FIRST QUARTER SECTOR STATISTICS REPORT FOR THE FINANCIAL YEAR 2020/2021
(JULY - SEPTEMBER 2020)

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Disclaimer**:**
Although every effort has been made to ensure accuracy of the data contained in this report, the Authority is not liable for inaccuracies in any of the information contained in this report, which is contingent upon the operators'/service providers' compliance returns.

LIST OF ACRONYMS

B2B	Business to Business
B2C	Business to Customer
C2B	Customer to Business
C2G	Citizen to Government
DoS	Denial-of-Service
DTT	Digital Terrestrial Television
EASSy	Eastern Africa Submarine Cable Systems
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
MMS	Multimedia Services
MoU	Minutes of Use
MVNO	Mobile Virtual Network Operator
NCC	National Cyber-Security Centre
OTT	Over-The-Top
P2P	Person to Person
SEACOM	Sea Sub-Marine Communications Limited
SIM	Subscriber Identification Module
SMS	Short Messaging Service
TEAMS	The East African Marine System

PRELIMINARY NOTES

- *This report is based on data provided by the service providers in the ICT sector as per their license conditions.*
- *The information provided in this report is subject to review in case of any revisions or updates from the service providers.*
- *The Authority has published and shared a manual on definitions and methodologies of collecting and reporting Telecommunication indicators with service providers and the public for purposes of common understanding of ICT indicators. The manual was developed in consultation with the International Telecommunications Union (ITU) and it adheres to the set international standards. The Manual is available on CA website https://ca.go.ke/wp-content/uploads/2020/03/ICT-Indicators-Manual-2019-.pdf*

REPORT SUMMARY

The Sector Statistics Report for the First Quarter of the 2020/21 Financial Year provides an overview of the performance and trends in ICT sector for the period 1st July to 30th September 2020, on the following service categories:

- Mobile Telephony Services
- Fixed Telephony Services
- Data/Internet Services
- Cyber Security Landscape
- Frequency Spectrum Management

Table 0:Summary of Key ICT Indicators

INDICATORS	July-Sept 2020 Q1	Apr-Jun 2020 Q4	% Change Q1 to Q4
Mobile Subscriptions (Millions)	59.84	57.03	4.9
Fixed Line Subscriptions	17,650	19,100	-7.6
Fixed Wireless Subscriptions	992	998	-0.6
Fixed VoIP Subscriptions	47,038	49,064	-4.1
MOBILE MONEY TRANSFER SERVICES			
Number of Registered Mobile Money Agents	245,124	223,184	9.8
Number of Active Registered Mobile Money Subscriptions (Millions)	31.79	30.52	4.2
Value of C2B Transfers in Kshs. (Billions)	735.90	446.50	64.8
Value of B2C Transfers in Kshs. (Billions)	530.77	385.11	37.8
Value of B2B Transfers in Kshs. (Billions)	1,336.55	994.64	34.4
Value of G2C Transfers in Kshs (Billions)	7.49	-	-
Value of C2G Transfers in Kshs (Billions)	12.37	8.73	41.7
Volume of P2P Transfers (Millions)	713.96	559.04	27.7
Value of P2P Transfers in Kshs. (Billions)	896.50	722.55	24.1
Total value of Deposits in Kshs. (Billions)	888.11	634.03	40.1
VOICE TRAFFIC IN MINUTES			
Mobile On-Net Voice Traffic (Billions)	15.95	13.34	19.6
Mobile Off-Net Voice Traffic (Billions)	2.20	1.84	19.6
Mobile Network to Fixed Network (Million)	17.55	15.12	16.1
International Incoming Mobile Voice Traffic (Millions)	135.83	132.18	2.8
International Outgoing Mobile Voice Traffic (Millions)	121.41	117.40	3.4
Out-bound Roaming Incoming Voice Traffic (Minutes) (Millions)	74.15	69.63	6.5
Out-bound Roaming Outgoing Voice Traffic (Minutes) (Millions)	11.91	10.82	10.1
In-bound Roaming Incoming Voice Traffic (Minutes) (Millions)	46.26	57.86	-20,0
In-bound Roaming Outgoing Voice Traffic (Minutes) (Millions)	1.58	1.50	5.3
Total Local Fixed network traffic (Millions)	4.99	4.86	2.7
MOBILE SMS TRAFFIC			
SMS On-Net (Billions)	15.64	18.71	-16.4
SMS Off-Net (Billions)	1.35	1.38	-2.2
International Incoming SMS (Millions)	9.31	9.29	0.2
International Outgoing SMS (Millions)	8.74	8.03	8.8
Out-bound Roaming Incoming SMS (Millions)	31.79	27.69	14.8
Out-bound Roaming Outgoing SMS (Millions)	7.76	12.73	-39.0
In-bound Roaming Incoming SMS (Millions)	14.70	17.86	-17.7
In-bound Roaming Outgoing SMS (Millions)	0.71	0.65	9.2
DATA/INTERNET SERVICES			
Data/ Internet Total Subscriptions (Millions)	43.45	41.45	4.8
Total Broadband Subscriptions	24.63	22.69	8.6
Total Available International Bandwidth (Gbps)	7,875.54	7,392.96	6.5
Total Used International Bandwidth (Gbps)	3,697.62	3,238.21	14.2
CYBER SECURITY			
Total Cyber Threats Detected (Millions)	35.17	13.91	152.9
Total Cyber Threat Advisories	21,785	20,865	4.4

Total Population in Kenya (Millions)*	47.6	47.6	0.0

**** Source: 2019 Census Report***

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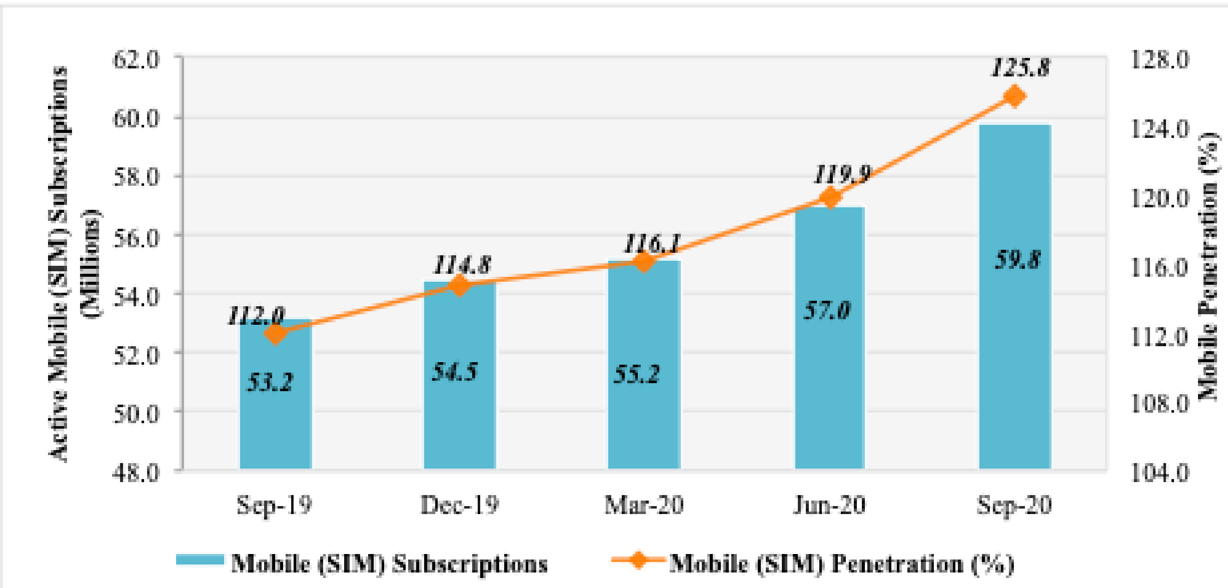
1 CELLULAR MOBILE SERVICES

1.1 Mobile Subscriptions

Kenya's ICT sector has continued to witness strong growth as the demand for ICT services continues to rise owing to the COVID-19 pandemic. As at the end of 30th September 2020, the number of active mobile subscriptions (SIM Cards) stood at 59.8 million from 57.0 million subscriptions reported in June 2020. This translated to mobile (SIM) penetration of 125.8 percent during the period under review.

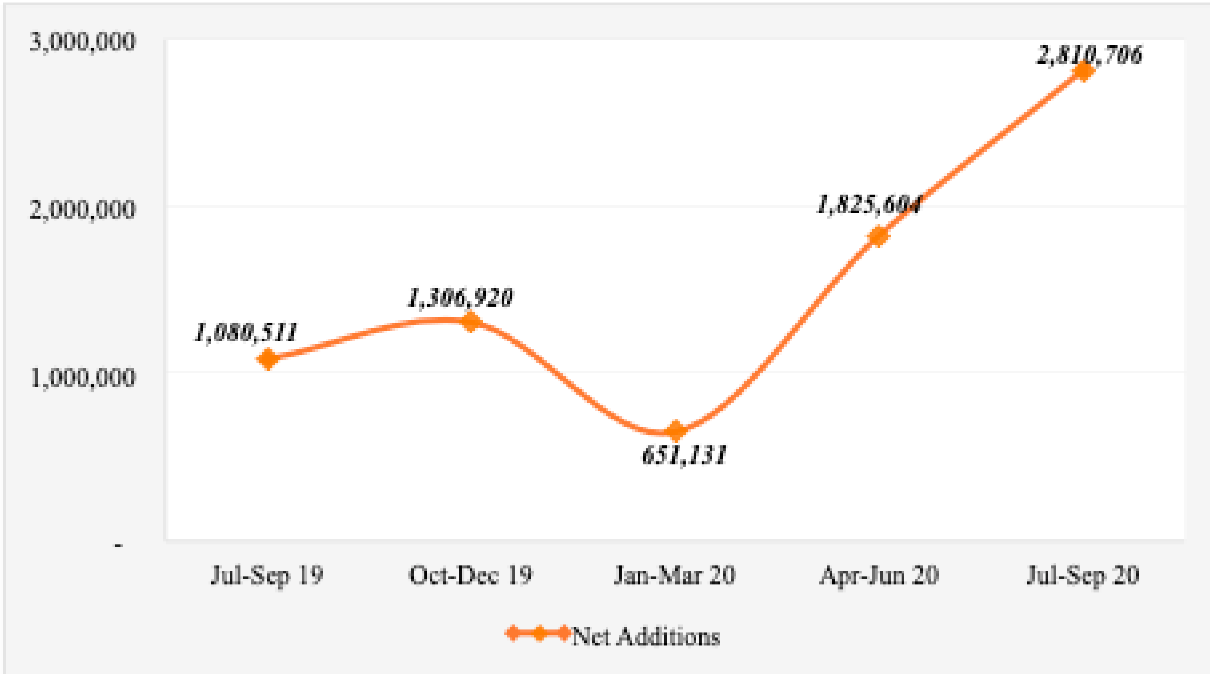
Figure 1 illustrates the trends in mobile subscriptions and penetration levels.



Source: CA, Operators' Returns

Figure 1: Mobile Subscriptions and Penetration

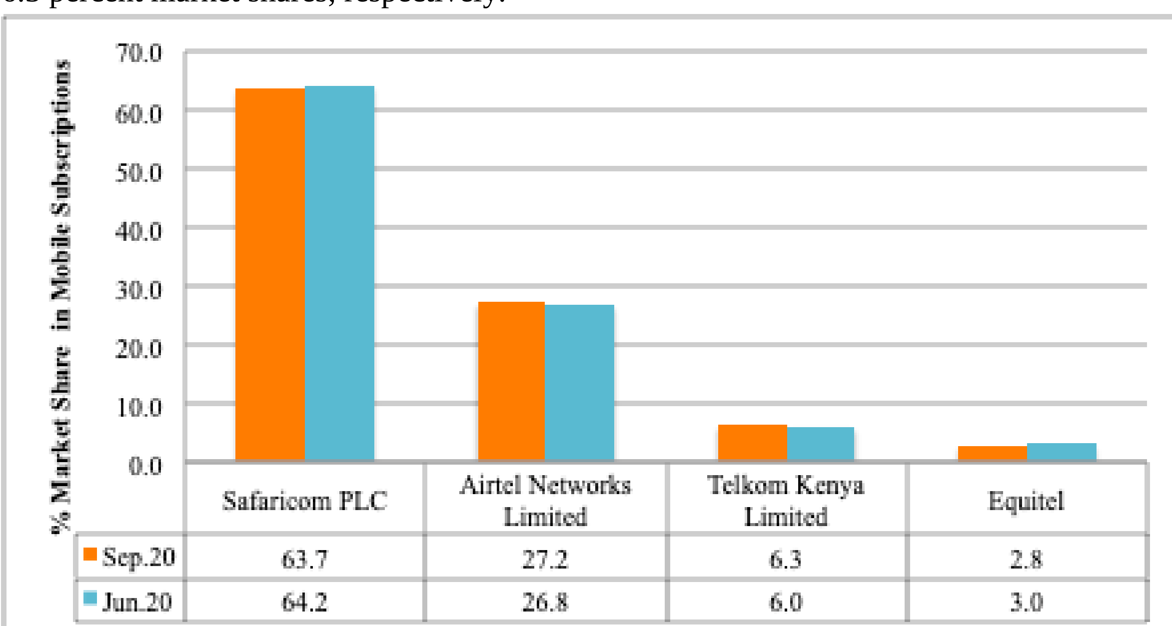
During the quarter under review, there were 2.8 million additional SIM cards, up from 1.8 million additions recorded by end of June 2020. The substantial growth is attributed to smartphones device financing service campaign run by Safaricom PLC dubbed *"Lipa Mdogo Mdogo"* which began on 28th July 2020 and was aimed at acquisition of new customers. Further, the revision of the on-net PAYG rate by Airtel form KES 2.3/min to KES 0.57/min for all Tubonge packs could also have enticed new customers.



Source: CA, Operators' Returns

Figure 2: Net Additions

As illustrated in Figure 3, Safaricom PLC market share in mobile subscriptions dropped by 0.5 percentage points to stand at 63.7 percent during the quarter under review. Similarly, Equitel lost by 0.2 percentage points to record a market share of 2.8 percent. On the Contrary, Airtel Networks Ltd and Telkom Kenya Ltd gained by 0.4 and 0.3 percentage points to post 27.2 and 6.3 percent market shares, respectively.



Source: CA, Operators' Returns

Figure 3: Market Shares in Mobile Subscriptions per Operator

Table 1 provides the number of active mobile (SIM) subscriptions by contract type and operator.

Table 1: Mobile Subscriptions per Operator by Contract Type and Operator

Operator Name /Indicator	***Sep-20***			***Jun-20***			***Quarterly Variation (%)***
	Pre-paid	**Post-paid**	**Total**	**Pre-paid**	**Post-paid**	**Total**	
Total Mobile Subscriptions	**58,619,571**	**1,223,367**	**59,842,938**	**55,890,070**	**1,142,162**	**57,032,232**	**4.9**
Safaricom PLC	37,090,704	1,053,709	38,144,413	35,587,262	999,874	**36,587,136**	4.3
Airtel Networks Limited	16,161,174	106,218	16,267,392	15,201,347	106,075	**15,307,422**	6.3
Telkom Kenya Limited	3,702,906	63,440	3,766,346	3,405,149	36,213	**3,441,362**	9.4
Equitel	1,664,787	-	1,664,787	1,696,312	-	**1,696,312**	-1.9

Source: CA, Operators' Returns

1.2 Mobile Money Services

As at 30th September 2020, active mobile money transfer subscriptions and mobile money agents stood at 31.8 million and 245,124 respectively. As was the case last quarter, the values transacted on mobile money platforms continued to increase with the adoption of cashless payments aimed at curbing the spread of COVID-19.

Table 2 shows a summary of mobile money transfer services per operator.

Table 2: Mobile Money Transfer Services

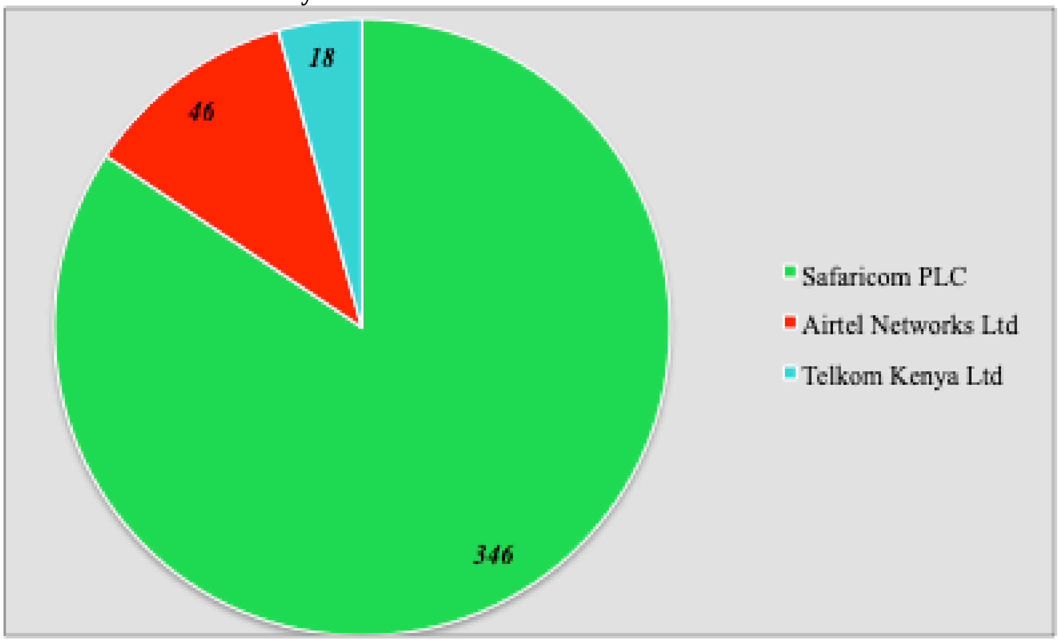
Mobile Money Brand/Indicator	**M-Pesa**	**Airtel Money**	**T-Kash**	**Total**
Agents	215,367	25,206	4,551	**245,124**
Active Registered Mobile Money Subscriptions	31,417,232	341,306	32,875	**31,791,413**
Value of C2B Transfers in KShs.	735,011,138,819	852,638,530	39,624,602	**735,903,401,951**
Value of B2C Transfers in Kshs	530,472,200,493	269,685,920	29,584,973	**530,771,471,386**
Value of B2B Transfers in Kshs.	1,336,552,782,688	-	-	**1,336,552,782,688**
Value of G2C Transfers in Kshs	7,489,510,294	-	**-**	**7,489,510,294**
Value of C2GTransfers in Kshs.	12,346,527,835	18,828,778	**-**	**12,365,356,613**
Volume of P2P Transfers	712,764,895	1,055,274	135,688	**713,955,857**
Value of P2PTransfers in Kshs.	895,920,603,089	488,782,396	86,031,897	**896,495,417,382**
Total value of Deposits in Kshs	886,157,500,354	1,928,947,106	20,958,476	**888,107,405,936**

Source: CA, Operators' Returns,

1.3 Mobile Number Portability

Figure 4 shows the trends in mobile number portability by operator with Safaricom PLC recording the highest number of in-ports at 346.

Mobile Number Portability



Source: CA, Operators' Returns

Figure 4: Mobile Number Portability

1.4 Mobile Traffic and Usage Pattern

1.4.1 Local Voice Traffic

During the review period, the total local mobile voice traffic grew by 19.6 percent to stand at 18.2 billion from 15.2 billion minutes recorded last quarter. The significant growth is attributed to Safaricom PLC's promotion dubbed "*Top Up Voice Promotion*" that enabled prepaid subscribers to make discounted calls based on their minutes of use per day. Further, the operator offered a promotion called "*Jiachilie bundle promotion*" that enables subscribers who spend KSh 100 or less on calls in a month to make more calls for less. On-net traffic increased by 19.6 percent to stand at 16.0 billion minutes from 13.3 billion minutes posted in the last quarter. Equally, off-net and mobile to fixed traffic grew to record 2.2 billion and 17.6 million minutes, respectively.

Table 3 shows a summary of local mobile voice traffic.

Table 3: Local Mobile Voice Traffic in Minutes

Local Mobile Voice Traffic (Minutes)	*Jul-Sep 20*	*Apr-Jun 20*	*Quarterly Variation (%)*
Total Domestic Voice Traffic	**18,170,358,095**	**15,190,399,010**	19.6
Own Network – Own Network	15,951,044,360	13,337,462,149	19.6
Own Network to Other Mobile Networks	2,201,761,409	1,837,820,237	19.8
Mobile Network to Fixed Network	17,552,326	15,116,624	16.1

Source: CA, Operators' Returns

1.4.2 Voice Traffic by Operator

The local traffic volumes and the respective market shares by service provider are outlined in Table 4.

Table 4: Local Mobile Voice Traffic by Operator

Period	*Name of Operator /Indicator*	*Safaricom PLC*	*Airtel Networks Kenya Limited*	*Telkom Kenya Limited*	*Equitel*	*Total*
Jul-Sep 20	On-net	11,127,308,928	4,493,918,359	327,239,102	2,577,971	15,951,044,360
	Off-net	623,340,771	1,332,862,563	211,805,929	24,752,146	2,201,761,409
	Total	**11,750,649,699**	**5,826,780,922**	**539,045,031**	**27,330,117**	**18,152,805,769**
	Market share (%)	64.7	32.1	3.0	0.2	
Apr-Jun 20	On-net	8,668,565,811	4,336,270,714	330,026,478	2,599,146	13,337,462,149
	Off-net	482,141,260	1,138,697,023	194,236,480	22,745,474	1,837,820,237
	Total	**9,150,707,071**	**5,474,967,737**	**524,262,958**	**25,344,620**	**15,175,282,386**
	Market share (%)	60.3	36.1	3.5	0.2	

Source: CA, Operators' Returns

The average minutes of use per call for on-net and off-net local mobile voice traffic stood at 1.7 and 1.0 minutes, respectively. Airtel Networks Limited subscribers recorded the highest duration of on-net minutes per call at 3.4 minutes, whereas Equitel recorded the highest number of off-net minutes per call at 1.3.

Table 5 presents average Minutes of Use per Call per operator.

Table 5: Minutes of Use per Call per Operator

	Jul-Sep 20		*Apr-Jun 20*	
Operator	***On-net***	***Off-net***	***On-net***	***Off-net***
Total	**1.7**	**1.0**	**1.7**	**1.1**
Safaricom PLC	1.4	0.9	1.3	0.9
Airtel networks Limited	3.4	1.0	4.1	1.2
Telkom Kenya Limited	1.9	1.2	2.2	1.4
Equitel	2.0	1.3	1.7	1.3

Source: CA, Operators' Returns

1.4.3 Domestic Short Messaging Service (SMS) Traffic

The total number of short messages sent during the period, July-September 2020 stood at 17.0 billion, down from 20.1 billion messages sent during the preceding period. The significant drop is attributed to conclusion of the "*SMS Bundle Promotion"* by Safaricom PLC, which ran during the previous quarter.

SMS traffic and the corresponding market shares per operator are as shown in Table 6.

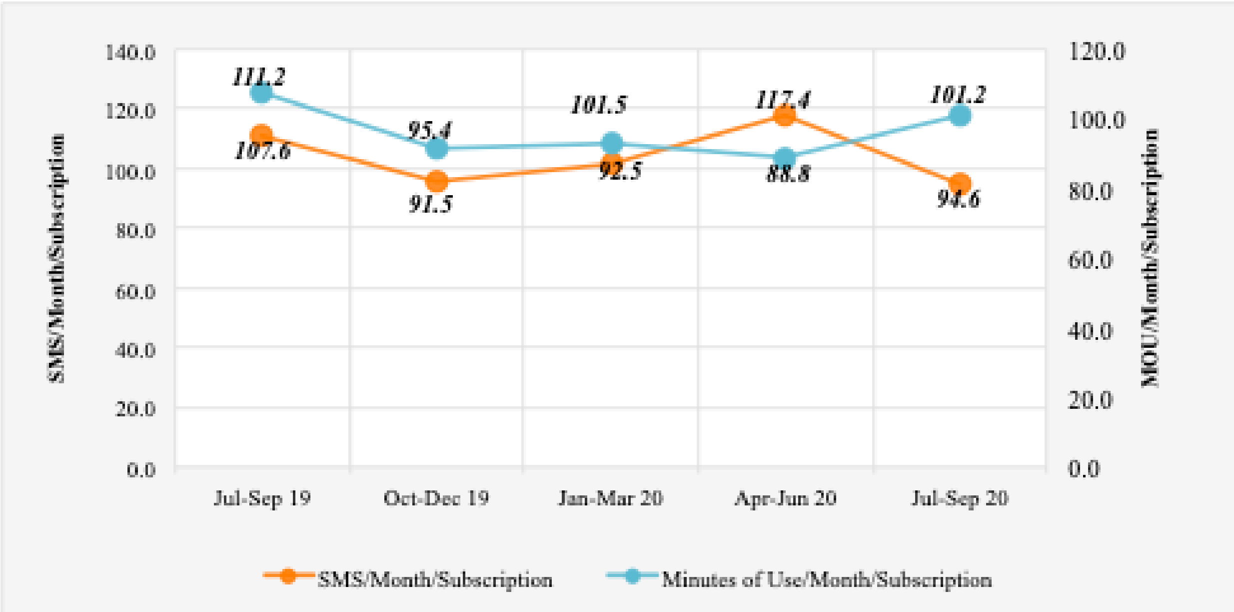
Table 6: Local Mobile SMS Traffic by Operator

Period	***Name of Operator /Indicator***	***Safaricom PLC***	***Airtel Networks Kenya Limited***	***Telkom Kenya Limited***	***Equitel***	***Total***
Jul-Sep 20	On-net	15,354,488,945	265,492,097	12,719,175	3,344,630	**15,636,044,847**
	Off-net	637,175,501	632,149,693	74,685,591	6,870,143	**1,350,880,928**
	Total	**15,991,664,446**	**897,641,790**	**87,404,766**	**10,214,733**	**16,986,925,775**
	Market share (%)	94.1	5.3	0.5	0.1	
Apr-Jun 20	On-net	18,422,694,999	274,698,011	12,069,402	3,834,948	**18,713,297,360**
	Off-net	666,880,055	626,774,628	76,215,596	6,898,838	**1,376,769,117**
	Total	**19,089,575,054**	**901,472,639**	**88,248,998**	**10,733,786**	**20,090,066,477**
	Market share (%)	95.0	4.5	0.4	0.1	

Source: CA, Operators' Returns

As illustrated in Figure 5, the number of short messages sent per Subscription per Month declined to 94.6 from 117.4 messages sent last quarter. The significant drop is attributed to conclusion of the "*SMS Bundle Promotion"* by Safaricom PLC, which ran during the previous quarter.

On the other hand, Minutes of Use per Subscription per Month increased to 101.2 from 88.8 minutes registered in the preceding quarter. The significant growth is attributed to Safaricom PLC promotion dubbed "*Top Up Voice Promotion*" that enabled prepaid subscribers to make discounted calls based on their minutes of use per day. Further, the operator offered a promotion called "*Jiachilie bundle promotion*" that enables subscribers who spend KSh 100 or less on calls in a month to make more calls for less.



Source: CA, Operators' Returns

Figure 5: MoU/Month/Subscriptions vs SMS/Month/Subscription

1.4.4 International Mobile Traffic

Total traffic originating from other countries increased by 2.8 percent to stand at 135.8 million minutes, while traffic terminating to other countries grew by 3.4 percent to post 121.4 million minutes. The volume of SMS originating from, and terminating to foreign networks grew during the reference period to record 9.3 million and 8.7 million messages, respectively.

Table 7 provides the trends in international mobile traffic.

Table 7: International Mobile Traffic

Traffic	***Region***	***Jul-Sep 20***	***Apr-Jun 20***	***Quarterly Variation (%)***
International Incoming Mobile Voice Minutes	*EAC*	79,876,689	75,028,102	6.5
	Others	55,955,682	57,153,793	-2.1
	Total	**135,832,371**	**132,181,895**	2.8
International Outgoing Mobile Voice Minutes	*EAC*	58,093,028	54,017,563	7.5
	Others	63,321,292	63,377,586	-0.1
	Total	**121,414,320**	**117,395,149**	3.4
International Incoming Mobile SMS		9,312,674	9,291,689	0.2
International Outgoing Mobile SMS		8,735,589	8,029,641	8.8

Source: CA, Operators' Returns

1.4.5 Roaming Traffic

Table 8 and Table 9 outline the trends in Out-bound and In-bound Roaming voice, SMS and data services.

Table 8: Out-bound Roaming Traffic

Country / Indicator	*Incoming Voice (Minutes)*	*Incoming SMS*	*Outgoing Voice (Minutes)*	*Outgoing SMS*	*Data Volumes (MB)*
Uganda	64,586,489	3,779,336	5,292,252	3,830,685	9,977,588
Tanzania	270,138	8,438,079	287,125	1,204,138	807,446
Rwanda	4,074,195	537,079	372,958	267,599	410,172
Burundi	2,944	303,876	1,359	31,175	1,276
S. Sudan	4,150,562	643,278	990,517	828,459	76,625
Others	1,061,906	18,087,295	4,969,538	1,593,158	9,344,719
Total	**74,146,234**	**31,788,943**	**11,913,749**	**7,755,214**	**20,617,826**

Source: CA, Operators' Returns

Table 9: In-bound Roaming Traffic

Country / Indicator	*Incoming Voice (Minutes)*	*Incoming SMS*	*Outgoing Voice (Minutes)*	*Outgoing SMS*	*Data Volumes (MB)*
Uganda	34,371,228	3,483,989	538,598	252,972	141,653
Tanzania	50,633	1,218,631	62,773	50,997	69,813
Rwanda	7,610,332	248,779	144,560	22,738	52,506
Burundi	70	30,700	1,119	101	40
S. Sudan	3,862,627	867,921	66,907	133,811	19,424
Others	365,242	8,850,297	768,907	252,037	20,792,204
Total	**46,260,132**	**14,700,317**	**1,582,864**	**712,656**	**21,075,640**

Source: CA, Operators' Returns

2 FIXED TELEPHONE SERVICE

2.1 Fixed Network Subscriptions

As has been the trend over the recent past, fixed subscriptions maintained a downward trend due to reduced expansion of fixed networks by operators and increased preference for mobile services by consumers.

Fixed network subscriptions registered a decline during the review period as illustrated in Table 10.

Table 10: Fixed Network Subscriptions

Subscriptions	*Sep-20*	*Jun-20*	*Quarterly Variation (%)*
Fixed Line	17,650	19,100	-7.6
Fixed Wireless	992	998	-0.6
Fixed VoIP	47,038	49,064	-4.1

Source: CA, Operators' Returns

2.2 Fixed Network Traffic

Total local fixed voice network traffic grew by 2.7 percent during the period under review to record 4.9 million minutes, from 4.8 million minutes reported last quarter.

Table 11: Local Fixed Network Traffic in Minutes

Local Fixed Network Traffic	*Jul-Sep 20*	*Apr-Jun 20*	*Quarterly Variation (%)*
Fixed-Fixed	167,134	156,290	6.9
Fixed Wireless-Fixed Wireless	235,757	197,297	19.5
Fixed to Mobile	4,586,564	4,505,416	1.8
Total Local Fixed Network Traffic	**4,989,455**	**4,859,003**	**2.7**

Source: CA, Operators' Returns

2.3 International Fixed Voice Traffic

International Outgoing Fixed Network Voice Traffic declined by 37.2 percent to post 5.6 million minutes as consumers increased their preference for fixed VoIP which is less costly as is mostly offered as a value added service under data/internet services.

Table 12 shows trends in international fixed voice network traffic.

Table 12: International Fixed Voice Network Traffic

International Fixed Network traffic	*Jul-Sep 20*	*Apr-Jun 20*	*Quarterly Variation (%)*
International Incoming Fixed Network Voice Traffic	5,686,332	4,386,451	29.6
International Outgoing Fixed Network Voice Traffic	2,093,327	3,334,865	-37.2
International Outgoing Fixed VoIP Traffic	885,672	459,941	92.6

Source: CA, Operators' Returns

3 DATA/INTERNET AND BROADBAND SERVICES

3.1 Data and Broadband Services

As at the end of the first quarter of 2020/21 Financial Year, the Internet/data market experienced positive growth with rising dependence on digital platforms for work, learning, healthcare, shopping and entertainment. The total data/Internet subscriptions rose by 4.8 percent to 43.5 million, from 41.5 million subscriptions reported last quarter with mobile data subscriptions accounting for 98.5 per cent of the total subscriptions.

Table 13 provides a breakdown of data/internet subscriptions based on the type of technology.

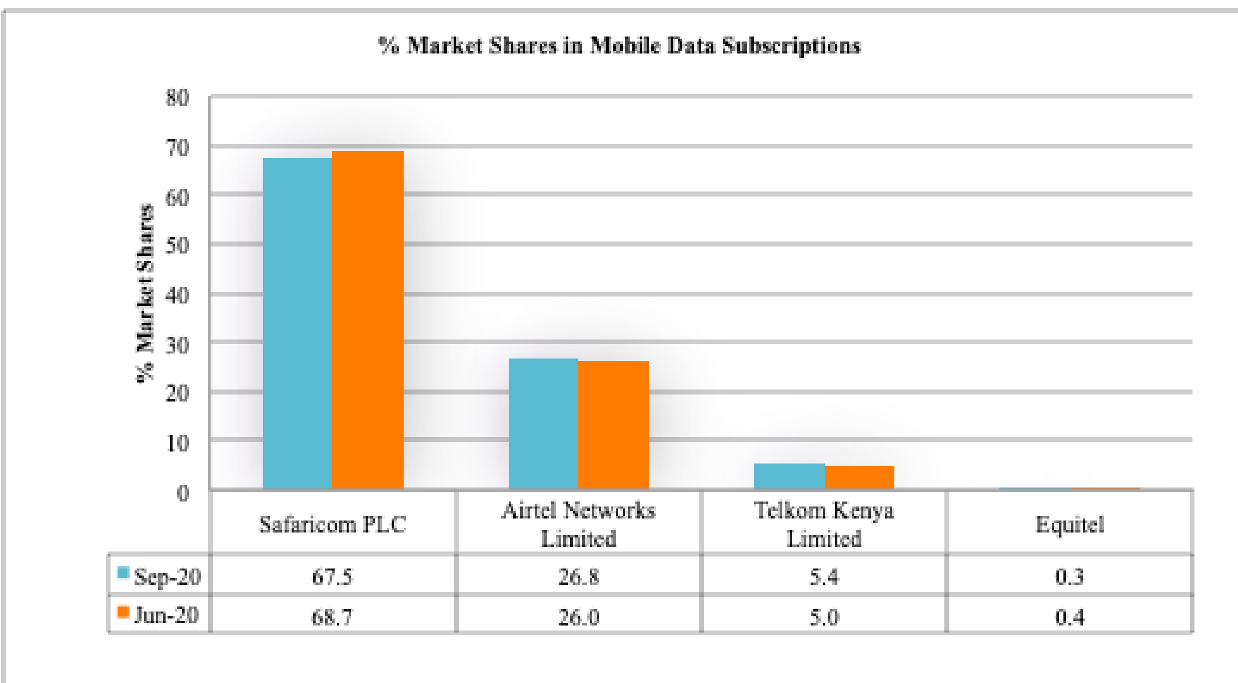
Table 13: Data/Internet Subscriptions

Indicator/Period	*Jul-Sep 20*	*Apr-Jun 20*	*Quarterly Variation (%)*
Total Wireless Subscriptions	**42,899,145**	**40,922,499**	4.8
Mobile Data Subscriptions	42,806,044	40,832,642	4.8
Terrestrial Wireless Data Subscribers	91,826	88,159	4.2
Satellite Data Subscribers	1,275	1,698	-24.9
Total Fixed (Wired) Subscriptions	**551,715**	**529,722**	4.2
Fixed DSL Data Subscribers (Copper)	995	997	-0.2
Fixed Fibre Optic Data Subscribers	373,835	351,332	6.4
Fixed Cable Modem Subscribers	176,081	176,589	-0.3
Other Fixed Data Subscribers (e.g. Radio)	804	804	0.0
Total Subscriptions	**43,450,860**	**41,452,221**	4.8

Source: CA, Operators' Returns, Provisional data for Jamii Telkom

3.2 Market Shares in Mobile Data/Internet Subscriptions by Operator

During the period July to September 2020, Safaricom PLC lost 1.2 percentage points in market shares for mobile data subscriptions to record the highest share at 67.5 per cent. Similarly, Equitel lost 0.1 percentage point to post the least market share of 0.3 per cent. On the other hand, Airtel Networks Limited and Telkom Kenya Limited gained by 0.8 and 0.4 percentage points to record 26.8 and 5.4 per cent shares, respectively.



Source: CA, Operators' Returns

Figure 6: Market Shares in Mobile Data Subscriptions per Operator

3.3 Fixed Data/Internet Subscriptions by Speed

As has been the trend quarter-to-quarter, fibre-to-the-office/home data/Internet subscriptions recorded the highest number of broadband subscriptions, whereas fixed wireless recorded the highest number of narrowband subscriptions during the reference period.

Table 14 shows the breakdown of fixed data/internet subscriptions by speed and technology.

Table 14: Fixed Data/Internet Subscriptions by Speed and Technology

Internet Technology/Speeds	*<256Kbps*	*=>256Kbps < 2Mbps*	*=>2 Mbps <10 Mbps*	*=>10Mbps <30 Mbps*	*=>30 Mbps <100Mbps*	*=>100 Mbps*	*Totals*
Cable Modem	-	-	132,915	19,284	23,257	625	176,081
Copper (DSL)	35	258	649	53	-	-	995
FTTH/O	23	3,616	164,289	109,424	94,467	2,016	373,835
Fixed Wireless	9,965	6,491	74,212	1,026	132	-	91,826
Satellite	45	426	667	137	-	-	1,275
Other Fixed	0	105	355	198	84	62	804
Totals	**10,068**	**10,896**	**373,087**	**130,122**	**117,940**	**2,703**	**644,816**

Source: CA, Operators' Returns

Table 15 shows Fixed Data Subscriptions per Service Provider and their respective market shares

Table 15: Fixed Data Subscriptions per Service Provider

Name of service Provider	***Number of data/Internet subscriptions***	***Percentage Market share***
Safaricom PLC	229,406	35.6
*Wananchi Group (Kenya) Ltd**	202,237	31.4
Jamii Telecommunications Ltd	127,914	19.8
Poa Internet Kenya Ltd	56,824	8.8
Mawingu Networks Ltd	11,087	1.7
Internet Solutions Kenya Ltd	9,228	1.4
Telkom Kenya Ltd	4,572	0.7
Frontier Optical Networks Ltd	487	0.1
Mobile Telephone Network (MTN)	474	0.1
Other Fixed Service providers	2,587	0.4

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

3.4 Broadband Services

3.4.1 Mobile Broadband

During the review period, the total broadband subscriptions increased by 8.5 percent to record 24.6 million, from 22.7 million subscriptions posted during the preceding quarter. Mobile broadband subscriptions accounted for 97.4 percent of the total broadband subscriptions.

The volume of mobile data consumed grew by 7.7 percent to record 142,640,432 GB during the review period.

Table 16: Broadband Subscriptions

Indicator/Period	*Jul-Sep 20*	*Apr-Jun 20*	*Quarterly Variation (%)*
Total Broadband Subscriptions	**24,633,054**	**22,693,715**	**8.5**
Total Fixed Broadband Subscriptions	**634,748**	**609,611**	**4.1**
3G Broadband Subscriptions	14,596,041	14,074,018	3.7
4G Broadband Subscriptions	9,402,265	8,010,086	17.4
Total Mobile Broadband Subscriptions	**23,998,306**	**22,084,104**	**8.7**
Consumed Mobile Data Volumes (GB)	142,640,432	132,397,651	7.7

Source: CA, Operators' Returns

3.4.2 Fixed Broadband Subscriptions

Table 17 illustrates broadband subscriptions by speed and technology

Table 17: Fixed Broadband Subscriptions by Speed and Technology

Internet Technology/Speeds	*=>256Kbps < 2Mbps*	*=>2 Mbps <10 Mbps*	*=>10Mbps <30 Mbps*	*=>30 Mbps <100Mbps*	*=>100Mbps*	*Totals*
Cable Modem	-	132,915	19,284	23,257	625	176,081
Copper (DSL)	258	649	53	0	0	960
FTTH/O	3,616	164,289	109,424	94,467	2,016	373,812
Fixed Wireless	6,491	74,212	1,026	132	-	81,861
Satellite	426	667	137	-	-	1,230
Other Fixed	105	355	198	84	62	804
Totals	**10,896**	**373,087**	**130,122**	**117,940**	**2,703**	**634,748**

Source: CA, Operators' Returns

3.5 International Bandwidth

Total undersea bandwidth capacity leased in the country during the reference period rose by 6.5 percent to stand at 7,875.52 Gbps, from 7,392.96 Gbps recorded last quarter. EASSy cable and Lion 2 increased their lit capacity during the reference period in anticipation for increased demand, following COVID 19 that has resulted to increased online activities.

The undersea bandwidth capacity utilized within the country grew to stand at 2,329.35 Gbps during the first quarter. Similarly, undersea bandwidth capacity sold to other countries increased to record 1,365.66 Gbps. The utilized satellite bandwidth on the other hand remained at 2.61 Gbps.

The trends in International Lit/Equip and Utilized Bandwidth are as shown in Table 16.

Table 18: International Internet Bandwidth (Gbps)

Indicator/ Operator		*Jul-Sep 20*		*Apr-Jun 20*	*Quarterly Variation (%)*
Total Available (Lit/Equip) Bandwidth Capacity		**7,875.54**		**7,392.96**	**6.5**
Undersea Bandwidth Capacity	***SEACOM***	2,940.00		2,940.00	0.00
	TEAMS	1,618.00		1,618.00	0.00
	EASSY	2,940.00		2,520.00	16.67
	Lion 2	372.06		308.48	20.61
Satellite Bandwidth Capacity		**5.48**		**5.48**	**0.0**
Utilized Bandwidth in Gbps					
Total Utilized Bandwidth Capacity					
Undersea Bandwidth Capacity	***Sold In Kenya***	***Sold to other Countries***	***Sold In Kenya***	***Sold to other Countries***	
	2,329.35	1,365.66	2,002.11	1,233.49	14.20
Satellite Internet Capacity		**2.61**		**2.61**	**0.0**

Source: CA, Operators' Returns

3.6 Registered Domain Names

During the period ending 30th September 2020, the number of registered domains dropped to 95,101, from 95,974 domains reported as at 30th June 2020.

Table 19 illustrates the various sub-domains and their respective users.

Table 19: .KE Domains

SUB-DOMAIN	***USE***	***Jul-Sep 20***		***Apr-Jun 20***	
		Domains	**% Users**	**Domains**	**% Users**
CO.KE	Companies	90,494	95.2	91,445	95.3
OR.KE	Non-Profit-Making Organizations	1,860	2.0	1,844	1.9
AC.KE	Institutions of Higher Education	912	1.0	907	0.9
SC.KE	Lower and Middle Level Institutions	815	0.9	759	0.8
NE.KE	Personal Websites and E-mail	52	0.1	51	0.1
ME.KE	Personal Websites and E-mail	179	0.2	185	0.2
MOBI.KE	Mobile Content	40	0.0	41	0.0
INFO.KE	Information	152	0.2	153	0.2
GO.KE	Government Institutions	597	0.6	589	0.6
Total		**95,101**		**95,974**	

Source: CA, Operators' Returns

4 National Cyber Security Landscape

4.1 Cyber Threat Statistics

The National KE-CIRT/CC detected 35.2 million cyber threat events, which was a 152.9 percent increase from the 13.9 million threat events detected in the previous quarter. This increase in cyber threat attacks detected was attributed to the move to working remotely and increased uptake of e-commerce in response to the COVID-19 pandemic. This increased vulnerability of organizations and businesses to cyber criminals who targeted remote working systems and tools, and e-commerce sites for fraudulent gains. During this period, there was also an increase in online abuse and online fraud cases reported to the National KE-CIRT/CC.

The period witnessed a decrease in impersonation cases, which is attributed to increased awareness campaigns to the public across the print media, television and social media platforms, geared towards protecting digital footprints, as well as the operationalization of the Computer Misuse and Cybercrimes Act, which is a deterrent measure. Child abuse cases remained at a constant as majority of children were still home due to the pandemic with a possibility of unsupervised access to the Internet for education and socialization purposes. Cyber bullying and Internet trolling cases were also on the rise, with these being used for malicious intent across Kenyan domains and social media platforms.

National KE-CIRT/CC received 354 requests from investigative agencies. This was a 36.15% increase in requests received as compared to 260 in the previous period April - June 2020. During this period, there was an increase in child online abuse, online abuse and online fraud. Of these requests, 1.7% related to child online abuse, 36.2% being attributed to online abuse and 27.4% being linked to online fraud.

Table 20 illustrates the statistics on the cyber threats detected by the National KE-CIRT/CC.

Table 20: Cyber Threats Detected

Cyber Threat	*Jul-Sep 20*	*Apr-Jun 20*	*Quarterly Variation (%)*
Totals	**35,173,937**	**13,909,069**	152.9
Malware	31,842,635	12,508,275	154.6
DDOS/Botnet	1,245,451	267,931	364.8
Web Application Attacks	2,057,369	1,102,840	86.6
System vulnerabilities	28,482	30,023	-5.1

Source: National KE-CIRT/CC

In response to the cyber threat events detected, the National KE-CIRT/CC issued cyber threat advisories to the affected organizations as part of its cyber-security management role as illustrated in Table 21.

Table 21: Cyber Threats Advisories

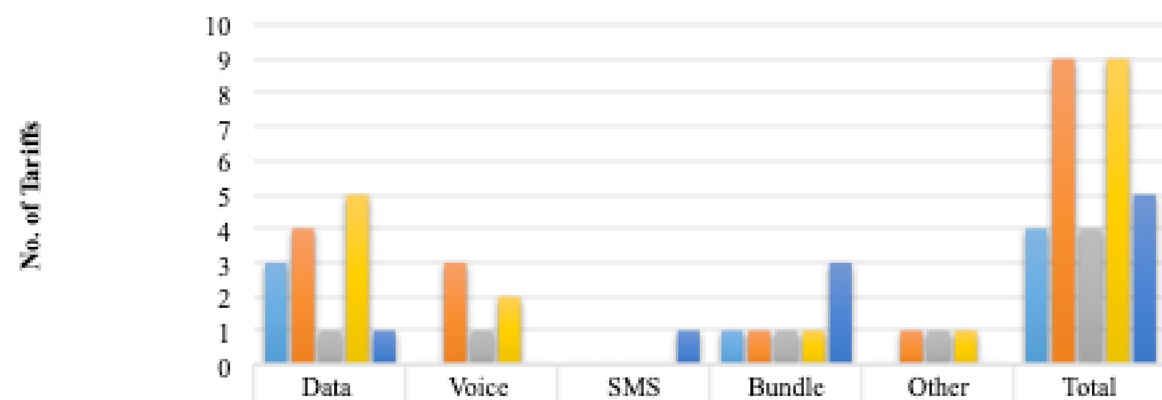
Cyber Threat Advisories	*Jul-Sep 20*	*Apr-Jun 20*	*Quarterly Variation (%)*
Totals	**21,785**	**20,865**	**4.4**
Malware	1,003	2,398	-58.2
DDOS/Botnet	326	457	-28.7
Web Application Attacks	305	204	49.5
System Vulnerabilities	19,674	17,364	13.3
Others	477	442	7.9

Source: National KE-CIRT/CC

5 TARIFFS, PROMOTIONS AND SPECIAL OFFERS

During the quarter under review, the Authority received 16 applications for new tariffs, and promotions & special offers, which represented a 6.7 percent growth in applications received from the previous quarter. Further, the Authority received 3 applications revising existing tariffs, and promotions & special offers during the first quarter of the FY 2020/21.

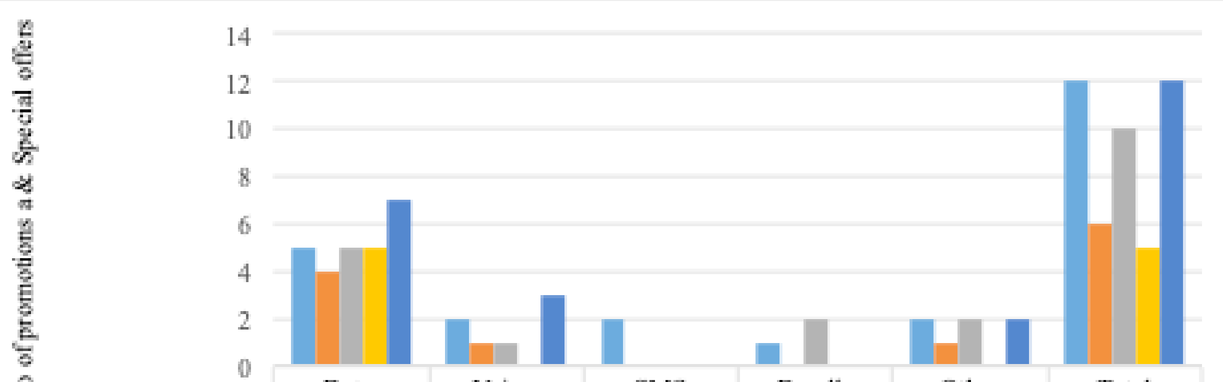
A detailed distribution of new applications for tariffs, and promotions & special offers over the past five quarters is illustrated in Figures 7 and 8, respectively.



	Data	Voice	SMS	Bundle	Other	Total
July - Sept 2020	3	0	0	1	0	4
April- June 2020	4	3	0	1	1	9
Jan - March 2020	1	1	0	1	1	4
Oct- Dec 2019	5	2	0	1	1	9
July - Sept 2019	1	0	1	3	0	5

Source: CA, filed tariffs, promotions and special offers

Figure 7: Tariffs



	Data	Voice	SMS	Bundle	Other	Total
July - Sept 2020	5	2	2	1	2	12
April- June 2020	4	1	0	0	1	6
Jan - March 2020	5	1	0	2	2	10
Oct- Dec 2019	5	0	0	0	0	5
July - Sept 2019	7	3	0	0	2	12

Source: CA, filed tariffs, promotions and special offers

Figure 8: Promotions and Special Offers

6 FREQUENCY SPECTRUM MANAGEMENT

Radio frequency spectrum is a national resource that should be managed and utilized effectively and efficiently. The Authority, while exercising its mandate has to plan, allocate, assign, issue frequency licenses, monitor, carry out surveillance and coordinate the usage of the radio frequency spectrum resource to ensure its optimal & efficient utilization. A specific report on spectrum management activities, with respect to various radio communication services, undertaken during the review period, is attached to this report as **Annex 1.**

7 CONCLUSION

The ICT sector is expected to continue evolving rapidly with tech innovation, digital transformation and enhanced connectivity in the country. Going digital is now more important than ever with the COVID-19 pandemic changing how we live, work and interact with one another. The uptake of mobile services is expected to rise with the presence of affordable smartphones in the country.

As the pandemic continues to ravage the world, the importance of a robust and inclusive digital economy, together with reliable broadband services is imperative. The country's Internet bandwidth consumption has and will continue to grow immensely as the demand grows for high speed Internet with online consumer behavior change. The Government launched in October the construction of the 630-kilometre high-speed fibre optic cable that will ease communication in remote areas as well as open up the northern region part of Kenya. In addition, the project will benefit communities, government entities and business operating in Northern part of Kenya.

ANNEX 1: FREQUENCY SPECTRUM MANAGEMENT REPORT

OVERVIEW

Radio frequency spectrum is a national resource that should be managed and utilized effectively and efficiently. The Communications Authority of Kenya (CA) while exercising its mandate has to plan, allocate, assign, issue frequency licenses, monitor, carry out surveillance and coordinate the usage of the radio frequency spectrum resource to ensure its optimal & efficient utilization.

This report presents spectrum management activities with respect to various radio communication services in the 1st quarter of 2020/21 Financial Year.

SECTION 1: FREQUENCY PLANNING

I. Frequency Assignment Activities

i. Fixed Links

To facilitate provision of communications services, the Authority made offer for frequencies for 122 microwave links to various operators for deployment in 1st Quarter of 2020/2021 as summarized in the Table 1 below:

Table 22: Frequencies for Fixed Links assigned and decommissioned during the 1st quarter

Fixed Links Assignments		Decommissioned links
Frequency Band	Number of New Assigned Links	Number of links
5 GHz	1	27
6 GHz	0	0
7/8 GHz	38	28
13 GHz	0	48
15 GHz	52	28
18 GHz	8	0
23 GHz	4	27

38 GHz	0	5
71/80 GHz	19	5
Total	122	168

The Authority also decommissioning of 168 fixed links in the quarter.

ii. FM SOUND BROADCASTING

During the quarter, the Authority assigned two FM sound broadcasting frequencies as summarized in the table below.

Table 2. Sound Broadcasting Assignment

	NAME	FREQUENCY (MHz)	LOCATION	MAX ERP (kW)	DATE
1.	JICHO PEVU LIMITED	88.2	MOMBASA		04-August-2020
2.	NOMADLINK MEDIA GROUP LIMITED	91.9	MANDERA		29-September-2020

During the quarter, the Authority assigned two FM sound broadcasting frequencies on a temporary basis as summarized in the table below.

Table 3. Temporary Sound Broadcasting Assignment

	NAME	FREQUENCY (MHz)	LOCATION	DATE	PERIOD
1.	XENAXIA COMPANY LTD	99.9 MHz	GALLERIA	11th Sept 2020	11th Sept 2020 To 10th Oct 2020
2.	XENAXIA COMPANY LTD	99.9MHz	CAPITAL CENTRE	25th Sept 2020	24th Sept 2020 To 25th Sept 2020

iii. MOBILE CELLULAR SERVICES

During the quarter, the Authority authorized two temporary assignment of supplementary radio frequency spectrum to address the increased demand for bandwidth during COVID-19 pandemic as summarized in the table below.

Table 4: Temporary Frequency Assignment in the 2100 MHz band.

	NAME	FREQUENCY BAND	DATE	PERIOD
1.	SAFARICOM PLC	2100 MHz	24th September 2020	Nine (9) months
2.	AIRTEL NETWORKS KENYA LTD	2100 MHz	25th August 2020	Nine (9) months

During the quarter, the Authority authorized two frequency assignments in the 1800MHz and 2100 MHz band as summarized in the table below.

Table 5. Temporary Frequency Assignment in the 1800MHz and 2100MHz

	NAME	FREQUENCY BAND	DATE
1.	DATA STREAM SOLUTIONS LTD	1800 MHz	14th October 2020
2.	DATA STREAM SOLUTIONS LTD	2100 MHz	14th October 2020

iv. FIXED WIRELESS ACCESS SERVICES

There were no assignments of frequencies with respect to Fixed Wireless Access (FWA) systems in the 1st quarter for 2020/2021 financial year.

v. SATELLITE EARTH STATIONS

There were no assignments of frequencies with respect to earth stations in the 1st quarter for 2020/2021 financial year.

vi. DIGITAL TV BROADCASTING

There were no assignments of frequencies with respect to digital broadcasting in the 1st quarter for 2020/2021 financial year.

SECTION 2: FREQUENCY LICENSING

I. PRIVATE RADIO NETWORK

There were 10 new assignments of frequencies with respect to Private Radio Networks (PRN) in the 1st quarter of 2020/2021 financial year. These assignments include existing licensees expanding in new regions. One PRN network was cancelled during the quarter. In addition, the Authority renewed 162 Private Radio Network Licenses during the quarter.

II. AIRCRAFT RADIO SERVICES

The Authority renewed 482 aircraft radio licenses in the 1st quarter.

III. AMATEUR RADIO

The Authority renewed 18 amateur radio licenses in the 1st quarter.

IV. MARITIME MOBILE SERVICE IDENTITY (MMSI) Number of assignments

There was no new assignment of frequencies with respect to MMSI Numbers in the 1st quarter of 2020/2021financial year.

V. RADIO ALARM SERVICES

The Authority renewed 41 alarm network radio licences in the 1st quarter.

VI. MARITIME VESSEL LICENCES

The Authority renewed 7 maritime vessel licences in the 1st quarter.

SECTION 3: FREQUENCY MONITORING & INSPECTION

I. Frequency Monitoring Activities

During this period, due to the prevailing COVID-19 pandemic, the Authority did not perform any radio monitoring activities.

II. INTERFERENCE RESOLUTION

A total of 10 new interference cases were reported in the 1st quarter. These comprised 9 in the UHF 900 MHz band and 1 in the VHF aeronautical band.

During the 1st quarter, the Authority resolved three (3) cases comprising 1 in the FM broadcast band, 1 in VHF aeronautical band and 1 in the UHF 900 cellular band

Table 6: Resolved Interference Cases

Frequency Band/Service	Number Resolved
VHF, UHF and SHF	2
HF	0
Broadcasting	1
Total	3

Please direct any queries on frequencies to:

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