	Both Fixed and mobile Internet	29.9	2.9	31.0
	Total Internet connections	71.8	49.9	72.6
	Computer	32.3	24.5	32.6
	Smart lighting systems	3.3	2.5	3.4
	Smart security systems	8.3	3.3	8.4
	Smart door locks and garage door openers	0.9	0.0	1.0
	Smart plugs	0.2	0.0	0.2
	CCTV	17.6	8.4	18.0
Maisonette	Fixed internet	43.7	17.9	61.0
	Mobile internet	65.5	46.0	78.6
	Both Fixed and mobile Internet	41.3	17.2	57.5
	Total Internet connections	67.9	46.7	82.1
	Computer	57.9	33.2	74.4
	Smart lighting systems	21.2	10.2	28.6
	Smart security systems	26.4	18.1	32.0
	Smart door locks and garage door openers	12.4	4.6	17.7
	Smart plugs	6.2	0.8	9.9
	CCTV	36.6	23.6	45.2
Swahili/Compound Houses Sharing Facilities	Fixed internet	3.0	0.9	3.9
	Mobile internet	41.4	39.7	42.2
	Both Fixed and mobile Internet	2.2	0.5	3.0
	Total Internet connections	42.2	40.2	43.1
	Computer	6.8	5.3	7.5
	Smart lighting systems	1.6	3.1	0.9
	Smart security systems	0.5	0.6	0.5
	Smart door locks and garage door openers	0.1	0.3	0.0
	Smart plugs	0.1	0.1	0.1
	CCTV	1.5	0.5	1.9

Table 3.2: Proportion of households with Internet connection and smart devices by dwelling type *Cont'd*

Dwelling Type		Kenya	Rural	Urban
Compound Houses not Sharing Facilities	Fixed internet	10.7	1.5	14.1
	Mobile internet	50.3	32.5	56.8
	Both Fixed and mobile Internet	7.2	0.7	9.6
	Total Internet connections	53.8	33.3	61.2
	Computer	18.0	10.0	21.0
	Smart lighting systems	0.7	0.5	0.8
	Smart security systems	2.3	0.3	3.0
	Smart door locks and garage door openers	0.4	0.0	0.6
	Smart plugs	0.6	1.0	0.5
	CCTV	7.6	0.0	10.3
Shanty	Fixed internet	0.0	0.0	0.0
	Mobile internet	20.7	0.0	35.4
	Both Fixed and mobile Internet	0.0	0.0	0.0
	Total Internet connections	20.7	0.0	35.4
	Computer	0.9	0.0	1.5
	Smart lighting systems	0.0	0.0	0.0
	Smart security systems	0.0	0.0	0.0
	Smart door locks and garage door openers	0.0	0.0	0.0
	Smart plugs	0.0	0.0	0.0
	CCTV	1.5	3.6	0.0
Manyatta/ Traditional House/ Hut	Fixed internet	0.0	0.0	0.2
	Mobile internet	16.1	14.4	41.5
	Both Fixed and mobile Internet	0.0	0.0	0.2
	Total Internet connections	16.1	14.4	41.5
	Computer	0.2	0.2	0.3
	Smart lighting systems	0.1	0.1	0.0
	Smart security systems	0.0	0.0	0.0
	Smart door locks and garage door openers	0.0	0.0	0.0
	Smart plugs	0.0	0.0	0.0
	CCTV	0.0	0.0	0.2
Townhouse	Fixed internet	24.9	0.0	34.6
	Mobile internet	43.1	10.1	55.9
	Both Fixed and mobile Internet	20.5	0.0	28.5
	Total Internet connections	47.5	10.1	62.1
	Computer	25.2	3.7	33.5
	Smart lighting systems	2.2	0.0	3.1
	Smart security systems	2.0	0.0	2.8
	Smart door locks and garage door openers	1.7	0.0	2.3
	Smart plugs	1.9	0.0	2.6
	CCTV	4.4	0.0	6.1

3.6 Households with Internet Connection and Smart Technology by Housing Tenure-ship

There were notable variations in ICT access and smart technology adoption depending on the housing tenure-ship; whether a household owns, rents, occupies with consent, or squats. Households that pay rent or lease had the highest levels of internet connectivity across the board. Over half (54.7%) of these households reported having internet, with mobile internet (51.3%) being the dominant mode. Notably, 15.1 per cent had fixed internet and 11.6 per cent had both fixed and mobile services. This group also recorded the highest levels of device ownership (17.5%) and relatively high uptake of smart technologies, including CCTV (7.4%) and smart security systems (3.1%), suggesting better affordability and infrastructure access in rented dwellings, particularly in urban settings.

Households that owned their dwellings and had internet was 27.1 per cent, with mobile internet at 26.7 per cent and fixed internet at 2.3 per cent. Squatter households had mobile internet (3.8%), and less than 1.0 per cent owned a computer.



Table 3.3: Proportion of households with ICTs and Smart technology by Housing Tenure-ship

Tenure-Ship	ICTs	Kenya	Rural	Urban
Owns	Fixed internet	2.3	0.5	15.4
	Mobile internet	26.7	23.4	49.4
	Both Fixed and mobile Internet	2.0	0.3	13.5
	Total Internet connections	27.1	23.6	51.3
	Computer	3.9	2.2	15.7
	Smart lighting systems	1.8	1.4	4.2
	Smart security systems	1.1	0.5	5.2
	Smart door locks and garage door openers	0.4	0.2	1.7
	Smart plugs	0.2	0.1	0.9
	CCTV	1.5	0.6	7.2
Pays Rent/Lease	Fixed Internet	15.1	1.1	17.8
	Mobile Internet	51.3	45.0	52.5
	Both Fixed and Mobile Internet	11.6	0.6	13.8
	Total Internet Connection	54.7	45.5	56.5
	Computer	17.5	10.2	18.9
	Smart lighting systems	1.5	1.3	1.6
	Smart security systems	3.1	0.4	3.7
	Smart door locks and garage door openers	0.4	0.1	0.5
	Smart plugs	0.2	0.4	0.2
	CCTV	7.4	1.1	8.6
No Rent with Consent of Owner	Fixed internet	5.1	0.9	12.4
	Mobile internet	32.1	28.8	38.0
	Both Fixed and mobile Internet	4.1	0.7	10.2
	Total Internet connections	33.0	29.0	40.2
	Computer	4.4	2.8	7.3
	Smart lighting systems	3.4	2.1	5.6
	Smart security systems	1.9	0.4	4.5
	Smart door locks and garage door openers	0.1	0.1	0.1
	Smart plugs	0.1	0.0	0.4
	CCTV	4.2	0.9	10.2
No Rent, Squatting	Fixed internet	0.0	0.0	0.0
	Mobile internet	3.8	3.4	5.6
	Both Fixed and mobile Internet	0.0	0.0	0.0
	Total Internet connections	3.8	3.4	5.6
	Computer	0.5	0.4	1.2
	Smart lighting systems	1.8	2.1	0.5
	Smart security systems	2.8	3.5	0.0
	Smart door locks and garage door openers	0.0	0.0	0.0
	Smart plugs	0.6	0.7	0.0
	CCTV	0.0	0.0	0.0

3.7 Internet Connection by Household Composition

The 2023/24 KHS revealed notable disparities in household access to ICTs and smart technologies, particularly when disaggregated by age composition and place of residence. Overall, households with persons aged 15 years and above demonstrated higher levels of ICT uptake. Among these households, 38.5 per cent reported having an internet connection, with mobile internet being the dominant mode at 36.9 per cent, while fixed internet access stood at 8.2 per cent. Computer ownership among this group also reflected significant urban-rural differences, with 21.2 per cent of urban households owning a computer compared to just 3.7 per cent in rural households.

In contrast, households with persons under the age of 15 years reported lower access to digital technologies. Nationally, only 33.0 per cent of such households had an internet connection, and just 4.8 per cent had fixed internet. Urban-rural disparities were again evident, with 53.5 per cent of urban households reporting internet access for persons under 15 years, compared to 24.6 per cent in rural areas. Access to computers among these households remained limited, recorded at 5.8 per cent nationally and only 2.3 per cent in rural areas.

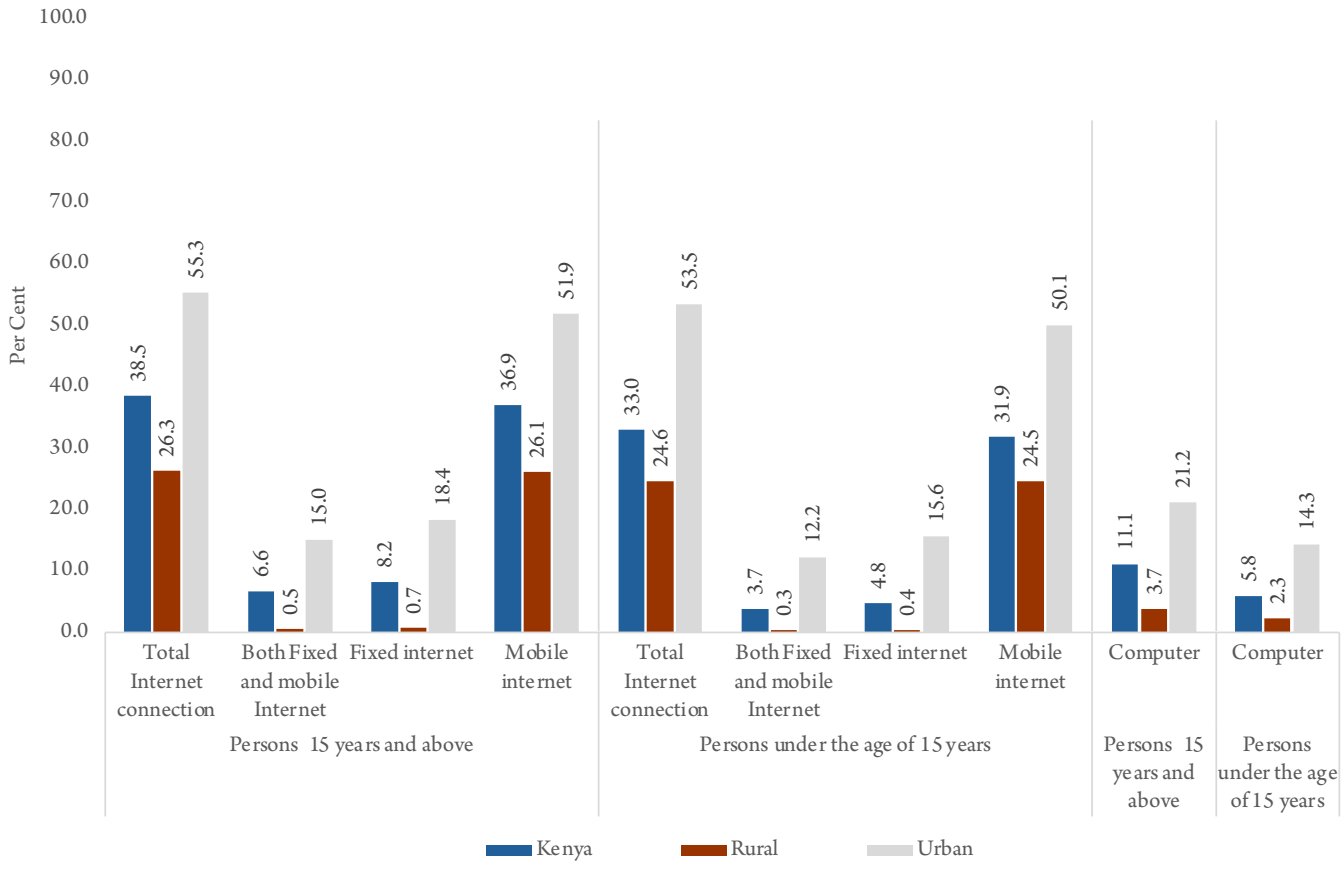


Figure 3.6: Proportion of households with ICTs by household composition

3.8 Adoption of Smart Technology by Household Composition

Households that did not have children under 15 years reported higher adoption of smart technologies compared to households that had children under 15 years, as shown in Table 3.4. The results showed higher adoption in urban areas across all indicators, particularly smart security systems (6.3%) and CCTV (10.8%). Notably, adoption of smart technologies among households with at least a member aged 15 years and below was generally low, even in urban areas.

Table 3.4: Proportional of households with Smart technology by Household composition

Household Composition		Kenya	Rural	Urban
Household that does not have children under 15 years	Smart lighting systems	2.5	1.8	3.5
	Smart security systems	3.1	0.7	6.3
	Smart door locks & garage door openers	0.7	0.4	1.1
	Smart plugs	0.3	0.2	0.5
	CCTV	5.1	1.0	10.8
Household that has children under 15 years	Smart lighting systems	1.3	1.3	1.4
	Smart security systems	0.9	0.5	2.0
	Smart door locks & garage door openers	0.2	0.1	0.5
	Smart plugs	0.2	0.1	0.3
	CCTV	2.1	0.5	6.1

3.9 Internet Connection and Smart Technology in relation to Income Quintiles

The 2023/24 KHS highlights a strong and consistent correlation between household income and the uptake of Information and Communication Technologies (ICTs), including smart technologies. Households in the higher income quintiles reported higher uptake a to fixed and mobile internet as well as higher ownership of computers, reflecting broader digital inclusion among wealthier populations. At the national level, access to fixed internet was almost negligible among households in the lowest income quintile, with only 1.0 per cent connected, compared to 24.1 per cent in the highest income quintile. Similarly, mobile internet ownership rose from 21.4 per cent among the lowest-income households to 54.5 per cent among those in the top quintile. Ownership of computers followed the same gradient, with 1.9 per cent of households in the first quintile reporting computer ownership compared to 28.1 per cent in the fifth quintile.

Urban households consistently showed higher levels of connectivity and device ownership across all income groups. For instance, fixed internet ownership in the lowest quintile was 4.1 per cent in urban areas compared to just 0.2 per cent in rural areas. Among the wealthiest households (fifth quintile), 38.3 per cent of urban households had fixed internet access, compared to only 2.7 per cent in rural areas. This disparity underscores the compounded effect of income and place of residence on digital access and inclusion.



4.1%

Fixed internet ownership in the lowest quintile was 4.1 per cent in urban areas compared to just 0.2 per cent in rural areas.

24.1%

At the national level, access to fixed internet was almost negligible among households in the lowest income quintile, with only 1.0 per cent connected, compared to 24.1 per cent in the highest income quintile.

Table 3.5: Household with Internet connection in relation to Income Quintiles

Income Quantile	Fixed Internet			Mobile Internet			Computer		
	Kenya	Rural	Urban	Kenya	Rural	Urban	Kenya	Rural	Urban
1st Quantile	1.0	0.2	4.1	21.4	18.6	32.4	1.9	0.9	5.6
2nd Quantile	1.7	0.0	5.6	26.7	21.7	38.2	3.6	1.4	8.6
3rd Quantile	3.7	0.6	8.4	35.2	27.0	47.6	4.3	1.6	8.4
4th Quantile	5.7	0.6	11.8	39.0	28.2	51.7	7.0	2.9	11.8
5th Quantile	24.1	2.7	38.3	54.5	38.3	65.2	28.1	12.7	38.3

The adoption of smart home technologies, such as smart lighting, security systems, door locks, and CCTV, was almost negligible among lower-income households and relatively high in the higher income quantiles. Nationally, 0.3 per cent of the lowest-income households reported having smart security systems, compared to 7.7 per cent in the highest-income quantiles. These findings showed that income remains one of the most influential determinants of digital inclusion, affecting not just internet usage, but also the uptake of digital devices and emerging smart home technologies.

Table 3.6: Household with Smart Technologies in relation to Income Quintiles

Income Quantile	Smart lighting systems			Smart security systems			Smart door locks and garage door openers			Smart plugs			CCTV		
	Kenya	Rural	Urban	Kenya	Rural	Urban	Kenya	Rural	Urban	Kenya	Rural	Urban	Kenya	Urban	Rural
1st Quantile	0.5	0.5	0.5	0.3	0.2	1.0	0.1	0.0	0.4	0.1	0.0	0.3	0.9	2.6	0.4
2nd Quantile	1.1	1.4	0.5	0.5	0.2	1.1	0.1	0.2	0.0	0.0	0.0	0.0	1.5	3.9	0.5
3rd Quantile	1.6	1.6	1.7	0.4	0.4	0.5	0.2	0.2	0.1	0.2	0.2	0.1	1.9	3.9	0.6
4th Quantile	1.6	1.5	1.7	1.1	0.6	1.8	0.1	0.2	0.1	0.1	0.1	0.0	2.6	4.7	0.9
5th Quantile	4.1	2.4	5.2	7.7	2.3	11.3	1.7	0.8	2.3	0.8	0.4	1.1	12.6	19.3	2.4

“The adoption of smart home technologies, such as smart lighting, security systems, door locks, and CCTV, was almost negligible among lower-income households and relatively high in the higher income quantiles.”



04 Conclusion

CHAPTER FOUR: CONCLUSION

The 2023/24 KHS offers a comprehensive picture of how ICTs are accessed and used by households and individuals across the country. It highlights both progress and persistent inequalities in Kenya's digital landscape. While mobile phone ownership and usage remain nearly universal, significant disparities exist in the use of internet services, computers, and smart technologies. These disparities are influenced by factors such as income, residence, housing type, electricity access, and age composition within households.

Urban households consistently report higher levels of ICT access, particularly for fixed internet and smart home technologies. In contrast, rural households face limitations due to inadequate infrastructure, affordability challenges, and limited-service coverage. Although mobile internet has become a key enabler of digital access, there are challenges of speed and reliable broadband. Smart technology uptake remains nascent, with adoption concentrated among wealthier, urban households living in modern housing types such as maisonettes and apartments.

The survey findings also underscore the role of income and tenure in shaping digital inclusion. Households in higher income quintiles and those paying rent, often located in better-connected urban areas, enjoy greater access to ICTs and are more likely to adopt smart technologies. Conversely, households that own homes in rural areas or live rent-free face considerable digital exclusion. Children, particularly in rural settings, are also less likely to live in digitally connected homes, highlighting an urgent need to improve access for young people.

To close these digital gaps, there is need targeted interventions that improve rural infrastructure, promote affordable internet, and enhanced digital literacy. Special attention should be given to underserved populations, including low-income households, rural communities, and children.

The insights from this survey are critical for shaping inclusive ICT policies and advancing national priorities under the Bottom-up Economic Transformation Agenda (BETA), the Sustainable Development Goals (SDGs), and the global measurement frameworks championed by the International Telecommunication Union (ITU). Achieving meaningful digital inclusion will require not only expanding access but also ensuring that all Kenyans, regardless of income, location, or age, can benefit equally from the opportunities that digital technologies provide.

> "The survey findings also underscore the role of income and tenure in shaping digital inclusion. Households in higher income quintiles and those paying rent, often located in better-connected urban areas, enjoy greater access to ICTs and are more likely to adopt smart technologies."

Annexes

Annex 1: Key ICT Indicators for Individuals age 3 years and above

	Owned a Mobile Phone			Mobile Phone Usage			Used mobile Phone Without Owning			Used the internet			Used a computer			Total		
	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female
Kenya	53.7	54.5	52.9	64.9	65.5	64.4	11.3	11.0	11.5	35.0	37.8	32.2	11.6	13.1	10.1	47,929,494	23,723,994	24,205,500
Residence																		
Rural	48.6	49.3	47.9	59.6	60.3	59.0	11.0	11.0	11.1	25.0	28.3	21.7	7.3	8.1	6.4	32,740,618	16,198,029	16,542,589
Urban	64.6	65.6	63.7	76.4	76.8	76.0	11.8	11.2	12.4	56.6	58.4	54.8	20.9	23.8	18.1	15,188,876	7,525,964	7,662,911
County																		
Mombasa	58.5	60.3	56.7	68.0	68.2	67.7	9.5	7.9	11.0	46.9	49.2	44.6	15.4	18.4	12.4	1,220,631	607,373	613,258
Kwale	42.7	44.4	40.9	51.6	51.8	51.4	9.0	7.4	10.5	25.6	27.1	24.2	4.9	5.1	4.7	872,142	431,088	441,054
Kilifi	50.7	55.6	45.8	58.1	61.6	54.6	7.4	5.9	8.8	30.5	36.2	24.9	6.4	7.6	5.2	1,474,220	734,966	739,254
Tana River	35.5	42.6	28.8	38.8	45.8	32.2	3.3	3.2	3.4	15.5	21.3	9.9	3.7	5.6	1.9	322,894	157,816	165,078
Lamu	51.3	53.5	49.0	53.4	55.1	51.8	2.2	1.6	2.8	28.8	31.6	25.9	4.4	5.2	3.7	152,779	76,324	76,455
Taita-Taveta	60.3	60.0	60.7	80.4	79.5	81.2	20.1	19.5	20.6	37.6	40.2	35.0	13.4	15.0	11.8	342,412	169,943	172,469
Garissa	49.8	51.7	48.0	53.9	55.9	52.0	4.1	4.2	3.9	16.5	18.8	14.3	4.6	6.6	2.7	855,136	419,070	436,066
Wajir	43.9	44.1	43.8	53.1	54.5	51.7	9.1	10.4	7.9	24.2	27.6	20.8	2.0	2.6	1.4	795,059	394,594	400,466
Mandera	43.4	45.5	41.3	52.1	53.7	50.6	8.7	8.1	9.3	24.9	32.5	17.5	3.6	5.4	1.9	885,303	434,590	450,713
Marsabit	34.8	37.0	32.6	41.4	44.4	38.3	6.6	7.4	5.8	16.3	18.9	13.8	3.5	3.3	3.7	477,556	238,007	239,548
Isiolo	47.9	47.8	48.0	63.3	62.3	64.2	15.4	14.5	16.2	33.1	34.2	32.1	11.3	12.7	10.1	291,338	141,807	149,531
Meru	55.4	57.2	53.6	73.0	73.3	72.6	17.5	16.1	19.0	31.4	35.8	26.9	10.5	9.8	11.2	1,507,433	751,626	755,807
Tharaka-Nithi	59.3	58.3	60.2	70.5	70.0	70.9	11.2	11.8	10.7	33.4	34.7	32.1	11.9	13.6	10.3	391,132	192,231	198,901
Embu	60.0	59.1	60.8	72.2	73.0	71.4	12.2	13.8	10.6	36.8	37.7	36.0	13.2	15.2	11.2	613,977	305,307	308,670
Kitui	52.4	50.2	54.5	67.6	66.5	68.6	15.2	16.3	14.1	26.2	27.1	25.4	7.0	6.2	7.8	1,138,458	558,339	580,120
Machakos	60.9	59.2	62.5	73.5	72.2	74.8	12.7	13.1	12.3	37.3	38.1	36.6	13.5	14.0	12.9	1,403,526	695,809	707,717
Makueni	56.5	57.7	55.3	66.7	68.1	65.4	10.3	10.4	10.1	30.3	32.9	27.8	4.5	4.0	5.0	974,882	478,388	496,495
Nyandarua	63.9	63.9	63.8	86.1	86.4	85.8	22.2	22.5	22.0	41.6	42.7	40.5	13.6	13.9	13.3	649,140	317,667	331,473
Nyeri	61.0	60.4	61.5	79.0	81.2	76.8	18.0	20.8	15.3	50.1	52.3	48.0	21.3	23.4	19.4	788,405	386,028	402,377
Kirinyaga	65.0	63.6	66.3	77.7	77.0	78.3	12.7	13.5	12.0	36.6	37.9	35.4	12.6	13.7	11.6	616,091	299,630	316,461
Murang'a	62.3	60.2	64.4	77.4	76.4	78.4	15.1	16.2	14.0	35.8	34.9	36.7	11.7	11.8	11.6	1,048,480	514,510	533,970
Kiambu	62.1	60.9	63.3	75.8	74.5	77.1	13.7	13.6	13.7	54.0	50.5	57.4	14.7	16.7	12.7	2,467,601	1,223,007	1,244,594

Annex 1: Key ICT Indicators for Individuals age 3 years and above *Cont'd*

	Owned a Mobile Phone			Mobile Phone Usage			Used mobile Phone Without Owning			Used the internet			Used a computer			Total		
	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female
Turkana	29.4	31.7	27.1	38.8	39.6	38.0	9.4	7.9	11.0	12.7	13.9	11.4	4.3	5.4	3.2	941,106	466,291	474,816
West Pokot	29.0	32.4	25.7	43.8	47.2	40.5	14.8	14.8	14.7	9.1	10.7	7.6	4.4	5.0	3.7	625,063	306,598	318,465
Samburu	36.8	39.7	33.9	45.4	46.7	44.2	8.7	7.0	10.3	18.9	25.4	12.5	6.4	9.2	3.7	317,772	156,809	160,963
Trans Nzoia	54.7	54.1	55.3	60.4	59.5	61.3	5.7	5.4	6.1	30.6	32.5	28.7	10.1	11.8	8.4	991,265	492,470	498,796
Uasin Gishu	57.2	58.3	56.2	77.7	78.1	77.3	20.5	19.9	21.2	42.1	50.2	34.1	10.9	13.8	8.2	1,188,251	586,708	601,544
El-geyo-Marak-wet	47.0	47.7	46.3	55.4	54.8	56.1	8.4	7.1	9.7	30.3	34.8	25.8	10.6	11.8	9.5	453,943	224,682	229,262
Nandi	52.2	52.0	52.4	56.4	55.8	56.9	4.2	3.8	4.5	24.4	26.5	22.3	8.8	9.1	8.6	887,379	435,183	452,196
Baringo	44.2	44.6	43.8	51.9	51.1	52.7	7.7	6.5	8.9	23.4	27.2	19.7	5.2	5.3	5.1	676,656	334,988	341,668
Laikipia	57.9	56.5	59.2	78.7	77.9	79.6	20.8	21.3	20.4	38.0	40.2	35.9	13.6	15.7	11.6	520,967	252,378	268,589
Nakuru	58.4	59.1	57.6	79.3	79.0	79.6	20.9	19.8	22.0	40.1	42.7	37.5	13.8	14.5	13.0	2,189,265	1,087,283	1,101,982
Narok	39.3	42.4	36.3	41.3	44.8	38.0	2.0	2.4	1.7	20.5	26.6	14.5	6.7	7.3	6.2	1,172,799	574,579	598,219
Kajiado	52.4	52.6	52.3	56.4	56.2	56.6	4.0	3.7	4.3	37.0	39.1	34.9	12.4	13.4	11.3	1,175,068	584,781	590,287
Kericho	52.2	52.0	52.5	60.3	61.0	59.6	8.0	9.0	7.1	26.4	31.9	21.0	9.6	12.6	6.8	889,658	438,377	451,281
Bomet	44.9	46.6	43.2	46.9	48.8	45.1	2.0	2.3	1.9	20.6	27.4	14.1	8.8	11.3	6.5	875,614	428,561	447,054
Kakamega	53.2	53.7	52.7	67.2	67.2	67.1	14.0	13.6	14.5	35.0	38.6	31.3	6.4	7.9	5.0	1,866,364	937,986	928,379
Vihiga	50.9	50.2	51.5	56.0	54.6	57.3	5.1	4.4	5.8	18.3	18.6	18.0	6.2	7.2	5.2	593,273	286,926	306,347
Bungoma	54.6	54.9	54.2	67.4	68.2	66.6	12.9	13.3	12.4	34.9	39.0	30.8	10.3	11.7	8.9	1,680,246	849,981	830,264
Busia	49.2	50.7	47.7	66.6	67.8	65.4	17.4	17.1	17.7	29.7	33.2	26.4	8.2	9.6	6.9	885,542	437,103	448,439
Siaya	48.2	48.4	48.0	62.7	62.6	62.7	14.5	14.2	14.7	27.4	30.3	24.5	9.5	10.9	8.0	992,733	500,351	492,382
Kisumu	53.4	55.6	51.2	57.1	58.0	56.2	3.7	2.4	5.0	33.4	36.6	30.2	15.8	18.9	12.7	1,172,266	581,723	590,544
Homabay	46.5	48.1	45.0	53.2	53.7	52.6	6.7	5.7	7.6	27.7	31.5	24.2	11.4	13.0	9.9	1,132,344	554,618	577,726
Migori	43.5	46.2	40.9	54	56.7	51.2	10.4	10.5	10.4	30.4	36.5	24.4	12	14.5	9.6	1,131,244	558,095	573,149
Kisii	56.6	56.5	56.7	59.7	59.8	59.5	3.1	3.4	2.8	28.1	31.1	25.1	9.8	11.1	8.4	1,253,532	621,132	632,401
Nyamira	57.4	57.2	57.7	60.8	60	61.5	3.3	2.9	3.8	26.4	31	22.1	12.5	15.4	9.8	612,861	296,963	315,897
Nairobi City	67.7	69.2	66.3	81.3	82.4	80.2	13.6	13.2	13.9	64.7	66.7	62.8	27.8	31.2	24.4	4,415,690	2,201,313	2,214,377
Nyamira	57.2	57.7	57.4	60.0	61.5	60.8	2.9	3.8	3.3	31.0	22.1	26.4	15.4	9.8	12.5	296,963	315,897	612,861
Nairobi City	69.2	66.3	67.7	82.4	80.2	81.3	13.2	13.9	13.6	66.7	62.8	64.7	31.2	24.4	27.8	2,201,313	2,214,377	4,415,690

Annex 2: Key ICT Indicators for Youths (18-34 years)

	Mobile Phone Ownership			Mobile Phone Usage			Mobile Phone Sharers			Computer Usage			Internet Usage			Total		
	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female
Kenya	**81.5**	**82.4**	80.7	**87.8**	**88.1**	87.6	**6.3**	**5.7**	6.9	**19.8**	**22.0**	17.7	**58.6**	**62.3**	54.8	16,235,697	8,100,534	8,135,164
Residence																		
Rural	75.8	76.9	74.6	83.5	83.9	83.1	7.7	7.0	8.5	13.9	14.8	12.9	46.7	51.4	42.0	10,220,264	5,119,968	5,100,295
Urban	91.4	91.9	90.9	95.2	95.4	95.1	3.9	3.5	4.2	30.0	34.3	25.7	78.7	81.1	76.4	6,015,433	2,980,565	3,034,868
County																		
Mombasa	85.5	84.0	87.0	91.4	90.2	92.8	6.0	6.2	5.8	20.4	25.3	15.2	70.4	72.2	68.6	456,340	232,722	223,618
Kwale	67.9	70.0	65.9	80.4	80.1	80.8	12.5	10.0	14.9	7.8	8.1	7.5	48.1	53.6	42.8	286,944	140,907	146,038
Kilifi	77.6	85.5	69.8	85.1	88.5	81.6	7.5	3.0	11.9	12.3	13.2	11.5	55.5	61.4	49.6	448,417	223,970	224,446
Tana River	66.9	75.5	58.7	72.1	80.1	64.4	5.2	4.6	5.8	7.4	11.9	3.0	34.3	46.5	22.4	99,199	48,755	50,444
Lamu	83.6	88.1	79.3	85.5	88.4	82.8	2.0	0.3	3.6	6.5	8.7	4.5	55.9	61.8	50.4	49,506	24,069	25,437
Taita-Taveta	88.1	92.1	84.1	97.6	97.8	97.3	9.5	5.7	13.3	21.8	27.6	15.9	66.0	69.9	62.1	95,196	47,749	47,447
Garissa	78.3	78.0	78.6	83.0	81.4	84.4	4.7	3.4	5.8	10.9	15.0	7.1	37.6	41.5	33.9	288,170	139,982	148,188
Wajir	74.4	74.1	74.7	84.7	86.2	83.4	10.3	12.1	8.6	4.5	5.5	3.4	46.2	51.3	41.2	296,779	146,021	150,758
Mandera	81.7	84.7	78.6	89.2	91.8	86.6	7.5	7.1	8.0	8.3	12.4	4.2	50.8	69.0	32.9	329,205	163,500	165,705
Marsabit	62.1	65.6	58.6	68.9	74.1	63.8	6.8	8.5	5.2	8.4	7.3	9.4	32.7	35.9	29.7	166,039	82,160	83,879
Isiolo	76.3	72.8	79.6	89.7	86.4	92.8	13.4	13.6	13.2	14.0	15.2	12.9	52.1	53.6	50.6	96,313	46,602	49,711
Meru	83.0	85.4	80.5	92.9	93.9	91.9	9.9	8.5	11.4	18.2	18.4	17.9	58.6	68.3	48.6	480,009	242,196	237,812
Tharaka-Nithi	84.9	82.5	87.2	93.2	91.5	94.9	8.4	9.0	7.7	22.8	25.3	20.2	58.9	62.1	55.6	122,508	61,748	60,759
Embu	89.3	87.9	90.8	95.0	93.8	96.3	5.7	5.9	5.5	25.2	28.1	22.3	62.1	60.6	63.7	185,872	94,211	91,662
Kitui	82.4	80.8	84.0	88.4	87.4	89.4	6.0	6.5	5.5	14.3	12.9	15.5	50.5	51.8	49.3	392,999	191,508	201,490
Machakos	86.5	83.4	89.8	93.6	91.6	95.6	7.0	8.2	5.9	23.8	23.7	23.8	63.5	61.6	65.4	453,165	229,553	223,612
Makueni	83.9	84.4	83.5	90.9	90.8	91.1	7.0	6.5	7.6	8.4	7.0	9.7	54.4	58.2	50.5	324,630	163,153	161,477
Nyandarua	89.3	87.5	90.9	97.2	97.3	97.1	7.9	9.8	6.2	21.4	22.4	20.4	60.1	59.7	60.5	213,858	103,174	110,683
Nyeri	85.6	83.9	87.2	90.0	89.0	91.0	4.4	5.1	3.7	32.5	33.5	31.5	70.5	68.8	72.2	227,916	113,309	114,607
Kirinyaga	89.7	87.3	92.2	94.0	92.2	95.7	4.2	4.9	3.6	22.2	23.1	21.3	69.0	66.6	71.5	184,183	93,476	90,707
Murang'a	89.1	89.5	88.7	93.9	93.9	93.9	4.8	4.4	5.2	14.6	12.2	16.9	57.2	50.7	63.0	313,318	150,093	163,225
Kiambu	92.0	91.2	92.8	94.8	94.5	95.1	2.8	3.3	2.3	25.3	29.4	20.9	80.6	77.5	83.8	867,821	445,259	422,561
Turkana	53.3	56.9	49.9	65.2	64.5	65.9	11.9	7.6	16.0	6.7	6.2	7.2	28.0	28.2	27.8	337,393	162,218	175,174
West Pokot	52.1	54.9	49.3	64.6	68.5	60.7	12.5	13.6	11.4	8.0	10.4	5.6	17.9	20.7	15.1	218,686	109,465	109,221
Samburu	68.5	73.5	63.6	80.5	83.0	78.1	12.0	9.4	14.5	15.2	21.9	8.7	40.6	55.0	26.8	105,792	51,957	53,835

	Mobile Phone Ownership			Mobile Phone Usage			Mobile Phone Sharers			Computer Usage			Internet Usage			Total		
	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female
Trans Nzoia	81.0	79.5	82.5	84.3	82.4	86.3	3.4	2.9	3.8	18.0	20.6	15.3	53.9	55.7	52.2	344,731	173,965	170,766
Uasin Gishu	88.1	88.7	87.4	94.8	93.7	95.9	6.7	5.0	8.4	21.8	23.0	20.5	68.6	75.5	61.7	401,110	201,941	199,169
Elgeyo-Marakwet	76.4	77.1	75.7	87.2	85.3	89.2	10.9	8.2	13.5	21.4	24.0	18.9	59.8	68.2	51.5	158,371	78,972	79,399
Nandi	76.1	74.9	77.2	81.8	79.2	84.5	5.8	4.3	7.3	17.1	16.0	18.2	45.1	45.0	45.3	307,360	152,955	154,405
Baringo	75.5	74.9	76.1	82.5	80.7	84.4	7.0	5.8	8.3	10.7	10.7	10.8	47.8	53.3	42.1	236,000	120,396	115,603
Laikipia	89.8	89.3	90.3	97.5	98.2	96.9	7.7	9.0	6.5	28.6	32.9	24.7	67.4	70.4	64.6	166,453	79,806	86,647
Nakuru	88.4	90.6	86.4	96.5	96.0	97.0	8.1	5.5	10.6	22.3	24.7	19.9	67.9	72.1	63.8	756,286	373,389	382,898
Narok	71.5	75.9	67.4	73.3	78.3	68.7	1.8	2.4	1.3	11.8	12.3	11.4	43.4	54.3	33.2	396,721	191,567	205,154
Kajiado	80.6	82.2	79.0	83.7	85.7	81.8	3.1	3.5	2.8	19.1	19.4	18.9	64.1	66.1	62.1	428,748	209,014	219,734
Kericho	82.6	82.0	83.3	87.9	88.4	87.4	5.3	6.4	4.2	18.2	23.0	13.3	50.8	58.4	43.2	314,091	156,479	157,612
Bomet	72.1	74.7	69.4	75.2	77.9	72.3	3.0	3.2	2.9	19.3	23.3	15.2	42.8	55.6	29.6	304,174	154,927	149,247
Kakamega	81.4	84.4	78.5	87.0	89.5	84.6	5.6	5.0	6.1	14.0	16.7	11.3	58.2	65.7	50.8	654,684	326,724	327,960
Vihiga	73.2	72.7	73.8	78.1	77.6	78.5	4.8	4.9	4.8	11.5	12.0	11.0	34.3	32.0	36.6	181,327	90,063	91,264
Bungoma	79.9	77.1	82.9	88.9	87.4	90.4	8.9	10.4	7.4	19.7	20.7	18.7	59.7	61.5	57.9	577,322	294,123	283,199
Busia	77.9	80.5	75.4	86.1	87.6	84.8	8.3	7.1	9.3	13.1	14.6	11.7	49.0	53.8	44.4	307,065	148,475	158,590
Siaya	74.7	73.7	75.8	85.1	82.7	87.5	10.4	9.0	11.7	18.9	19.2	18.5	49.5	52.9	46.0	348,510	176,991	171,518
Kisumu	80.2	81.4	79.0	83.9	83.8	84.1	3.7	2.4	5.1	28.9	33.1	24.6	58.6	61.9	55.2	415,982	213,594	202,388
Homabay	81.1	83.9	78.5	89.0	89.8	88.2	7.8	5.8	9.7	26.8	29.2	24.5	59.3	64.2	54.7	378,650	183,624	195,026
Migori	75.4	80.5	70.3	82.1	86.5	77.7	6.7	6.0	7.4	21.0	25.1	17.0	56.1	66.3	45.9	377,737	188,502	189,234
Kisii	79.8	77.3	82.4	82.0	78.8	85.1	2.1	1.6	2.7	19.4	22.3	16.5	53.2	53.7	52.6	432,381	218,025	214,356
Nyamira	85.7	83.4	88.1	87.9	84.5	91.4	2.2	1.1	3.3	27.8	32.7	22.8	54.4	60.4	48.5	191,583	95,981	95,602
Nairobi City	93.5	94.8	92.1	97.7	98.1	97.3	4.2	3.3	5.1	39.0	43.2	34.8	83.1	85.3	80.9	1,516,159	763,264	752,895

Annex 3: Household Level ICT Indicators

										Proportions	Number
	Fixed internet connections	Mobile internet connections	Both Fixed and mobile internet connections	Total internet connections	Computer	Smart lighting systems	Smart security systems	Smart door locks & garage door openers	Smart plugs	CCTV	Total Households
Kenya	7.0	**34.9**	5.6	**36.3**	8.8	1.7	2.0	0.4	0.2	3.8	13,886,126
Residence											
Rural	0.6	24.9	0.4	25.1	3.0	1.3	0.6	0.2	0.1	0.8	8,519,926
Urban	17.3	50.6	13.8	54.1	17.9	2.4	4.2	0.8	0.4	8.6	5,366,201
County											
Mombasa	9.7	57.7	6.4	61.1	13.6	0.2	1.4	0.0	0.2	2.9	405,415
Kwale	0.3	63.1	0.3	63.2	5.7	0.0	0.4	0.0	0.1	0.4	183,739
Kilifi	1.3	51.9	1.3	51.9	4.7	0.0	0.4	0.0	0.0	0.1	407,221
Tana River	0.9	33.2	0.9	33.2	1.4	0.2	0.0	0.0	0.2	0.3	74,962
Lamu	2.6	40.2	1.4	41.5	3.3	0.0	0.2	0.0	0.0	0.5	40,543
Taita-Taveta	1.6	72.9	1.6	72.9	9.0	0.4	0.2	0.0	0.0	0.4	108,463
Garissa	0.1	3.3	0.0	3.4	0.4	0.0	0.0	0.0	0.0	0.0	180,468
Wajir	0.2	11.7	0.2	11.7	0.0	0.0	0.0	0.0	0.0	0.0	152,058
Mandera	0.0	8.1	0.0	8.1	1.0	0.0	0.0	0.0	0.0	0.0	167,096
Marsabit	1.0	16.3	0.3	17.0	0.8	0.1	0.1	0.1	0.0	0.4	87,421
Isiolo	9.7	21.1	9.1	21.7	7.7	0.0	0.9	0.3	0.0	0.3	63,947
Meru	2.1	20.6	1.8	21.0	3.5	0.6	0.4	0.4	0.3	0.8	463,535
Tharaka-Nithi	5.1	5.2	1.5	8.9	8.6	1.1	1.3	0.3	0.0	0.9	120,886
Embu	4.4	11.0	1.3	14.2	6.3	0.4	0.9	0.1	0.0	3.1	199,046
Kitui	0.3	37.2	0.3	37.3	6.2	0.8	0.6	0.2	0.1	0.7	275,514
Machakos	3.4	5.8	1.8	7.4	7.8	0.9	1.3	0.3	0.1	1.6	430,469
Makueni	0.2	27.8	0.1	27.9	2.4	0.1	0.5	0.1	0.1	5.0	257,105
Nyandarua	0.6	49.6	0.5	49.7	6.0	3.2	2.4	0.5	0.3	4.5	198,250
Nyeri	4.6	41.4	2.9	43.1	10.2	2.1	2.3	0.5	0.1	3.8	270,743
Kirinyaga	2.0	30.1	1.6	30.5	5.9	0.4	1.9	0.3	0.0	6.1	217,216
Murang'a	3.8	65.2	3.0	66.1	5.5	22.3	3.1	3.7	0.3	3.4	385,599
Kiambu	14.9	48.5	11.1	52.2	17.4	1.7	4.6	0.0	0.0	7.3	997,101

	Proportions										Number
	Fixed internet connections	Mobile internet connections	Both Fixed and mobile internet connections	Total internet connections	Computer	Smart lighting systems	Smart security systems	Smart door locks & garage door openers	Smart plugs	CCTV	Total Households
Turkana	0.5	7.0	0.5	7.0	3.3	0.2	0.1	0.0	0.0	0.9	219,588
West Pokot	0.2	3.5	0.2	3.6	0.5	0.0	0.0	0.0	0.0	0.2	183,115
Samburu	0.5	21.1	0.5	21.1	4.9	0.0	0.3	0.0	0.0	1.8	95,708
Trans Nzoia	1.6	49.5	1.6	49.5	3.9	0.4	0.5	0.0	0.0	0.3	266,538
Uasin Gishu	12.0	59.9	12.0	59.9	8.9	0.7	1.7	0.2	0.2	2.6	351,899
Elgeyo-Marakwet	0.1	14.0	0.1	14.0	2.1	0.2	0.4	0.0	0.0	0.5	110,356
Nandi	1.0	30.1	1.0	30.1	2.7	0.0	0.6	0.0	0.0	0.4	226,515
Baringo	0.3	16.1	0.3	16.1	2.5	2.0	0.0	0.0	1.3	0.0	157,303
Laikipia	6.3	33.1	5.7	33.7	13.3	1.3	1.4	0.5	0.7	9.9	154,631
Nakuru	3.7	38.2	2.5	39.4	8.6	1.7	1.4	0.4	0.2	3.1	673,026
Narok	0.7	21.1	0.6	21.1	3.3	0.0	0.0	0.0	0.2	0.9	263,863
Kajiado	3.9	36.6	3.3	37.2	5.7	2.0	1.3	1.0	1.0	4.3	371,234
Kericho	1.0	10.7	0.9	10.8	5.5	0.6	0.8	0.7	0.4	0.4	233,615
Bomet	0.4	13.2	0.0	13.6	1.5	2.2	1.4	0.2	0.7	0.0	219,222
Kakamega	0.7	65.6	0.6	65.7	3.9	1.4	1.0	0.1	0.4	0.0	484,205
Vihiga	0.1	42.6	0.1	42.6	3.7	0.0	0.0	0.0	0.1	0.3	160,520
Bungoma	0.5	2.4	0.2	2.7	2.6	0.0	0.1	0.0	0.3	0.6	470,168
Busia	0.7	51.8	0.7	51.8	4.0	0.3	0.0	0.0	0.0	0.3	216,855
Siaya	0.6	37.3	0.6	37.3	5.6	0.6	0.3	0.0	0.0	0.4	247,647
Kisumu	3.2	12.6	2.9	13.0	5.4	2.3	1.1	0.2	0.7	2.6	338,619
Homabay	0.6	5.0	0.0	5.7	1.9	0.2	0.1	0.1	0.1	0.3	270,043
Migori	2.0	34.9	2.0	34.9	6.0	0.0	0.5	0.5	0.0	4.2	267,547
Kisii	1.5	4.2	0.4	5.3	3.0	0.0	0.3	0.0	0.4	1.0	371,985
Nyamira	0.3	12.4	0.3	12.4	1.9	0.6	0.0	0.0	0.0	0.0	183,594
Nairobi City	**33.8**	**55.6**	**27.7**	**61.7**	**27.8**	**3.6**	**8.1**	**1.5**	**0.4**	**15.8**	**1,661,533**



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