FOURTH QUARTER AND FINANCIAL YEAR 2022/2023 SECTOR STATISTICS REPORT

Direct any queries on the report to:
Director/Competition Management
Tel: +254-703 042450, +254 -02042450
Email: info@ca.go.ke
Website: www.ca.go.ke

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF ACRONYMS

DoS	Denial-of-Service
EASSy	Eastern Africa Submarine Cable Systems
FTTH/O	Fibre-To-The-Home/Office
FY	Financial Year
Gbps	Gigabits per second
ICTs	Information Communication Technologies
KE-CIRT/CC	National Kenya Computer Incident Response Team/Coordination Centre
LION2	Lower Indian Ocean Network
Mbps	Megabits per second
MoU	Minutes of Use
MVNO	Mobile Virtual Network Operator
NCC	National Cybersecurity Centre
SEACOM	Sea Sub-Marine Communications Limited
SIM	Subscriber Identification Module
SMS	Short Messaging Service
TEAMS	The East African Marine System
PEACE	Pakistan & East Africa Connecting Europe

PRELIMINARY NOTES

This report is based on data provided by licensees in the ICT sector as per their license conditions and obligations. The information provided herein is subject to review during the subsequent quarter in case of any revisions or updates from the licensees.

This report has been prepared in line with best practice and adheres to International Telecommunications Union (ITU) standards on collection of administrative/supply side data on telecommunications/Information and Communications Technologies https://www.itu.int/en/ITU-D/Statistics/Documents/publications/handbook/2020/ITUHandbookTelecomAdminData2020_E_rev1.pdf and also the guiding manual available on our website https://www.ca.go.ke/reports-and-studies?page=2 . These manuals provide clarity on how the various indicators are defined, methodologies for data collection, scope of the indicators, and any limitations that maybe related to the specific indicators.

The main objective of the report is to measure and monitor availablility and accessibility of ICT services by Kenyans from the perspective of supply. It is key to note that this report **does not include demand side data** (data on usage/uptake of ICTs from the consumer perspective) as this information is collected through National ICT Surveys and reported separately as per ITU standards https://www.itu.int/en/ITUD/Statistics/Documents/publications/manual/ITUManualHouseholds2020_E.pdf. Therefore, the Authority collaborates with the Kenyan National Bureau of Statistics (KNBS) to collect the demand side data through national surveys.

SUMMARY OF ICT INDICATORS

The Fourth Quarter and Financial Year 2022/2023 Sector Statistics report provides the performance and trends in the ICT sector for the period 1st April to 30th June 2023, and also the period 1st July 2022 to 30th June 2023 in:

1. Mobile Network services
2. Fixed Network services
3. Postal and Courier services
4. Broadcasting services
5. Frequency spectrum management
6. Electronic transactions and Cyberspace management

Indicator/Period	Q4 (Apr-Jun 23)	Q3 (Jan-Mar 23)	Quarterly Variation (%)
MOBILE NETWORK SERVICES			
Subscriptions to Mobile Services			
Total Mobile (SIM) Subscriptions	66,439,160	66,053,649	0.6
Machine-to-Machine (M2M) Subscriptions	1,574,171	1,538,968	2.3
Mobile Money Transfer Services			
Number of Registered Mobile Money Agents	333,753	331,065	0.8
Mobile Money Subscriptions	37,991,105	38,432,728	-1.1
Mobile Data and Broadband Subscriptions			
Mobile Data Subscriptions	49,355,495	47,960,863	2.9
Mobile Broadband Subscriptions	33,317,546	32,192,772	3.5
Mobile Phones Devices			
Feature Phones	32,140,606	33,475,476	-4.0
Smartphones	30,793,395	29,487,846	4.4
Domestic Mobile Traffic			
Mobile Voice Traffic (Minutes)			
On-Net Voice Traffic	18,457,947,077	18,643,493,661	-1.0
Off-Net Voice Traffic	2,885,541,224	2,888,560,081	-0.1
Mobile to Fixed Network	16,371,212	15,316,510	6.9
Mobile SMS Traffic			
SMS On-Net	10,891,845,275	12,070,360,878	-9.8
SMS Off-Net	1,487,513,352	1,650,638,678	-9.9
International Mobile Traffic			
Mobile Voice Traffic (Minutes)			
International Incoming Mobile Voice Traffic	68,021,604	75,008,695	-9.3
International Outgoing Mobile Voice Traffic	171,390,866	162,020,392	5.8
Mobile SMS Traffic			
International Incoming SMS	9,282,463	8,627,473	7.6
International Outgoing SMS	3,603,214	4,625,962	-22.1
Roaming Traffic			
Out-bound Roaming Traffic			
Out-bound Roaming Incoming Voice Traffic (Minutes)	136,792,249	136,089,615	0.5
Out-bound Roaming Outgoing Voice Traffic (Minutes)	13,598,974	15,152,712	-10.3
Out-bound Roaming Incoming SMS	53,301,483	49,592,838	7.5
Out-bound Roaming Outgoing SMS	6,321,542	6,630,919	-4.7

Indicator/Period	Q4 (Apr-Jun 23)	Q3 (Jan-Mar 23)	Quarterly Variation (%)
Data Volumes (MB)	138,784,266	128,876,812	7.7
In-bound Roaming Traffic			
In-bound Roaming Incoming Voice Traffic (Minutes)	42,867,602	42,903,151	-0.1
In-bound Roaming Outgoing Voice Traffic (Minutes)	4,254,684	4,024,055	5.7
In-bound Roaming Incoming SMS	35,828,029	34,835,092	2.9
In-bound Roaming Outgoing SMS	1,771,682	1,871,661	-5.3
Data Volumes (MB)	237,906,298	208,565,678	14.1
FIXED NETWORK SERVICES			
Fixed Voice Subscriptions			
Fixed Line Subscriptions	9,974	10,406	-4.2
Fixed Wireless Subscriptions	1,386	1,351	2.6
Fixed VoIP Subscriptions	48,207	52,054	-7.4
Domestic Fixed Voice Traffic			
Fixed line-Fixed line	144,656	96,309	50.2
Fixed Wireless-Fixed Wireless	300,846	283,353	6.2
Fixed to Mobile	22,957,134	20,935,051	9.7
International Fixed Voice Traffic			
Incoming Fixed Voice Traffic	3,091,576	3,296,747	-6.2
Outgoing Fixed Voice Traffic	847,104	1,549,674	-45.3
Outgoing Fixed VOIP	476,680	554,801	-14.1
Fixed Data and Broadband Services			
Fixed Data/internet subscriptions	1,178,203	1,112,288	5.9
Total Available International Bandwidth (Gbps)	16,523.303	14,413.05	14.6
Total Used International Bandwidth (Gbps)	9,676.442	8,115.84	19.2
POSTAL AND COURIER SERVICES			
Outgoing Domestic Letters	496,598	625,823	-20.6
Outgoing Domestic Courier Items	1,261,121	1,097,222	14.9
International Outgoing Letters	429,897	447,267	-3.9

Indicator/Period	Q4 (Apr-Jun 23)	Q3 (Jan-Mar 23)	Quarterly Variation (%)
International Incoming Letters	135,811	122,142	11.2
BROADCASTING SERVICES			
Licensed Commercial Free to Air TV	334	318	5.0
Licensed Commercial FM radio	201	190	5.8
Licensed Community Free to Air TV	9	9	0.0
Licensed Community FM Radio	74	67	10.4
DTT Subscriptions	4,450,688	4,407,645	1.0
DTH Subscriptions	1,709,395	1,740,913	-1.8
Cable Subscriptions	57,149	57,004	0.3
FREQUENCY SPECTRUM MANAGEMENT			
Microwave links Deployed	1,292	81	1,495.1
Fixed Links Decommissioned	1,336	23	5,708.7
FM Sound Broadcasting Frequencies Assigned	24	14	71.4
ELECTRONIC TRANSACTIONS AND CYBERSPACE MANAGEMENT			
.KE Domain	103,298	104,725	-1.4
Total Cyber Threats Detected	139,775,123	187,757,659	-25.6
Total Cyber Threat Advisories	10,742,859	3,584,966	199.7
POPULATION			
Total Population in Kenya (Millions)	50.6	50.6*	0.0

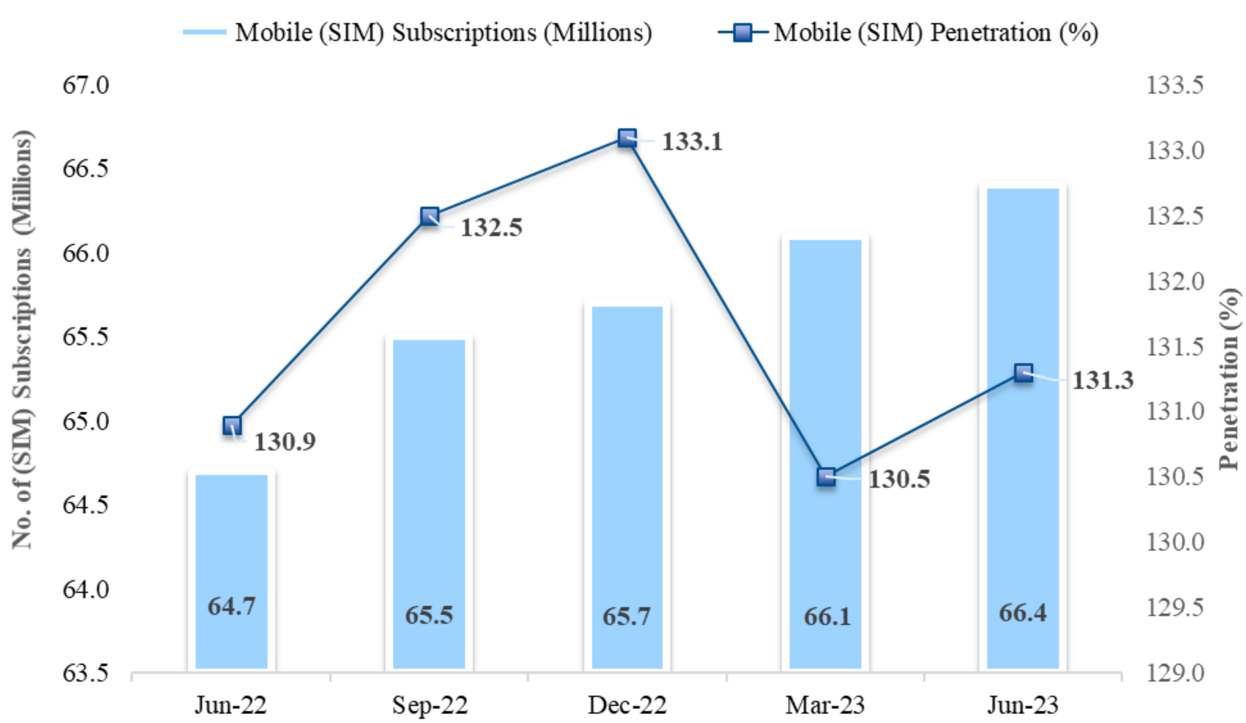
**Economic Survey 2023*

1. MOBILE NETWORK SERVICES

1.1 Mobile (SIM) Subscriptions

The active[1] mobile (SIM) subscriptions grew by 0.6 percent to record 66.4 million as at 30th June 2023, from 66.1 million recorded last quarter. This translated to a mobile (SIM) penetration rate of 131.3 percent. The slow growth in mobile subscriptions during the year is attributed to the SIM registration exercise that kicked-off in February 2022 with a deadline of October 2022 which resulted in deactivation of unregistered SIM cards.

Figure 1 illustrates the trends in Mobile (SIM) subscriptions and penetration.

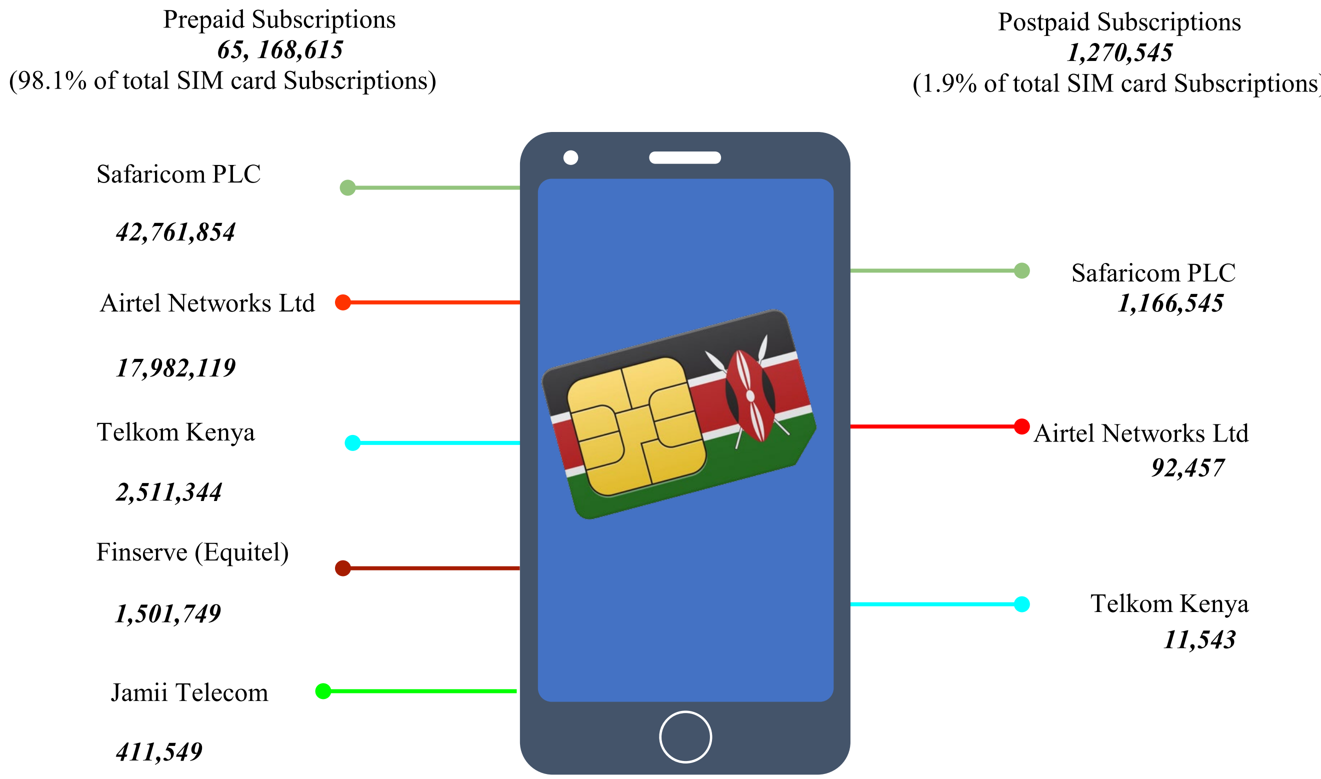


Source: CA, Operators' Returns

Figure 1: Mobile Subscriptions and Penetration

The number of active mobile (SIM) subscriptions per operator by contract type is as shown in Figure 2.

[1] **Active SIM (Mobile) Subscriptions** refers to those SIM Cards used at least once in the last three months and have generated revenue through making or receiving a call or carrying out a non-voice activity such as sending or receiving an SMS, accessing the Internet, airtime top-up, transacting using mobile money and mobile banking). Activities that do not result in revenue generation such as balance enquiry, unanswered calls, and password resets, amongst other free services, do not qualify a customer account as active.



Source: CA, Operators' Returns

Figure 2: Mobile Subscription per Operator

1.2 Machine-to-Machine (M2M[2]) Subscriptions

Machine-to-Machine (M2M) subscriptions grew by 2.3 per cent to record 1.57 million as at the end of the referenced period, however there was an increase of 17. 4 percent when compared to the same period of the previous year.

Table 1: Machine-to-Machine (M2M) Subscriptions

Indicator/Period	***Jun 23***	***Mar 23***	***Quarterly Variation (%)***	***Jun 22***
Machine to Machine (M2M)	1,574,171	1,538,968	2.3	1,341,111

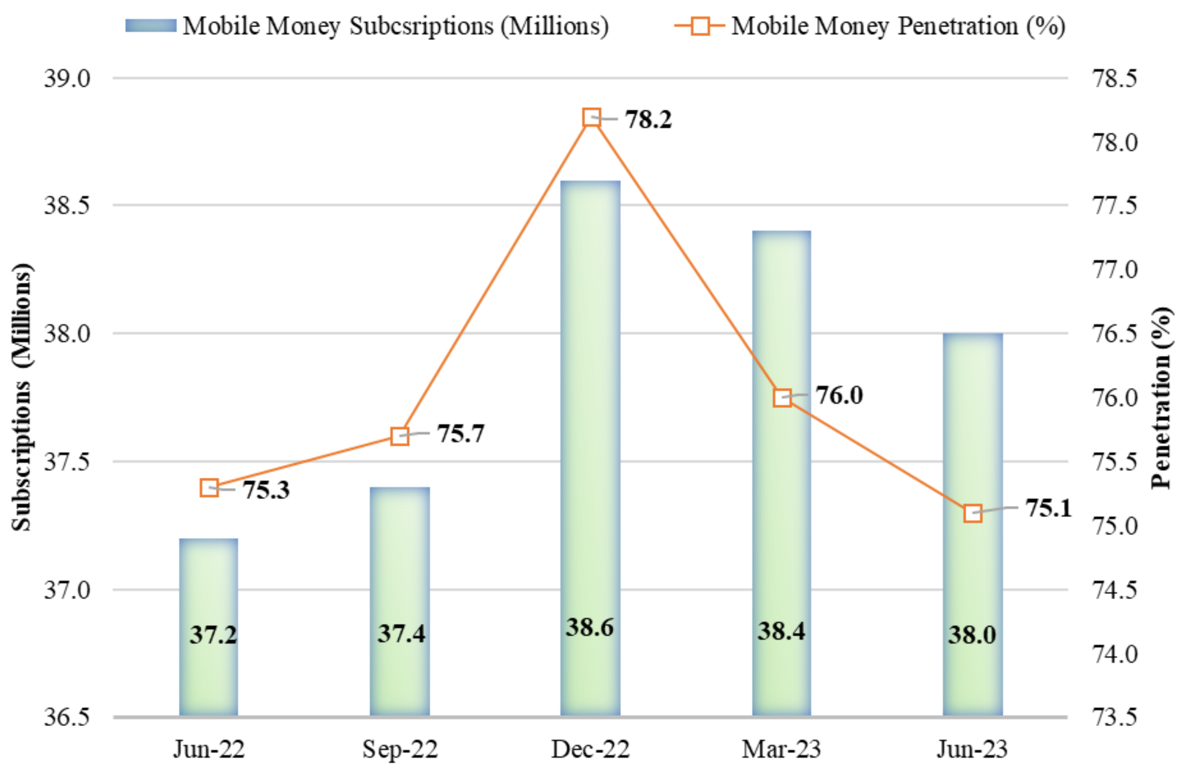
*Source: CA, Operators' Returns.*Provisional Data for Telkom Kenya Limited*

[2] **Machine to Machine mobile-network subscriptions (M2M subscriptions)** refer to the number of mobile cellular machine-to-machine subscriptions that are assigned for use in machines and devices (cars, smart meters, consumer electronics) for the exchange of data between networked devices, and are not part of a consumer subscription. For instance, SIM cards in personal navigation devices, smart meters, trains and automobiles are included while mobile dongles and tablet subscriptions are excluded. Only active subscriptions are counted.

1.3 Mobile Money Services

As of 30th June 2023, mobile money subscriptions declined to stand at 38.0 million, representing a penetration level of 75.1 per cent. The trend has since normalized following a sharp peak in December 2022 that was attributed to the launch and subsequent high uptake of the Hustler Fund.

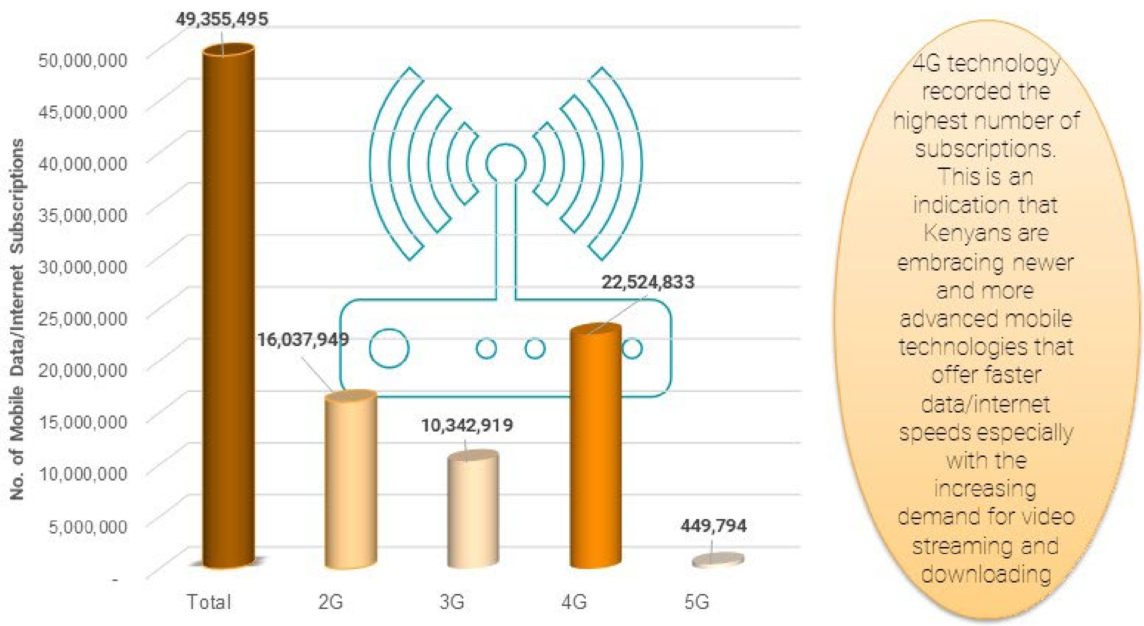
Figure 3 illustrates the trends of Mobile Money Subscriptions and penetration.



Source: CA, Operators' Returns

Figure 3:Mobile Money Services

1.4 Mobile Data and Broadband[3] Services



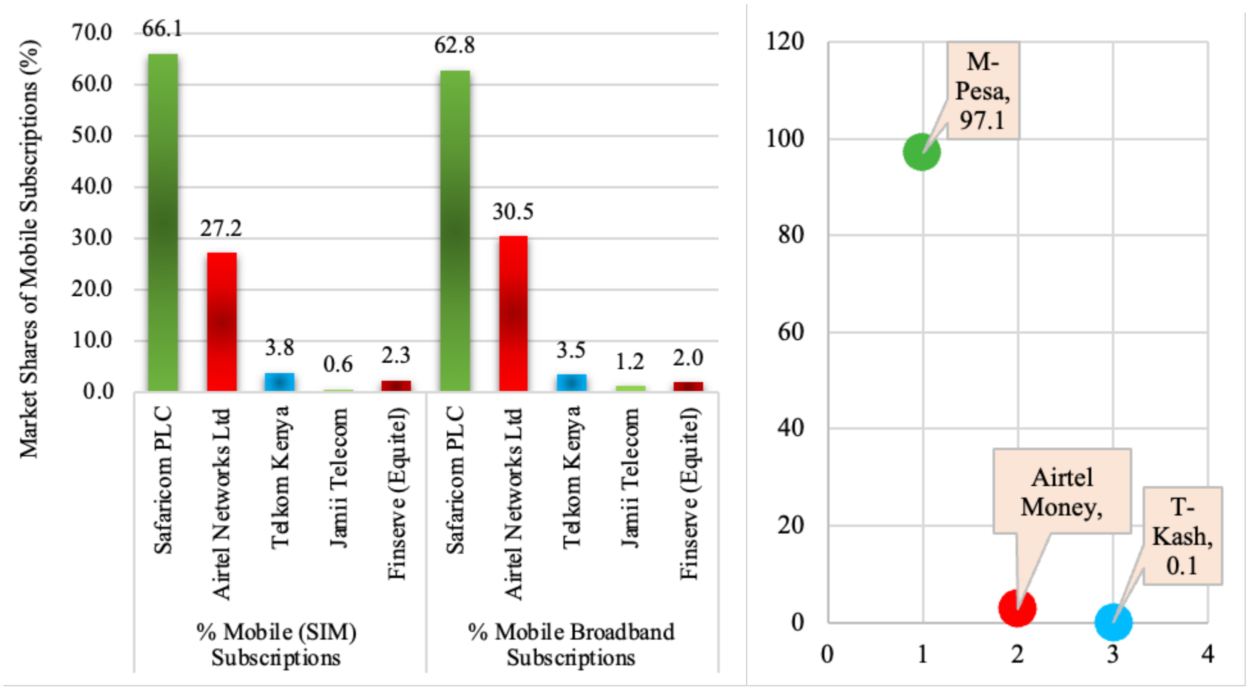
Source: CA, Operators' Returns

Figure 4: Mobile Data Subscriptions

[3] **Mobile broadband** includes 3G, 4G and 5G. Broadband refers to connectivity that delivers interactive, secure, quality and affordable services at a minimum speed of 2Mbps (The National Broadband Strategy 2018-2023)

1.5 Market Shares in Subscriptions for Mobile Services

The market shares in subscriptions for the respective mobile services is as shown in Figure 5.

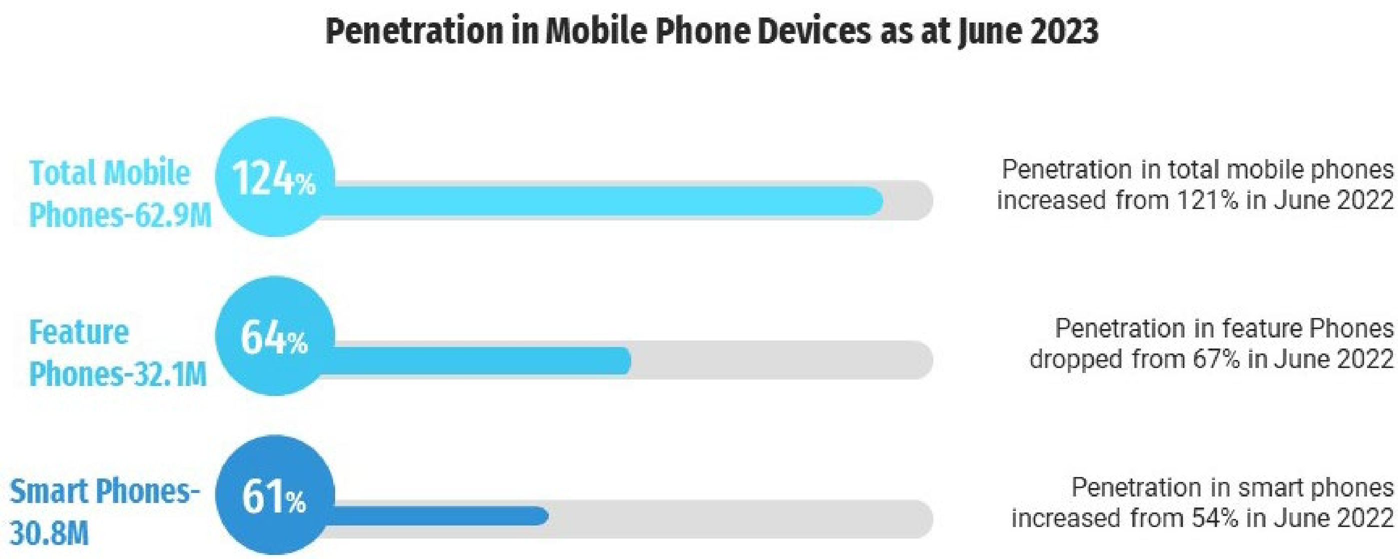


Source: CA, Operators' Returns

Figure 5: Mobile Market Shares

1.6 Mobile Phone Devices

Total number of mobile phone devices connected to mobile networks stood at 62.9 million with a penetration rate of 124.4 percent. The penetration rates for feature phones and smartphones were 63.5 and 60.9 percent, respectively. Figure 6 illustrates the number of mobile devices and the respective penetration rates.



Source: CA, Operators' Returns

Figure 6: Mobile Phone Devices

1.7 Domestic Mobile Voice Traffic (Minutes)

The total local mobile voice traffic dropped to 21.4 billion minutes from 21.5 billion minutes reported in the preceding quarter as shown in Table 2. The decline is attributed to the reduction of promotions and campaigns that were offered to consumers from two (2) to one (1) promotion during the reference period. On the other hand, mobile voice traffic grew by 4.1 percent to post 82.7 billion minutes during the FY 2022/23 compared to 79.4 billion minutes reported in FY 2021/22.

Table 2: Domestic Mobile Voice Traffic (Minutes)

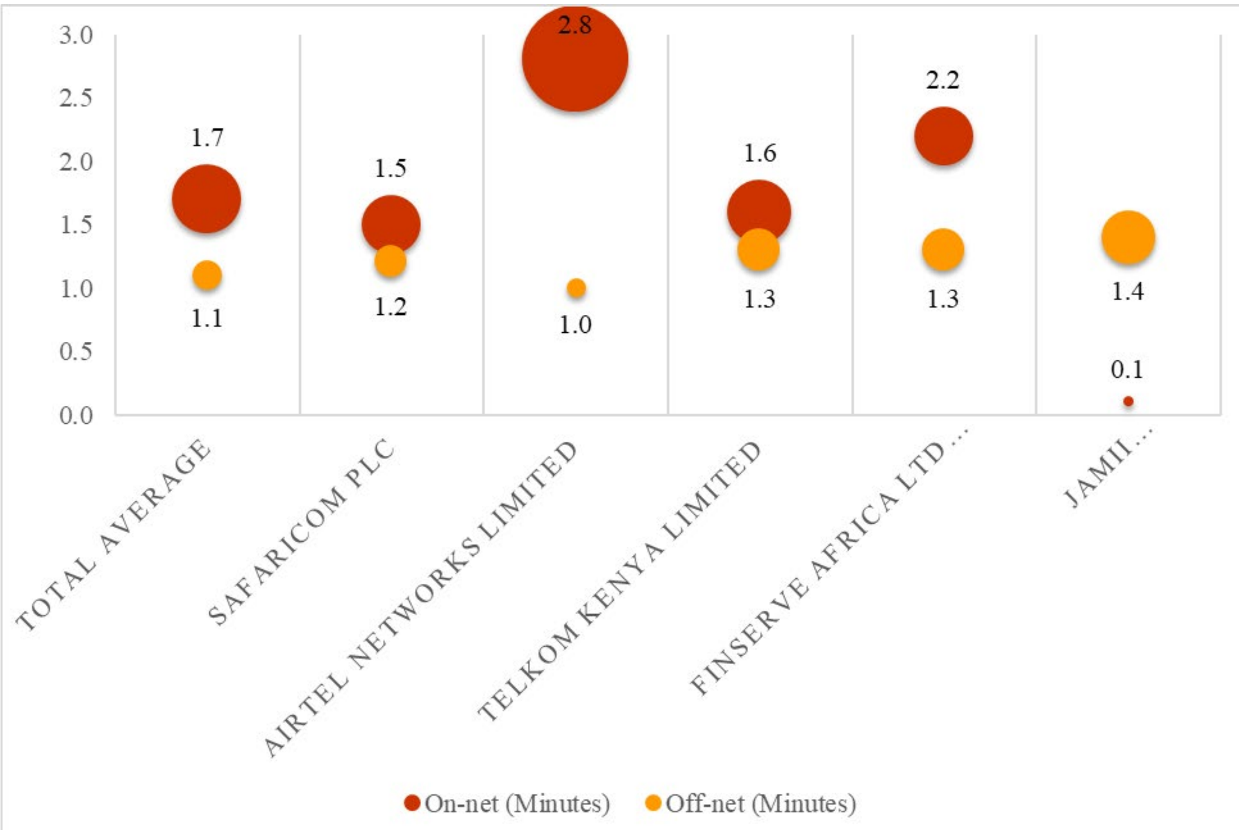
Indicator/Period	***Apr-Jun 23***	***Jan-Mar 23***	***Quarterly Variation (%)***	***FY 2022/23***	***FY 2021/22***	***Annual Variation (%)***
Total Outgoing Traffic	**21,359,859,513**	**21,547,370,252**	**-0.9**	**82,684,904,383**	**79,414,537,964**	**4.1**
On-net (Own Network – Own Network)	18,457,947,077	18,643,493,661	-1.0	71,630,207,165	69,600,154,465	2.9
Off-net (Own Network to Other Mobile Networks)	2,885,541,224	2,888,560,081	-0.1	10,990,556,215	9,749,654,524	12.7
Mobile Network to Fixed Network	16,371,212	15,316,510	6.9	64,141,003	64,728,975	-0.9

Source: CA, Operators' Returns

1.8 Minutes of Use per Call per Operator

During the reference period, the average minutes per on-net and off-net calls remained at 1.7 and 1.1, respectively. Airtel Networks Limited customers spent more time on a single on-net call averaging 2.7 minutes and the least time on a single off-net call averaging at 1.0 minutes.

Figure 7 shows the average minutes of use per call by the operator.



Source: CA, Operators' Returns

Figure 7: MoU per Call

1.9 Domestic Mobile SMS Traffic

The total number of SMS sent from local mobile networks declined to 12.4 billion from 13.7 billion messages reported in the previous quarter. This decline is attributed to resumption of school calender period during the reference period. However, the cumulative local SMS traffic for the fiscal year grew by 18.4 percent to stand at 52.4 billion SMS as shown in Table 3.

Table 3: Domestic Mobile SMS Traffic

Indicator/Period	*Apr-Jun 23*	*Jan-Mar 23*	*Quarterly Variation (%)*	*FY 2022/23*	*FY 2021/22*	*Annual Variation*
Total SMS Traffic	**12,379,358,627**	**13,720,999,556**	**-9.8**	**52,441,434,503**	**44,306,303,570**	**18.4**
On-net (Own Network – Own Network)	10,891,845,275	12,070,360,878	**-9.8**	46,244,102,593	39,665,281,763	**16.6**
Off-net (Own Network to Other Mobile Networks)	1,487,513,352	1,650,638,678	**-9.9**	6,197,331,910	4,641,021,807	**33.5**

Source: CA, Operators' Returns

1.10 Voice and SMS Traffic per Operator

The trends in domestic voice and SMS traffic per operator are shown in Table 4.

Table 4: Domestic Mobile Traffic per Operator

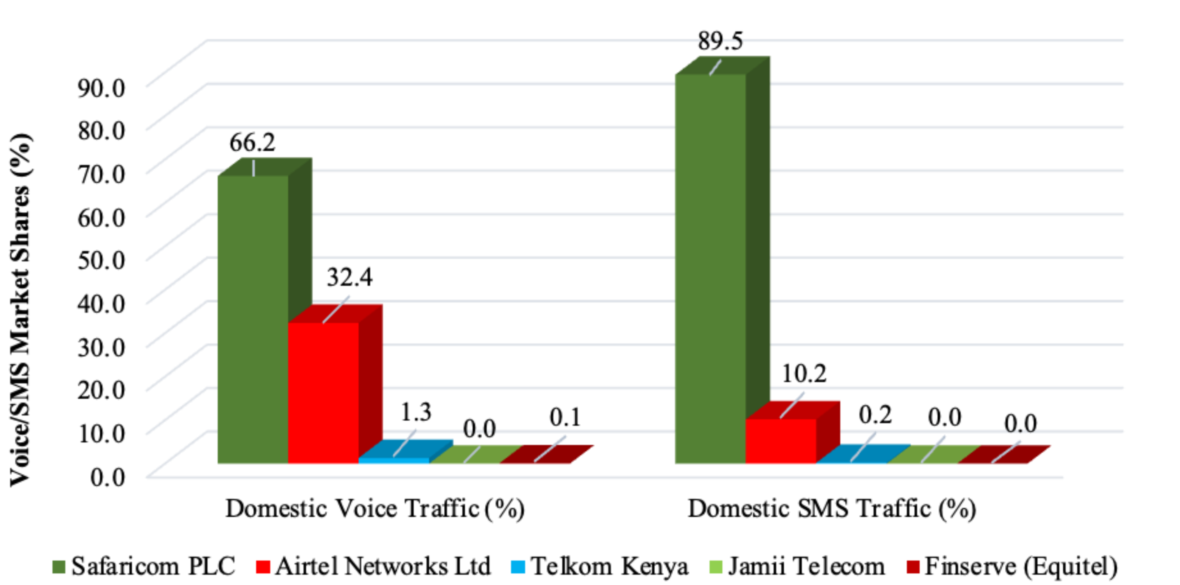
Name of Operator /Indicator			*Safaricom PLC*	*Airtel Networks Kenya Limited*	*TKL*	*Finserve*	*JTL*	*Total*
		Total	**14,118,725,509**	**6,914,041,399**	**280,920,042**	**25,788,570**	**4,012,781**	**21,343,488,301**
Apr-Jun 23	*Voice*	*On-net*	13,171,605,713	5,116,311,857	167,904,788	2,075,384	49,335	**18,457,947,077**
		Off-net	947,119,796	1,797,729,542	113,015,254	23,713,186	3,963,446	**2,885,541,224**
	SMS	*Total*	**11,084,903,346**	**1,263,718,889**	**5,151,370**	**24,916,815**	**668,207**	**12,379,358,627**
		On-net	10,358,082,348	530,100,327	1,749,425	1,880,248	32,927	**10,891,845,275**
		Off-net	726,820,998	733,618,562	3,401,945	23,036,567	635,280	**1,487,513,352**
	Voice	*Total*	**14,242,982,178**	**6,888,006,603**	**367,956,544**	**30,115,052**	**2,993,365**	**21,532,053,742**
Jan-Mar 23		*On-net*	13,302,030,021	5,117,812,942	221,195,093	2,408,543	47,062	**18,643,493,661**
		Off-net	940,952,157	1,770,193,661	146,761,451	27,706,509	2,946,303	**2,888,560,081**
	SMS	*Total*	**12,313,975,801**	**1,365,272,406**	**35,045,007**	**6,087,917**	**618,425**	**13,720,999,556**
		On-net	11,501,545,180	564,340,215	2,504,668	1,940,099	30,716	**12,070,360,878**
		Off-net	812,430,621	800,932,191	32,540,339	4,147,818	587,709	**1,650,638,678**
FY 2022/23	*Voice*	*Total*	**54,241,650,047**	**26,870,305,640**	**1,375,484,457**	**122,416,167**	**10,910,069**	**82,620,766,380**
		On net	50,745,956,868	20,055,213,430	818,878,006	9,987,078	171,783	**71,630,207,165**
		Off-net	3,495,693,179	6,815,092,210	556,606,451	112,429,089	10,738,286	**10,990,559,215**

	SMS	***Total***	**46,888,600,352**	**5,384,234,733**	**123,049,058**	**43,373,030**	**2,177,330**	**52,441,434,503**
		On-net	43,844,311,868	2,381,097,802	10,550,045	8,038,037	104,841	**46,244,102,593**
		Off-net	3,044,288,484	3,003,136,931	112,499,013	35,334,993	2,072,489	**6,197,331,910**
FY 2021/22	***Voice***	***Total***	**54,244,728,639**	**23,501,501,514**	**1,493,727,945**	**104,289,705**	**5,561,186**	**79,349,808,989**
		On-net	51,278,632,632	17,510,254,711	801,443,156	9,695,420	128,546	**69,600,154,465**
		Off-net	2,966,096,007	5,991,246,803	692,284,789	94,594,285	5,432,640	**9,749,654,524**
	SMS	***Total***	**39,725,317,424**	**4,341,872,842**	**213,012,085**	**24,981,211**	**1,120,008**	**44,306,303,570**
		On-net	37,568,260,802	2,069,102,901	20,595,572	7,272,355	50,133	**39,665,281,763**
		Off-net	2,157,056,622	2,272,769,941	192,416,513	17,708,856	1,069,875	**4,641,021,807**

Source: CA, Operators' Returns

1.11 Market shares in Domestic Mobile Voice and SMS Traffic

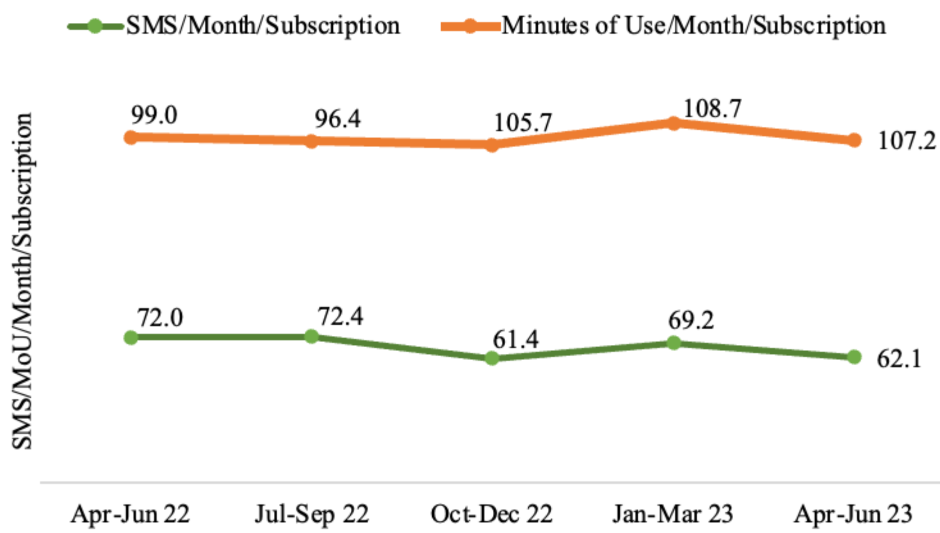
The market shares in domestic mobile voice and SMS traffic are as shown in Figure 8.



Source: CA, Operators' Returns

Figure 8: Market Shares in Domestic Mobile Voice and SMS

1.12 Minutes/Month/Subscription vs SMS/Month/Subscription



Source: CA, Operators' Returns

The Minutes of Use per Month per Subscription declined to post 107.2 minutes from 108.7 minutes recorded in the last quarter. On the same trend, short messages sent per month per subscription dropped to 62.1 messages during the referenced period.

Figure 9: MoU/Month/Subscription vs SMS/Month/Subscription

1.13 International Mobile Traffic

During the quarter under reference, incoming international mobile voice traffic in minutes declined by 9.3 percent to record 68.0 million, whereas outgoing international mobile voice traffic in minutes grew by 5.8 percent to post 171.4 million. The incoming international mobile SMS traffic grew by 7.6 while the outgoing international mobile SMS traffic dropped by 22.1 percent to record 9.3 million and 3.6 million messages respectively.

Table 5: International Mobile Traffic

Indicator/Period	***Region***	***Apr-Jun 23***	***Jan-Mar 23***	***Quarterly Variation (%)***	***FY 2022/23***	***FY 2021/22***	***Annual Variation (%)***
International Incoming Mobile Voice Minutes	*EAC*	43,471,192	49,318,142	-11.9	231,750,532	277,874,733	-16.6
	Others	24,550,412	25,690,553	-4.4	111,762,942	176,649,417	-36.7
	Total	**68,021,604**	**75,008,695**	**-9.3**	**343,513,474**	**454,524,150**	**-24.4**
International Outgoing Mobile Voice Minutes	*EAC*	102,475,026	92,265,379	11.1	384,142,245	322,317,803	19.2
	Others	68,915,840	69,755,013	-1.2	296,579,170	295,419,095	0.4
	Total	**171,390,866**	**162,020,392**	**5.8**	**680,721,415**	**617,736,898**	**10.2**
International Incoming Mobile SMS		9,282,463	8,627,473	7.6	35,784,244	33,632,492	6.4
International Outgoing Mobile SMS		3,603,214	4,625,962	-22.1	17,954,442	20,337,713	-11.7

Source: CA, Operators' Returns

1.14 Roaming Traffic

The trends in outbound and inbound roaming traffic are as shown in Tables 6 and 7.

Table 6: Outbound Roaming Traffic

Country / Indicator	***Incoming Voice (Minutes)***	***Incoming SMS***	***Outgoing Voice (Minutes)***	***Outgoing SMS***	***Data Volumes (MB)***
Uganda	124,468,746	7,942,478	5,540,387	1,541,640	45,584,019
Tanzania	354,448	10,840,225	1,451,395	724,200	14,145,852
Rwanda	4,238,607	-	572,236	153,082	4,308,857
Burundi	4,483	766,022	3,320	8,413	16,392
S. Sudan	6,559,709	150	1,459,025	350,486	70,099
Democratic Republic of Congo	9,135	174,242	228,728	48,320	32,933,035
EAC Total	**135,635,128**	**19,723,117**	**9,255,091**	**2,826,141**	**97,058,254**
Others	1,157,121	33,578,366	4,343,883	3,495,401	41,726,012
Total	**136,792,249**	**53,301,483**	**13,598,974**	**6,321,542**	**138,784,266**

Source: CA, Operators' Returns

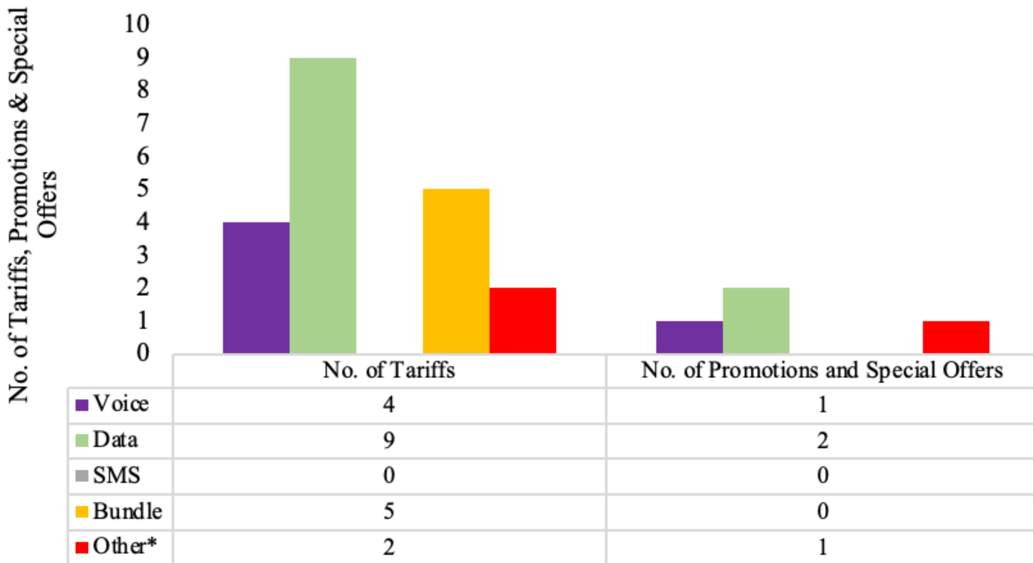
Table 7: In-bound Roaming Traffic

Country / Indicator	***Incoming Voice (Minutes)***	***Incoming SMS***	***Outgoing Voice (Minutes)***	***Outgoing SMS***	***Data Volumes (MB)***
Uganda	25,458,063	4,234,758	1,228,235	148,828	9,139,827
Tanzania	87,807	12,698,997	85,817	108,429	1,270,910
Rwanda	11,976,518	2,292,557	203,758	40,297	402,103
Burundi	459	4,903	955	1,686	28
S. Sudan	4,156,446	810,542	193,249	16,412	868,397
Democratic Republic of Congo	6,351	324,074	61,359	6,657	105,952
EAC Total	**41,685,644**	**20,365,831**	**1,773,373**	**322,309**	**11,787,217**
Others	1,181,958	15,462,198	2,481,311	1,449,373	226,119,081
Total	**42,867,602**	**35,828,029**	**4,254,684**	**1,771,682**	**237,906,298**

Source: CA, Operators' Returns

1.15 Tariffs, Promotions and Special Offers

The number of approved applications for tariffs and, promotions & special offers filed by MNOs during the referenced period is as shown in Figure 10.



Source: CA, filed tariffs, promotions and special offers

Figure 10: Distribution of Tariffs, Promotions and Special Offer

1.16 Average Pay-As-You-Go (PAYG) Tariffs

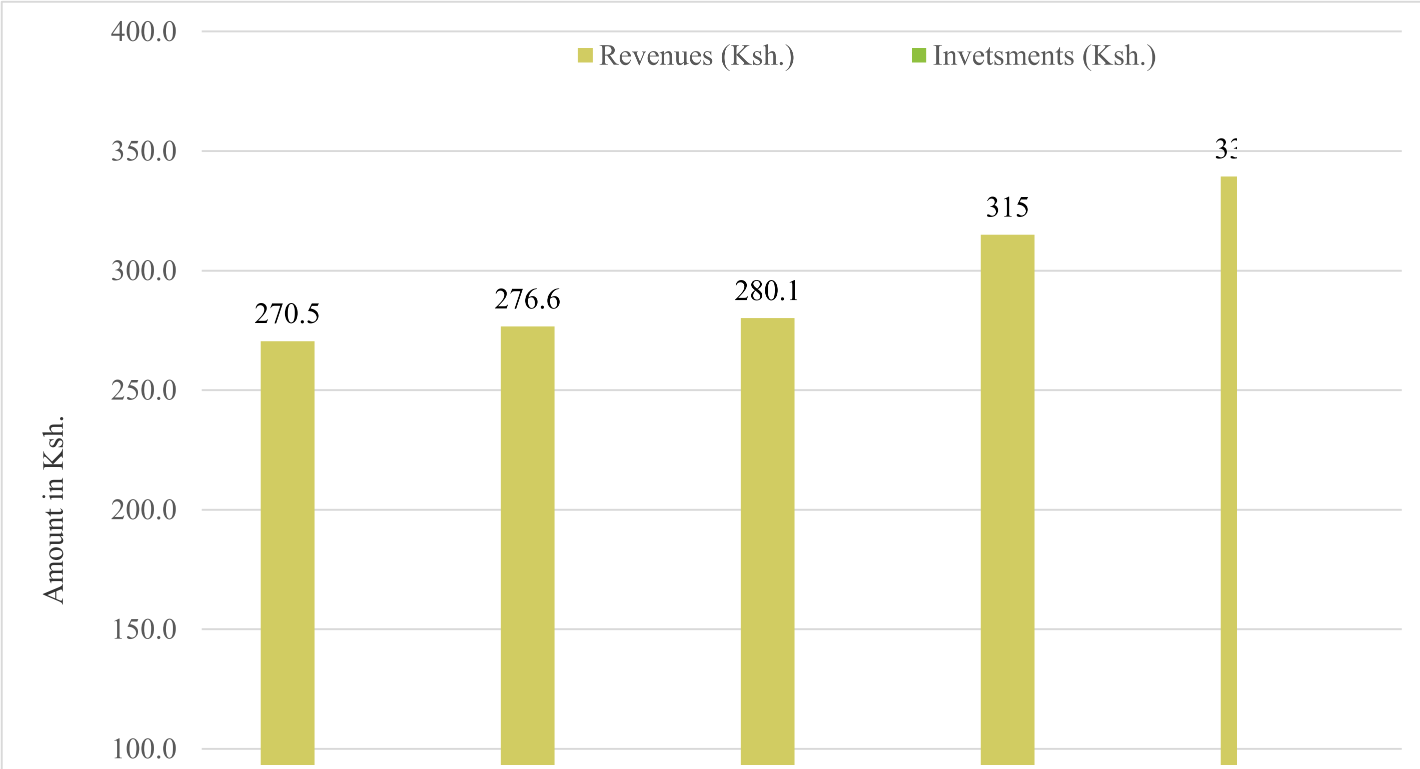
Table 8: Average Pay-As-You-Go (PAYG) Tariffs

Operator/Market	*Average Voice (KES/Min)*	*SMS (KES/SMS)*	*Data(KES/MB)*
Safaricom PLC	4.87	1.20	4.87
Airtel Network Limited	2.78	1.20	4.50
	4.50	1.20	4.50
Telkom Kenya Limited	3.54	1.15	4.50
Average	**3.92**	**1.19**	**4.59**

Source: CA

1.17 Mobile Service Revenue and Investment

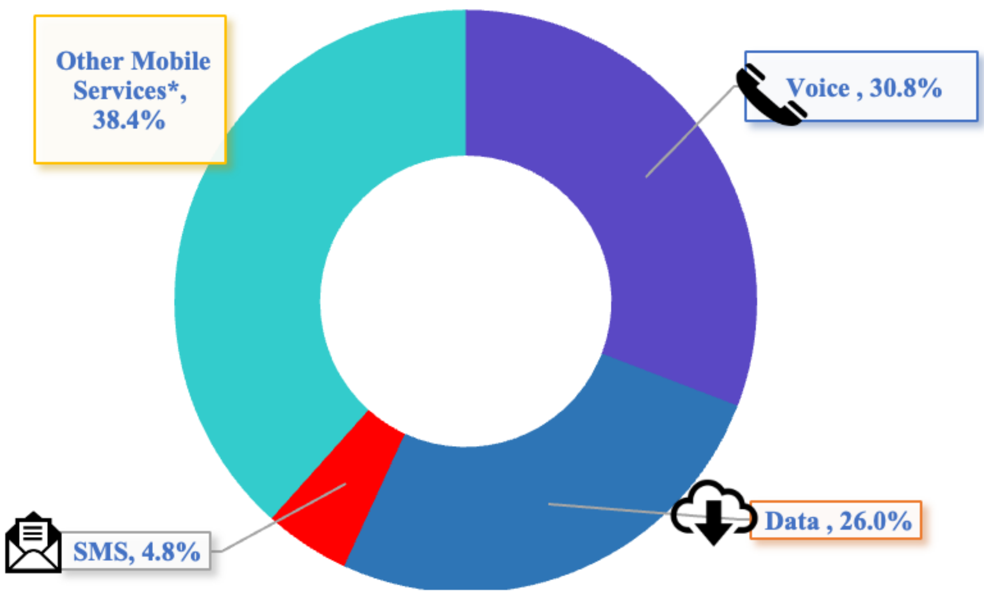
In 2022, mobile services generated KSh. 339.4 billion in revenue which is an increase of 7.7 percent from KSh. 315.0 billion recorded in 2021. Similarly, there was increased investment in the mobile sub-sector of 14.0 percent to record KSh.58.8 billion in 2022.



*Source: CA, Operators' Returns *Voice revenue includes fixed voice revenue from TKL: Data revenue also included fixed data revenue from TKL and Safaricom , Provisional data for TKL*

Figure 11: Mobile Service Revenue and Investments

The breakdown in revenue based on services is as shown in Figure 12.

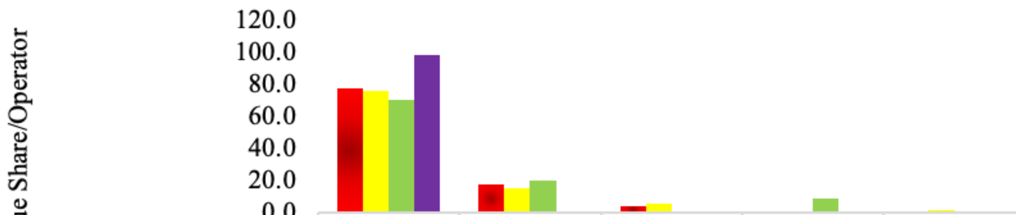


*Source: CA, Operators' Returns, Provisional data for TKL, *includes mobile money, Roaming Revenues, Bulk SMS, "advance airtime" etc*

Figure 12: Revenue per Service

Safaricom PLC recorded the highest revenue shares in voice, data, SMS and other revenues (mobile money, roaming, advance airtime) with Jamii Telecommunications recording the least shares.

Figure 13 shows the percentage shares in revenue based on services per operator.



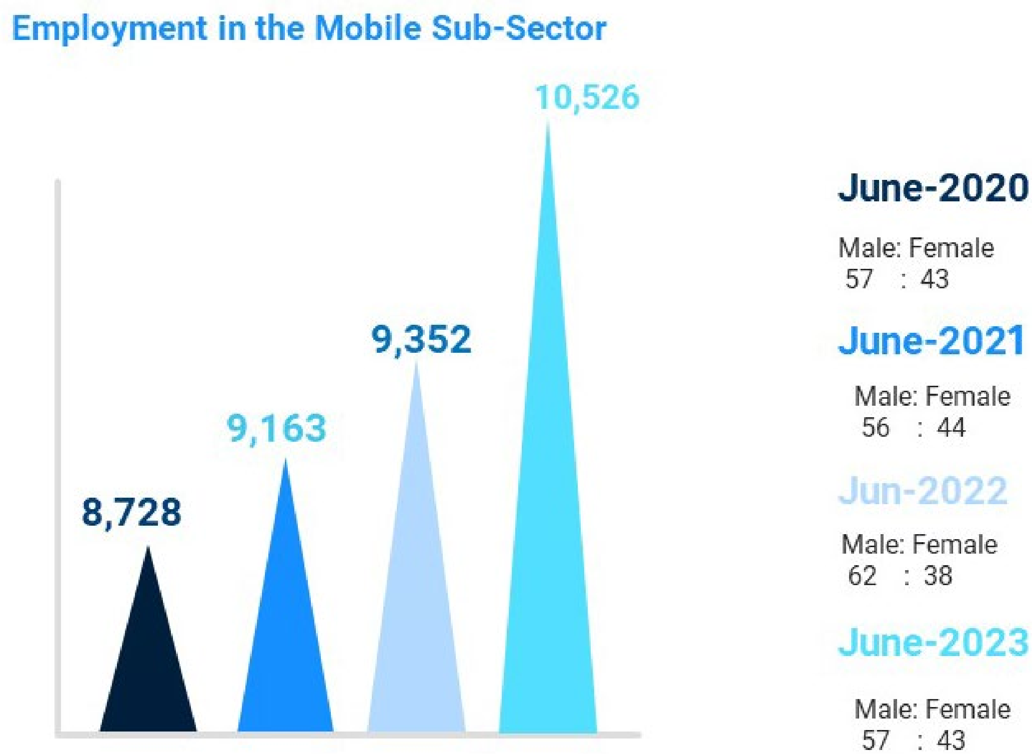
	Safaricom PLC	Airtel Networks	Telkom Kenya	Finserve Ltd	Jamii Telecommunications
Voice	77.4	17.7	4.7	0.2	0.0
Data	76.3	15.5	5.9	0.2	2.1
SMS	70.4	20.5	0.0	9.1	0.0
Other Mobile Services*	98.0	1.1	0.9	0.0	0.0

*Source: CA, Operators' Returns, * includes mobile money, Roaming Revenues, Bulk SMS etc, Provisional data for TKL*

Figure 13: % Shares in Revenue by Operator

1.18 Employment in the Mobile Sub-Sector

The number of employees was 10,526 with a male to female ratio of 57:43. Figure 14 shows the four year trend in employment within mobile sub-sector.



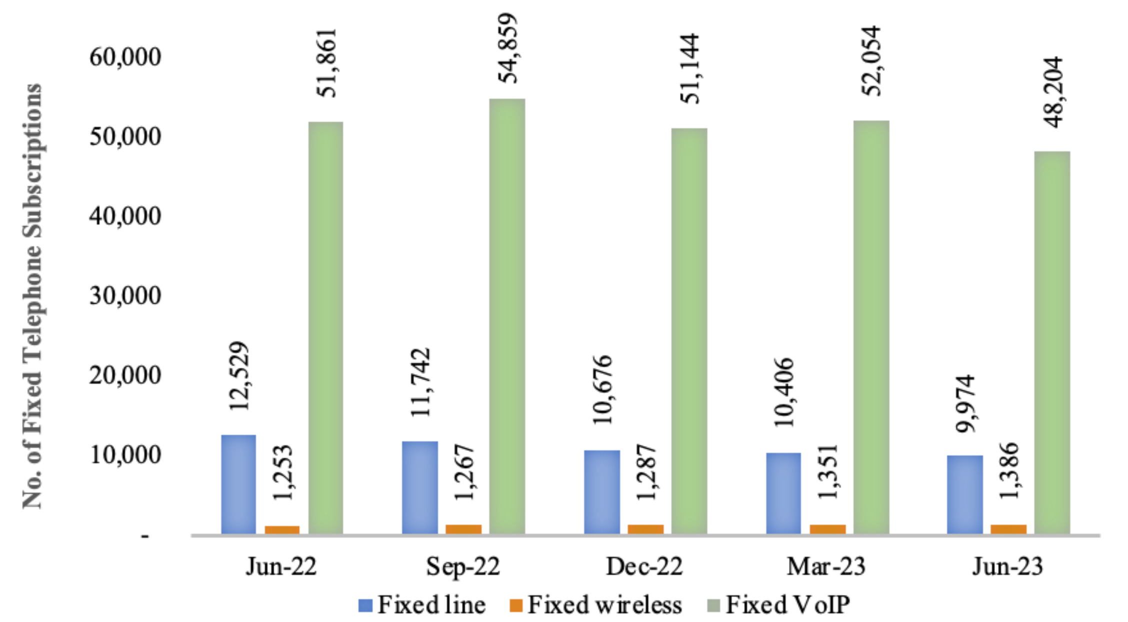
Source: CA, Operators' Returns

Figure 14: Employment in Mobile Sub-Sector

2. FIXED NETWORK SERVICES

2.1 Fixed Telephone Subscriptions

Figure 15 shows fixed telephone subscriptions as at 30th June 2023 with subscriptions in Fixed VoIP posting 48,204.



Source: CA, Operators' Returns

Figure 15: Fixed Voice Subscriptions

2.2 Domestic Fixed Voice Traffic

The total domestic fixed network traffic rose by 9.8 percent to record 23.4 million minutes from 21.3 million minutes reported in the previous quarter. Table 9 shows the trends in local fixed voice network traffic.

Table 9: Domestic Fixed Voice Traffic (Minutes)

Domestic Fixed Voice Traffic (Minutes)	***Apr – Jun 23***	***Jan – Mar 23***	***Quarterly Variation (%)***	***FY 2022/23***	***FY 2021/22***	***Annual Variation (%)***
Fixed-Fixed	144,656	96,309	50.2	390,161	437,044	-10.7
Fixed Wireless-Fixed Wireless	300,846	283,353	6.2	1,148,622	1,149,052	0.0
Fixed to Mobile	22,957,134	20,935,051	9.7	95,571,245	83,370,508	14.6
Total Domestic Fixed Network Traffic	**23,402,636**	**21,314,713**	**9.8**	**97,110,028**	**84,956,604**	**14.3**

Source: CA, Operators' Returns

2.3 International Fixed Voice Traffic

International fixed voice traffic recorded a downward trend and this is mainly attributed to decreased investment in fixed voice services by operators following growing demand for mobile and data services.

Table 10: International Fixed Voice Traffic

Indicator/Period	*Apr– Jun 23*	*Jan – Mar 23*	*Quarterly Variation (%)*	*FY 2022/23*	*FY 2021/22*	*Annual Variation (%)*
International Incoming Fixed Network Voice traffic	3,091,576	3,296,747	-6.2	13,067,155	13,354,547	-2.2
International Outgoing Fixed Network Voice traffic	847,104	1,549,674	-45.3	5,729,179	5,724,301	0.1
International Outgoing Fixed VoIP traffic	476,680	554,801	-14.1	2,139,753	2,391,762	-10.5

Source: CA, Operators' Returns

2.4 Fixed Data and Broadband Subscriptions

As at the end of the fourth quarter, majority of customers subscribed to data/Internet speeds between 2 Mbps and 10 Mbps. Table 11 shows the breakdown of fixed data/Internet subscriptions by speed and technology.

Table 11: Fixed Data and Broadband Subscriptions

Internet Technology/Speeds	*<256Kbps*	*=>256Kbps < 2Mbps*	*=>2 Mbps <10 Mbps*	*=>10Mbps <30 Mbps*	*=>30 Mbps <100Mbps*	*=>100 Mbps <1Gbps*	*=>1 Gbps*	*Totals*
Cable Modem	0	0	48,627	132,028	14,342	326	0	**195,323**
Copper (DSL)	10	22	332	337	8	0	0	**709**
FTTH	0	1,927	262,854	213,291	179,412	3290	0	**660,774**
FTTO	156	5,019	30,220	31,637	3,812	1172	281	**72,297**
Fixed Wireless	10,059	5,914	216,585	11,464	3,394	488	0	**247,904**
Satellite	30	222	21	132	0	0	0	**405**
Other Fixed	0	0	671	89	29	2	0	**791**
Totals	**10,255**	**13,104**	**559,310**	**388,978**	**200,997**	**5,278**	**281**	**1,178,203**

Source: CA, Operators' Returns.

2.5 Fixed Data Subscriptions by Operator

Table 12 shows Fixed data subscriptions and percentage market shares by Operator.

Table 12: Fixed Data Subscriptions by Operator

Service Provider/Indicator	*Number of data subscriptions*	*Percentage Market share (%)*
Safaricom PLC	427,003	36.2
Jamii Telecommunications Ltd	279,076	23.7
Wananchi Group (Kenya) Limited*	253,966	21.6
Poa Internet Kenya Ltd	145,014	12.3

Liquid Telecommunications Kenya	14,214	1.2
Mawingu Networks Ltd	21,100	1.8
Dimension Data Solutions East Africa Limited	15,250	1.3
Vilcom Network Limited	8,339	0.7
Telkom Kenya Ltd	4,382	0.4
Other Fixed Service providers	9,859	0.8

*Source: CA Operators' Returns, * includes Wananchi Group, Wananchi Telecom, ISAT and Simbanet.*

2.6 International Bandwidth

The total international Internet bandwidth capacity in the country grew to 16,523.303 Gbps from 16,114.418 Gbps reported in the last quarter. Further, utilization of undersea bandwidth rose by 19.2 to record 9,676.03 Gbps out of which 6,722.209 Gbps was used in the country and 2,953.820 Gbps sold outside the country as shown in Table 13.

Table 13: International Internet Bandwidth (Gbps)

Indicator/ Period	*Apr – Jun 23*			*Jan – Mar 23**		*Quarterly Variation (%)*	*Apr-Jun 2022*
Total Available (Lit/Equip) Bandwidth Capacity (Gbps)	**16,523.303**			**16,114.418**		**2.5**	**11,605.99**
Undersea Bandwidth Capacity	**SEACOM**		3,920.0	**SEACOM**	3,920.0	0.0	3,920.0
	TEAMS		4,063.0	**TEAMS**	4,063.0	0.0	1,618.0
	Telkom Kenya	***EASSY***	5,250.0	***EASSY***	4,990.0	5.2	4,750.0
		Lion 2	750.5	***Lion 2***	571.5	31.3	553.2
		DARE 1	1,386.0	***DARE 1***	1,286.0	7.8	760.0
		PEACE	1,151.0	***PEACE***	831.405	38.4	0.0
Satellite Bandwidth Capacity	2.803			2.513		11.5	5.0
Total Utilized Bandwidth Capacity (Gbps)							
Undersea Bandwidth Capacity	Sold In Kenya	Sold in other Countries		Sold In Kenya	Sold in other Countries	Quarterly Variation (%)	
	6,722.209	2,953.820		5,161.918	2,953.820	19.2	6,000.6
Satellite Internet Capacity	0.413			0.105		293.3	2.6

Source: CA, Operators' Returns, Data Revised, PEACE Data included*

2.7 Revenues and Inevestments by Application Service Providers

Table 14: Revenues and Investments by ASPs

Indicator/Period	***2022***	***2021***	***Annual Variation (%)***
Service Revenue (Billions)	21.24	18.85	12.7
Investment (Billions)	6.53	4.91	33.0

Source CA operator returns, excludes revenues by MNOs and MVNO. Revenues only include revenue generated through communication services

3. POSTAL AND COURIER SERVICES

3.1 Postal and Courier Traffic

During the fourth quarter of FY 2022/23, the volume of domestic letters dropped to post 496,598 whereas the volume of domestic courier items grew by 14.9 percent to post 1.2 million items as shown in Table 15. The volume of international outgoing and incoming letters were posted at 429,897 and 135,811 items respectively.

Traffic in Postal and Courier sub-sector

Table 15: Postal and Courier Items

Indicator/Period	***Apr-Jun 23***	***Jan-Mar 23***	***Quarterly Variation (%)***	***FY 2022/23***	***FY 2021/22***	***Annual Variation (%)***
Outgoing Domestic Letters	496,598	625,823	-20.6	2,120,550	1,129,852	87.3
Outgoing Domestic Courier Items	1,261,121	1,097,222	14.9	4,747,711	4,288,617	10.4
International Outgoing Letters	429,897	447,267	-3.9	1,776,049	1,576,419	12.7
International Incoming Letters	135,811	122,142	11.2	497,938	404,769	23.0

Source: CA, Operators' Returns,

3.2 Employment in Postal and Courier Sub-Sector

The number of employees in the Postal and Courier sub-sector was 5,793 as June 2023 with a male to female ratio of 67:33.

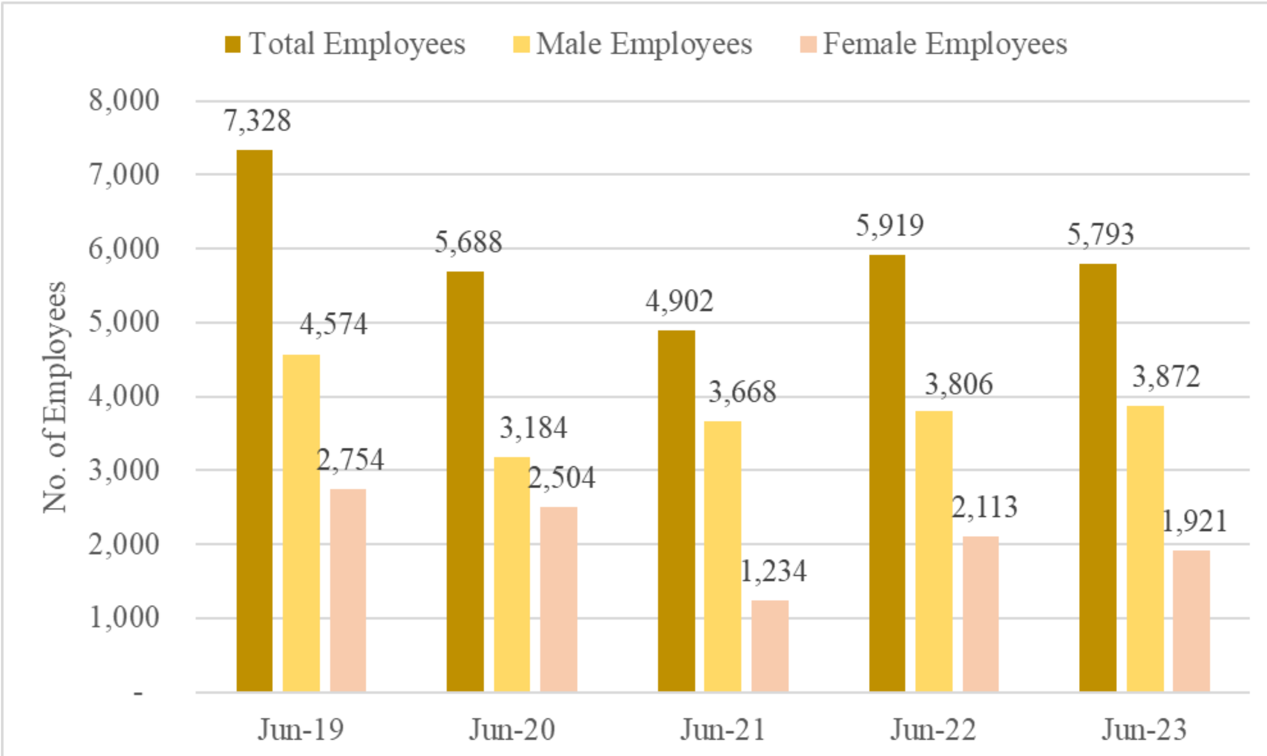


Figure 16: Employment in Postal and Courier

3.3 Revenues in Postal and Courier Sub-Sector

Revenues realized in the Postal and Courier sub-sector in 2022 grew by 8.4 percent to KSh. 7.7 billion.

Table 16: Revenues in Postal and Courier Sub-Sector

Indicator/Period	*2022*	*2021*	*Annual Variation (%)*
National Postal Revenue	2.79	2.52	10.4
International Postal Revenue	4.93	4.60	7.3
Total Revenues	**7.72**	**7.12**	**8.4**

Source: CA, Operators' Returns Only includes revenues generated through Postal and Courier services

4. BROADCASTING SERVICES

4.1 Licensees under Broadcast License Framework

Table 17 below shows the number of licensees approved by the Authority to carry out broadcasting services in the country as at 30th June 2023 and the category of services offered.

Table 17: Licensees under Broadcast License Framework

Indicator/Period	***Jun-23***	***Mar-23***	***Quarterly Variation (%)***	***Jun-22***
Broadcast Signal Distributor	2	2	0.0	2
Self-Provisioning Broadcast Signal Distributor	3	3	0.0	3
Commercial Free to Air TV	334	318	5.0	286
Community Free to Air TV	9	9	0.0	9
Commercial FM radio	201	190	5.8	160
Community FM Radio	74	67	10.4	53
Subscription Broadcasting Service	18	18	0.0	18
Subscription Management Service	4	4	0.0	4
Landing Rights Authorization	5	5	0.0	5
Total	**650**	**616**	**5.5**	**540**

Source: CA, Operators' Returns

4.2 Subscription to Broadcasting Services

As at 30th June 2023, the number of subscriptions to the broadcasting services was reported at 6.217 million representing an increase of 0.2 percent from 6.205 million recorded at the end of the previous quarter.

Table 18: Broadcasting Subscriptions

Indicator/Period		***Jun-23***	***Mar-23***	***Quartely Variation (%)***
DTT	Go TV	2,709,323	2,671,697	1.4
	Star Times	1,741,365	1,735,948	0.3
	Sub-Total	**4,450,688**	**4,407,645**	**1.0**
DTH	Azam	73,031	70,789	3.2
	MultiChoice (DSTV)	1,100,687	1,072,138	2.7
	Star Times	304,610	297,515	2.4
	Wananchi (Zuku)	231,067	300,471	-23.1
	Sub-Total	**1,709,395**	**1,740,913**	**-1.8**
Cable	Cable One	2,608	2,315	12.7
	CTN (MSA)	2,372	2,301	3.1
	Wananchi (ZUKU)	48,474	48,788	-0.6
	Hirani	3,600	3,600	0.0
	Matrucchaya	0	0	0.0
	Wadani Cable	95	95	0.0
	Sub-Total	**57,149**	**57,004**	0.3
Total		**6,217,232**	**6,205,562**	**0.2**

Source: CA, Operators' Returns

4.3 Average Pay TV Tariffs

Table 19: Average Pay TV Tariffs

Indictaor	*Tariff (Ksh.)*
Average Lowest Monthly Bouquet (KES)	249
Average Highest Monthly Bouquet (KES)	1,249

Source: CA, Operators' Returns,

5 FREQUENCY SPECTRUM MANAGEMENT

The Authority assigned frequencies to various operators to deploy 1,292 microwave links and processed the decommissioning of 1,336 fixed links. In addition, the Authority assigned 24 FM sound broadcasting frequencies to broadcasters, as shown in Table 20.

Table 20: Frequency Spectrum Management

Indicator/Period	*Apr-Jun 23*	*Jan-Mar 23*	*Quartely Variation (%)*	*FY 2022/23*	*FY 2021/22*	*Annual Variation (%)*
Microwave links Deployed	1,292	81	1,495.1	1,742	885	96.8
Fixed Links Decommissioned	1,336	23	5,708.7	1,568	734	113.6
FM Sound Broadcasting Frequencies Assigned	24	14	71.4	62	79	-21.5

Source: CA, Operators' Returns

6 ELECTRONIC TRANSACTIONS AND CYBER SPACE MANAGEMENT

6.3 Registered Domain Names

Table 21 illustrates various sub-domains, their respective users as at 30th June 2023.

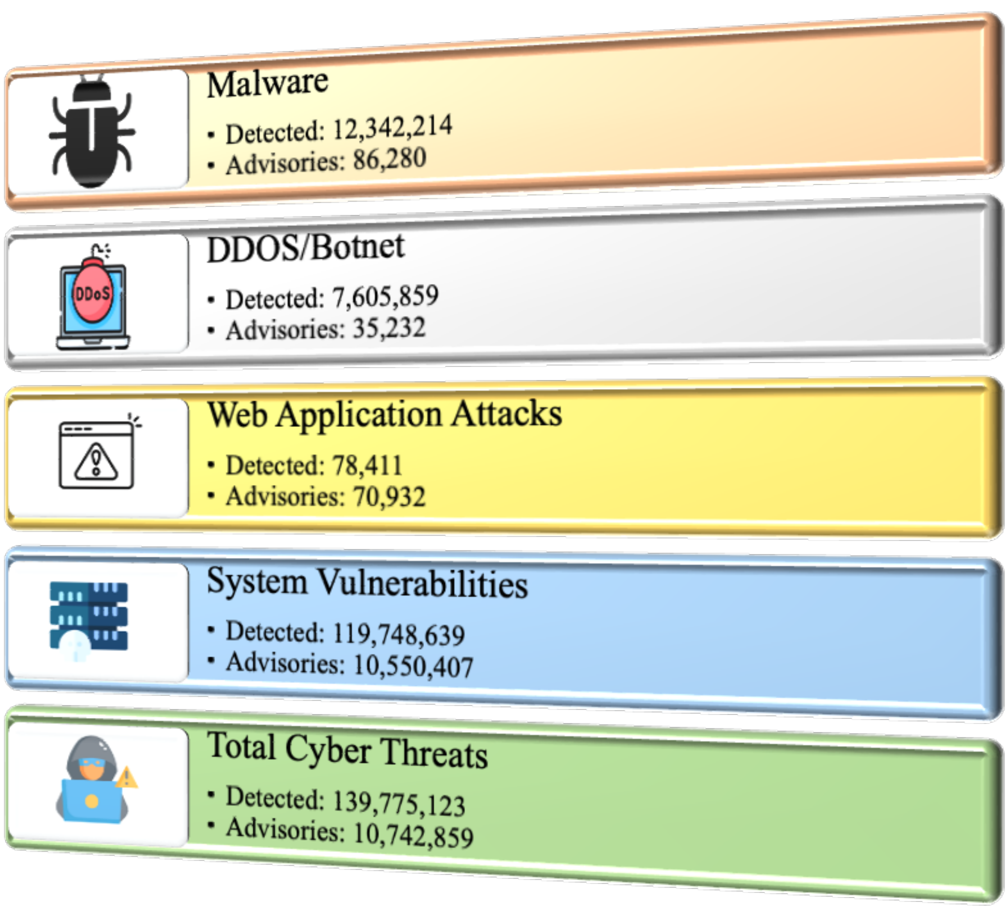
Table 21: .KE Domains

SUB-DOMAIN	USER	Number of Users	
		Jun-23	Jun-22
Total		**103,298**	**97,596**
CO.KE	Companies	90,868	86,983
.KE	Second level	4,717	4,473
OR.KE	Non-Profit-Making Organizations	1,975	1,891
ME.KE	Personal Websites and E-mail	2,697	1,247
AC.KE	Institutions of Higher Education	1,111	1,052
SC.KE	Lower and Middle-Level Institutions	1,019	1,111
GO.KE	Government Institutions	696	624
INFO.KE	Information	137	136
NE.KE	Personal Websites and E-mail	47	46
MOBI.KE	Mobile Content	31	33

Source: Kenic.

6.2 National Cyber Space Landscape

The trends in cyber threats detected and cyber threat advisories are as shown in Figure 14.



Source: National KE-CIRT/CC

Figure 17: Cybersecurity Landscape

7 CONCLUSION

The ICT sector experienced significant growth during the reference period as evidenced by the increase in mobile subscriptions, data/Internet subscriptions, traffic, and international Internet bandwidth. The Authority played a crucial role in enhancing the country's ICT infrastructure and services through licensing of new market entrants, assignment and allocation of scarce resources, and implementation of Universal Service Fund projects. Moreover, operators rolled out new infrastructure such as the PEACE cable and deployment of 5G network. These developments are expected to play a major role in meeting the country's increasing demand for broadband services as service providers continue to offer innovative services.