COMMUNICATIONS AUTHORITY OF KENYA
OPENING YOUR WORLD

ANNUAL
REPORT
2018-19

ANNUAL REPORT
FOR THE FINANCIAL YEAR
ENDED 30TH JUNE 2019

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Acronyms and Abbreviations

Abbreviation	Meaning
2G	Second Generation
3G	Third Generation
4G	Fourth Generation
5G	Fifth Generation
ACCA	Association of Chartered Certified Accountants
ACM	Association of Computing Machinery
ADN	Africa Digital Network
ADNL	Africa Digital Network Limited
AEO	Africa Economic Outlook
AFCON	African Cup of Nations
AFRALTI	African Advanced Level Telecommunications Institute
AI	Artificial Intelligence
APT	Advanced Persistent Threat
ARICEA	Association of Regulators of Information and Communication of Eastern and Southern Africa
ARSK	Amateur Radio Society of Kenya
ATU	African Telecommunications Union
BDT	Telecommunications Development Bureau
BMA	Body Mass Index
Brexit	British Exit
BSc.	Bachelor of Science
BSD	Broadcast Signal Distributor
BTS	Base Transmitter Stations
BUC	Block Upconverter
CA	Communications Authority of Kenya
CB	Citizen Band
CBA	Commercial Bank of Africa
CBK	Central Bank of Kenya
ccTLD	Country Code Top Level Domain
CERT	Computer Emergency Response Team
CERT.PT	Portuguese National CERT
CIRT	Computer Incident Response Team

CIS	Commonwealth of Independent States
CoC	Central Office Code
COP	Child Online Protection
CPA	Certified Public Accountant
CPI	Consumer Price Index
CPS	Certified Public Secretary
CS	Cabinet Secretary
CSK	Computer Society of Kenya
CSR	Corporate Social Responsibility
CTO	Commonwealth Telecommunications Organization
DDOS	Distributed Denial of Service
DNIC	Data Network Identification Code
DSL	Digital Subscriber Line
DTT	Digital Terrestrial Television
DVB	Digital Video Broadcasting
EAC	East African Community
EACO	East African Communications Organization
EAP	Employee Assistance Programme
EASSy	East African Sub-marine Cable System
EBK	Engineers Registration Board
EBS	the Elder of the Order of the Burning Spear
EIA	Environmental Impact Assessment
EMCA	Environmental Management and Coordination Act
ERP	Enterprise Resource Planning
EU	European Union
FCPA	Fellow of the Institute of Certified Public Accountant
FIRST	Forum for Incident Response and Security Teams
FM	Frequency Modulation
FN	Fixed Number
FTA	Free-To-Air
FY	Financial Year
Gbps	Giga Bits Per Second
GDP	Gross Domestic Product

GEMBA	Global Executive Master's Degree in Business Administration
GHz	Giga Hertz
GSM	Global System For Mobile Communication
GSMA	Global System Mobile Association
HF	High Frequency
HPA	High Power Amplifier
HR	Human Resource
HRM	Human Resource Management
ICANN	Internet Corporation for Assigned Names and Numbers
ICT	Information and Communications Technology
ICT4D	ICT for Development
ICTAK	Information Communication Technology Association of Kenya
IDTV	Integrated Digital Television
IEEE	Institution of Electrical and Electronics Engineers
IGF	Internet Governance Forum
IIA	Institute of Internal Auditors
IIN	Issuer Identification Number
IMF	International Monetary Fund
IMSI	International Mobile Station Identification Code
IoTs	Internet of Things
IPS	Industrial Promotion Services
IPSAS	International Public Sector Accounting Standards
IR&D	Innovation, Research and Development
ISACA	Information Systems Audit and Control Association
ISM	Industrial, Scientific and Medical
ISPC	International Signaling Point Code
IT	Information Technology
ITU	International Telecommunication Union
ITU-D	International Telecommunications - Development
JKUAT	Jomo Kenyatta university of Agriculture and Technology
KBC	Kenya Broadcasting Corporation
KE	Kenya
KE-CIRT/CC	Kenya National Computer Incident Response Team/Coordination Centre

KECOSO	Kenya Communications Sports Organizations
KENIC	Kenya Network Information Centre
KES	Kenya Shilling
KICA	Kenya Information and Communications Act
KIP	Kenya Integrity Plan
KLIF	Kenya Leadership and Integrity Forum
KNATCOM	Kenya National Commission
KNBS	Kenya National Bureau of Statistics
KPA	Kenya Ports Authority
KPC	Kenya Pipeline Company
KPI	Key Performance Indicator
KPTC	Kenya Posts and Telecommunications Corporation
KRAs	Key Result Areas
KWS	Kenya Wildlife Service
LDB	Lancia Digital Broadcasting
LLP	Limited Liability Partnership
LSK	Law Society of Kenya
LTE	Long Term Evolution
MACRA	Malawi Communications Regulatory Authority
MB	Megabyte
Mbps	Mega Bits Per Second
MBS.	Master of Business Studies
MCK	Media Council of Kenya
MDAs	Ministries, Departments and Agencies
MHz	Mega Hertz
MMSI	Maritime Mobile Service Identity
MMUST	Masinde Muliro University of Science and Technology
MNDC	Mobile National Destination Code
MNO	Mobile Network Operator
MoICT	Ministry of Information, Communication and Technology
MSK	Marketing Society of Kenya
Mt.	Mountain
MTN	Mobile Telecommunications Network
MTP III	Third Medium Term Plan

NAS	National Addressing System	SHF	Super High Frequency
NBS	National Broadband Strategy	SIEM	Security information and event management
NCC	Network Colour Code	SIM	Subscriber Identity Module
NDC	National Destination Code	SMS	Short Message Service
NDCs	National Destination Codes	SOYA	Sports Personality of the Year Awards
NEMA	National Environmental Management Authority	SSA	Sub-Saharan Africa
NKCC	National KE-CIRT/CC Cyber Security Committee	SSD	Signet Signal Distributors
NPRC	Number Portability Routing Code	TEAMS	The East African Marine System
NSPC	National Signalling Point Code	TEMs	Telecoms, Electronics and Mobiles
OGW	Order of Grand Warrior	TFN	Toll Free Number
OTT	Over the Top	TV	Television
P2P	Person to Person	UCC	Uganda Communications Commission
PABX	Private Automatic Branch Exchange	UHF	Ultra-High Frequency
PANG	Pan Africa Network Group	UK	United Kingdom
PANG	Pan-Africa Network Group	UN	United Nations
PAPU	Pan African Postal Union	UHC	Universal Health Coverage
PAYG	Pay-As-You-Go	UNEP	United Nations Environmental Programme
PCK	Postal Corporation of Kenya	UNESCO	United Nations Educational, Scientific and Cultural Organization
PDTP	Presidential Digital Talent Programme	UNISA	University of South Africa
PEP	Post Exposure Prophylaxis	UPU	Universal Postal Union
PFM	Public Finance Management	USA	United States of America
PhD	Doctor of Philosophy	USAC	Universal Service Advisory Council
PLC	Public Limited Company	USD	United States Dollar
PRN	Premium Rate Number	USF	Universal Service Fund
PSCU	Presidential Strategic Communications Unit	USIU	United States International University
PSTN/IP	Public Switched Telephone Network/Internet Protocal	USTTI	United States Telecommunications Training Institute
PWDs	Persons with Disabilities	VCT	Voluntary Counselling and HIV Testing
QOSMS	Quality of Service Monitoring System	VHF	Very High Frequency
R&D	Research and Development	VSAT	Very Small Aperture Terminal
RRNL	Restricted and Reserved Name List	WEO	World Economic Outlook
SC	Short Code	WIMAX	Worldwide Interoperability for Microwave Access
SDGs	Sustainable Development Goals	ZICTA	Zambia Information Communications Technology Authority
SHF	High Frequency		

Acknowledgement

The Authority acknowledges and appreciates the hard work that went into developing this Annual Report and wishes to thank the following individuals for their dedication, commitment and professionalism:

- Mr. Matano Ndaro
- Dr. James Njeru
- Mrs. Patricia Kerretts-Kemei
- Mr. Lewis Muriithi
- Mr. Godfrey Muhatia
- Mr. Samuel Andati
- Mr. Juma Ooro
- Ms Linda Kinyanjui
- Mr. Lukas Musembi
- Mr. Nelson Wasilwa
- Ms. Jane Kinyanjui
- Ms. Winnie Owiti
- Ms Betty Kirimi
- Mr. Brian Mukhongo
- Mr. Joseph Kamunge
- Mr. Sammy Mwichuri
- Ms Sally Gitonga
- Mr. Fred Ong'aro
- Mr. Bernard Nderitu

Executive Summary

Section 22(1) of the Kenya Information and Communications Act, 1998 (KICA), requires the Authority's Board to prepare a report of its operations within three (3) months of the end of each financial year (FY). In compliance with this statutory obligation, the Authority prepared this report based on initiatives and activities for implementation under year one (1) of its 4th Strategic Plan 2018-23.

During the FY 2018/2019 significant growth was registered in the ICT sector as a result of the Authority's continued provision of an enabling environment for service providers, which saw the sector grow from 11.0 per cent in 2017 to 11.4 percent in 2018. This growth was catapulted by the continued uptake of mobile communication services whose subscriptions increased from 45.6 million to 52.2 million while those of broadband services increased from 20.4 million to 22.2 million in comparison to the preceding reporting period. Additionally, the number of mobile money subscriptions rose from 29.7 million the previous year to 32.6 million during the year in review.

This increase was supported by the increase in the number of active mobile money transfer agents from 290,432 compared to 266,022 recorded the previous year. Consequently, the number of Kenyans accessing mobile information and communication services, mobile money services, e-commerce, high-speed Internet/broadband services, and other ICT services have continued to grow.

During the year, the Authority implemented several activities that focused on fostering development in the ICT sector; empowerment and protection of consumers of ICT services with respect to prices charged, quality and diversity of those services as well as roll out of ICT services in un-served and under-served areas.

These activities included:
- Assignment of additional frequencies in the 800MHz band and 700 MHz to two licensees, which led to a more than two-fold deployment of 4G base stations.

- Issuance of 329 telecommunication licensees under the ULF, 229 licensees for postal and courier operators as well as 71 broadcasting licenses.

- Inspection of 752 telecommunication licensees across the country focussing on licensees offering end user services as well as infrastructure networks offering wholesale services. The compliance level of the inspected licensees stood at 44.7 per cent compared to 29.2 per cent recorded the previous year.

- Detection of over 51.9 million cyber threat events compared to 23.8 million in the previous year through the National KE-CIRT/CC. This increase is attributed to the enhancement of the KE-CIRT/CC detection capabilities, enhanced collaboration with external partners as well as increased global cyber-attacks.

- Empowerment and protection of consumers of ICT services, with respect to prices charged, quality and diversity of those services in the ICT sector through public engagement and publicity activities such as Kikao Kikuu.

- Provision of ICT services to the un-served and under-served population through roll out of USF funded voice infrastructure projects in additional 36 sub-locations and schools broadband connectivity to additional 253 public secondary schools as well as implementation of the USO obligations.

- Gauging public awareness, attitudes and opinion on the CA brand and customer satisfaction through perception surveys.

- Promoting gender equality and equity by ensuring that staff female to male ratio is 44:56, which is above the constitutional threshold for one-third gender rule.

- Representing the Authority as well as consolidating positions in regional and international fora. These initiatives led to election of a Kenyan, Mr. John Omo as the Secretary General of the ATU for a 4-year tenure and re-election of Kenya to the International Telecommunication Union (ITU) Council for the period 2019-23.

In an effort to enhance efficiency and effective service delivery, the Authority continued with the implementation of an Enterprise Resource Planning (ERP) system to automate some of its processes.

A detailed presentation of all the milestones and achievements made by the Authority during the FY 2018/19 are highlighted in this Annual Report.

Board of Directors

According to Section 6 (1) of the Kenya Information and Communications Act, 1998 (KICA) the management of the Authority vests on the Board of Directors, which consists of the Chairman and 10 members.

The term of the seven (7) members of the Board who were appointed by the Cabinet Secretary in accordance with Section 6B of the KICA came to an end on 28th April 2019 after serving for three (3) years
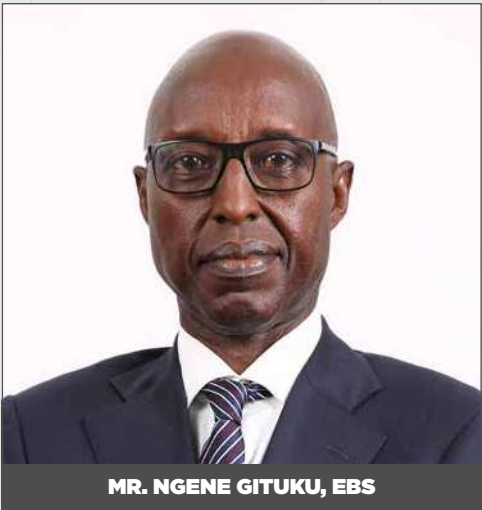
MR. NGENE GITUKU, EBS

Mr Ngene B. Gituku, EBS; (Born in 1955) is the Chairman of the Communications Authority of Kenya (CA) Board of Directors.

He served as CA chairman from 2014 to 2017, prior to which he was the Chairman of the defunct Communications Commission of Kenya (now CA) for a period of one and a half years.

He holds a BSc. Degree in Mathematics and Meteorology from the University of Nairobi and Diploma in Marketing. He has served as Board member at Kenya Broadcasting Corporation (KBC) and Kenya Pipeline Company (KPC).

Mr. Gituku was re-appointed to the position on 18th April 2018 for a three year term.

MR. FRANCIS W. WANGUSI, MBS

Mr. Francis Wangusi, MBS; (Born in 1958) was the Director General of the Communications Authority of Kenya (CA) upto 21st August 2019 when his second term in office ended.

Mr. Wangusi is currently pursuing a PhD in Management. He holds a Master's Degree in Space Sciences (Satellite Communications); BSc degree (Telecommunications Engineering); Charted Engineer-UK Certificate and Global Executive Masters Degree in Business Administration (GEMBA).

Mr. Wangusi has over 34 years' experience in the ICT sector. He has presided over landmark projects that have revolutionized the sector, the most recent being the successful transition to digital broadcasting in Kenya. He has previously served as Director in the departments of MMS and LCS.

MS. FATUMA HIRSI MOHAMMED, CBS

Ms. Fatuma Hirsi Mohammed, CBS, was the Principal Secretary for the State Department of Broadcasting and Telecommunications, Ministry of Information, Communications and Technology (ICT).

She served in the Communications Authority of Kenya Board from 13th July 2018 to 1st March 2019 in her capacity as Principal Secretary at the MoICT. Ms Fatuma Hirsi holds a PhD in communication studies, an MBA in
strategy and marketing, a BA (Hons) in languages and a postgraduate diploma in Public Relations, and a Bachelors degree in Islamic Studies. Ms. Fatuma Hirsi had previously served as the Principal Secretary for the State Department of Tourism.

She also worked at the Universal Postal Union, former Kenya Posts and Telecommunication Corporation, the former Communications Commission of Kenya; former Kencell Communications Ltd, Nation Media Group and the Gulf African Bank in various capacities.

MR. JEROME OCHIENG'

Mr. Jerome Ochieng' (Born in 1970) is the Principal Secretary for ICT and Innovation. He serves in the CA Board in his capacity as Principal Secretary.

He holds a Masters' Degree in Information Engineering from the University of the Ryukyus, Okinawa, Japan. He is a registered fellow of the Computer Society of Kenya and a Licentiate Member of the Institute of Management Information Systems (IMIS), UK.

Mr. Ochieng has 17 years' work experience in the field of information and communication technology in the Public Service. He was the Director of the Integrated Financial Management Information System (IFMIS) at the National Treasury and also served as ICT Manager with Public Procurement Oversight Authority for 6 years.

DR. KARANJA KIBICHO

DR. KAMAU THUGGE

PROF. LEVI OBONYO

MR. DAVID KITUR

Dr. Karanja Kibicho (Born in 1967) is the Principal Secretary State Department of Interior. He serves in the CA Board in his capacity as Principal Secretary.

He holds a Doctorate of Philosopy (PhD) in Mechanical Engineering from the University of Cape Town, South Africa, a Master's of Science (MSc) degree in Mechanical Engineering and a Bachelor of Science (BSc) in Mechanical Engineering.

Dr. Kibicho has taught in various institutions of higher learning, including Jomo Kenyatta University of Agriculture and Technology (JKUAT), where he served as the Chairman and Senior Lecturer in the Department of Mechanical Engineering.

He has served as an external examiner at the University of Dar es Salaam, visiting lecturer at the Central University of Technology, Free State, South Africa and a part-time Lecturer at the University of Cape Town.
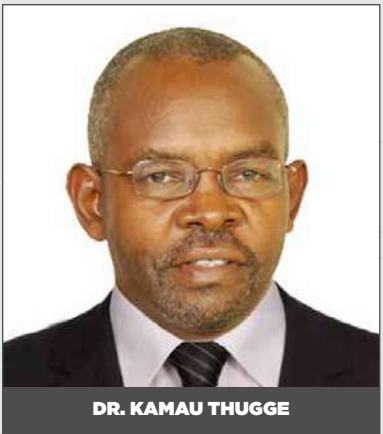
Dr. Kamau Thugge is the Principal Secretary at the National Treasury. He was appointed to this position on 7th June 2013.

He serves in the CA Board in his capacity as Principal Secretary at the National Treasury.

Dr. Thugge holds a Doctorate of Philosophy (PhD) in Economics and a Master's in Economics, both from Johns Hopkins University, United States of America (USA) and a Bachelors of Arts (Economics) Degree from Colorado College, USA.
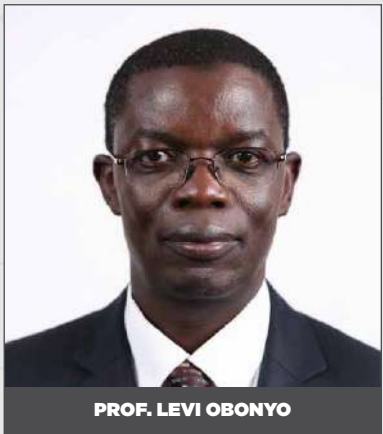
Prof. Levi Obonyo (Born in 1966) is an Associate Professor of Communication and Media Studies, and also the Dean of the School of Communication, Language and Performing Arts at Daystar University.

Prof. Obonyo holds a PhD in Mass Media and Communications from Temple University Philadelphia, USA. He also holds a Postgraduate Diploma in Tertiary Education from Potchefstroom University for Christian Higher Education, South Africa.

He is a former Chairman of the Media Council of Kenya. He currently serves as a member of the Advisory Council to Kenya National Commission to UNESCO (KNATCOM) specializing on communications.

He joined the CA Board on 20th May 2014 and reappointed on 29th April 2016 for a further term of three years. He exited the CA board on 28th April 2019.
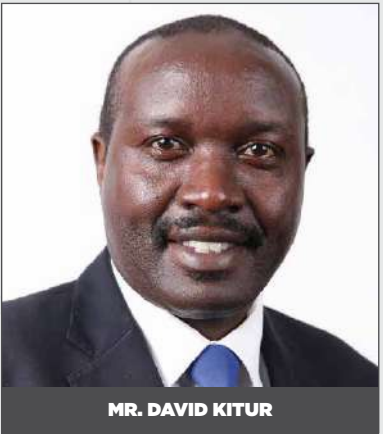
Mr. David Kitur (Born in 1963) is a businessman and an engineer with interests in the technology industry. He is the Executive Director of Microlan Africa.

Mr. Kitur holds a Master's of Science (MSc.) degree in Software Systems Technology from Sheffield University, UK and a BSc. in Electrical and Electronics Engineering from the University of Nairobi. He has attended short courses in Public Procurement and Corporate Governance, among others.

He has vast experience in the ICT industry having worked as an engineer at the then Voice of Kenya (now KBC), Kenya Railways, Kenya Power, Amarco and Umeme Services.

He was appointed to the CA Board on 29th April 2016 for a term of three years.

He exited the CA board on 28th April 2019.

MR. PAUL KUKUBO, MBS

Mr. Paul Kukubo, MBS (Born in 1967) is a consultant with vast experience in the local and regional ICT sector.

Mr. Kukubo holds a Global MBA from United States International University (USIU-Africa) and a Bachelor of Arts in Economics and Sociology from the University of Nairobi. A former chairman of the Marketing Society of Kenya, Mr. Kukubo is also a member of the International Association of Business Analysis and has previously served as chairman of the National ICT Master Plan committee, the Task Force on Creative Industries and a board member of Multimedia University.

He was appointed to the Communication Authority of Kenya (CA)'s board on 29th April 2016 for a period of three years. He exited the CA board on 28th April 2019.

MS. PATRICIA KIMAMA

Ms. Patricia Kimama (Born in 1973) has over 20 years' experience in career spanning across the banking, telecommunication and water industries. She has held roles in business transformation, project, sales, service and operational management.

She is currently the Transformation Lead at the Commercial Bank of Africa where she is charged with the responsibility of driving and implementing a legacy setting strategic transformation project for the CBA Group.

She holds a Master's in Business Administration (Strategic Management) from Daystar University, a Masters Certificate in Project Management from George Washington University as well as Senior Management Leadership training from Strathmore University.

She was appointed to the CA Board on 29th April 2016 for a period of three years. She exited the CA board on 28th April 2019.

MR. MUGAMBI NANDI

Mr. Mugambi Nandi (Born in 1971) is an advocate of the High Court of Kenya, with many years' experience in corporate and commercial law. He is the Senior Partner at KN Law LLP, Advocates & Notaries Public, where he specializes in mergers & acquisitions, private equity, capital market transactions and energy law. He is a Recognized Practitioner in Corporate and Commercial Law rankings for Kenya by Chambers Global in 2017 and 2018.

He holds a Bachelor of Laws degree and a Master of Business Administration degree from the University of Nairobi, and a Diploma in Financial Management from the ACCA.

He currently sits on a number of boards, including Mayfair Bank Limited. He has previously served on the Boards of the Privatization Commission, Seriani Asset Managers Limited and Council for Kenyatta University. He was appointed to the Board of Communications Authority of Kenya in April 2016 for a period of three years.

He exited the CA board on 28th April 2019.

MR. CHRISTOPHER GUYO

Mr. Christopher Guyo (Born in 1967) is a seasoned Human Resource professional with over 22 years' experience in Oil & Gas Industry (Caltex/Chevron Oil Kenya Ltd and Kenya Petroleum Refineries) and Banking sector (Barclays Bank, Dib Bank Kenya and Postbank) having served in various senior management capacities. He is currently the Senior Technical Advisor to the CS – Labour and Social Protection.

He holds an MBA in Human Resource Management from the University of Nairobi and currently pursuing his Doctor in Business Administration at the Catholic University of Eastern Africa. He also holds a Bachelor of Education (Arts) degree from Moi University, Higher National Diploma in HRM, and Practitioners Diploma in Executive Coaching from Academy of Executive Coaching and an Advanced Certificate in Strategic HR Management from Cornell University, USA.

He was appointed to the CA board on 29th April 2016 for a period of three years. He exited the Board in September 2018.

Alternate Directors

MR. PETER WANJOHI

MR. FESTUS KING'ORI

MS. KENTICE TIKOLO, OGW

Ms. Kentice Tikolo, OGW (Born in 1964) is a communications expert with over 15 years' experience in Strategic Corporate Communications and Public Relations.

She is the founder and Managing Director of Impact Africa Limited, a strategic Public Relations & Communications firm, based in Nairobi, Kenya. Prior to going to private business, Ms. Tikolo worked at the Kenya Wildlife Service as the Head of Corporate Communications.

Ms. Tikolo holds a Master of Science degree in Public Relations from the University of Stirling in Scotland, and a first degree in Education from Kenyatta University.

She was appointed to the Communications Authority of Kenya's Board on 29th April 2016 for a period of three years. She exited the CA board o28th April 2019.

Mr. Peter Wanjohi (Born in 1965) is the Alternate Director to the Principal Secretary, Interior and Coordination of National Government.

He holds an MBA in Ethno-Musicology from University of South Africa (UNISA) and a Bachelor of Business Administration degree from New Port University. He has extensive experience in planning and coordinating international, regional and local conferences as the current Director of State functions.

He has been a member of the following committees: Kenya Vision 2030, National Communication Dissemination Strategy and Task Force on Restructuring of Human Resource Requirement of the Permanent Presidential Music Commission, 2006.

Mr. Wanjohi was appointed on 7th February 2018.

Mr. Festus King'ori (Born in 1963) is the Alternate Director to the Principal Secretary/National Treasury.

He holds a Bachelor of Commerce degree from the University of Nairobi and is finalizing an MBA from JKUAT. He also holds a postgraduate certificate in Investment Appraisal and Management from Harvard University, among others.

He has also undergone extensive training in general management, strategic leadership and financial management. He has extensive experience in public policy, particularly with regard to public investments, gained form local and international institutions, having worked on secondment by the GoK to the World Bank.

Mr. Kingori was appointed on 10th May 2017.
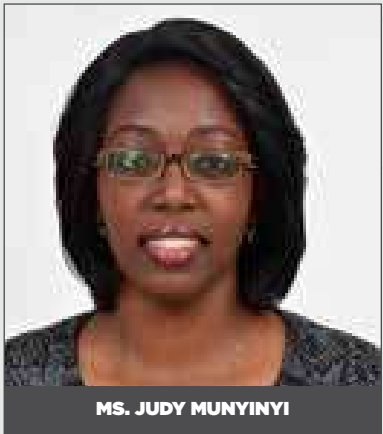
MS. JUDY MUNYINYI

Ms. Judy Munyinyi Mumo (Born in 1971) was the alternate to the Principal Secretary, State Department of Broadcasting and Telecommunications, Ministry of Information, Communications and Technology (ICT), at the CA Board.

Ms. Munyinyi holds a Bachelor's Degree from Daystar University and is currently pursuing her Master's in Diplomacy and International Studies at the University of Nairobi.

She has over 15 years experience in communication, specifically in Government communication, print media, broadcast media, digital media and development communication.

Ms. Munyinyi has previously served as Director of Research in the Presidential Strategic Communications Unit (PSCU), State House.

She left the Board on 2nd May 2019.

YIAPAN JULIANA NASHIPAE, MBS

Yiapan Juliana Nashipae, MBS (born 1969) is the Alternate to the Principal Secretary, State Department of Broadcasting and Telecommunications, MoICT, at the CA Board since 3rd May 2019.

She has a Master of Business Administration (Public Service International) from The University of Birmingham in UK; Master of Arts in Political Science and Public Administration as well as a Bachelor of Arts Degree in Government, both from the University of Nairobi.

She has over 20 years experience in Public Service more specifically at MoICT, Office of the President and Office of the Deputy President, in various positions.

Members of Universal Service Advisory Council (USAC)

DR. CATHERINE NG'AHU, EBS

Dr. Catherine Ng'ahu, EBS; (Born in 1961) is the Chairperson of the Universal Service Advisory Council (USAC).

She holds a PhD in Business Administration from the University of Nairobi and Professional certificate in Technology and Development from IPS, UK. She was a Business Research Fellow at Wharton Business School, University of Pennsylvania, USA. Dr Ngahu is a member of several Boards.

She is the former chairperson of the Kenya ICT Board and was awarded 'the Elder of the Order of the Burning Spear' (EBS) by the President of the Republic of Kenya in 2011 for devoted service.

She was appointed to USAC in May 2014 for a three-year term and re-appointed with effect from 8th May, 2017.

MR. MICHAEL M. ITOTE

Mr. Michael M. Itote (Born in 1954) is a Fellow of the Institute of Certified Public Accountant (FCPA) of Kenya and a Certified Public Secretary (CPS) with over 30 years of experience. He has served as the Chairman of the Institute of Certified Public Accountants of Kenya from 2009 to 2011. He is also a Member of the Institute of Internal Auditors (IIA), the Institute of Directors, Kenya, and an accredited Governance Auditor.

Mr. Itote is currently a Director/Principal Consultant of Management Audit Consulting Ltd, which provides consulting services in enterprise risk management, internal auditing and other governance support services. He holds a BSc. Accountancy, from the United States International University Africa.

He was appointed a member of USAC in May 2014 for a period of 3 years and re-appointed with effect from 9th May 2017

MS. RHODA MASAVIRU

Ms. Rhoda Masaviru; (Born in 1956) has vast working experience spanning over 34 years, most of which was in the postal sector, both in Kenya and at the African continental level, where she held senior positions, among them Secretary General and Assistant Secretary General of the Pan African Postal Union (PAPU). She also served as a Manager in the defunct Kenya Posts & Telecommunications Corporation and its Successor, Postal Corporation of Kenya.

Ms. Masaviru holds a Master of Arts degree in Population Studies, University of Nairobi, and a Bachelor of Education degree in Economics and Geography, University of Nairobi.

She was appointed as a member of USAC in May 2014 for a period of 3 years and reappointed with effect from 9th May 2017

MS. JOSEPHINE TOWETT

Ms. Josephine Towett (Born in 1967) is an ICT Business expert with experience spanning 20 years in various functional areas that include Sales and Marketing, Market research, Customer service and capacity building. She holds a Masters degree in Business Administration and a Bachelor's degree in Political Science and Linguistics from the University of Nairobi.

Josephine is also well versed in ICT capacity building, Research and Consultancy having joined the African Advanced Level Telecommunication Institute (AFRALTI), a regional capacity building intergovernmental organisation.

She was appointed as a member of USAC in May 2014 for a period of 3 years and reappointed with effect from 9th May 2017.

AMB. WELLINGTON PAKIA GODO

Amb. Wellington Pakia Godo (Born in 1953) has served the Kenyan government for over three decades. He has risen through the ranks and served as a Permanent Secretary in various areas including the Office of the Vice President and the Ministry of Regional Development.

He also served as the Permanent Representative in the Kenyan Mission to the United Nations Environmental Programme (UNEP).

Amb. Godo holds a Master of Social Science from the University of Birmingham, United Kingdom and a Bachelor of Arts degree from the University of Nairobi where he majored in Government and Sociology.

He was appointed as a member of USAC in May 2014 for a period of 3 years and reappointed with effect from 9th May.

MR. NIXON MAGEKA GECHEO

Mr. Nixon Mageka Gecheo; (Born in 1976) is a Governance and ICT for Development (ICT4D) expert with over 12 years ICT experience and 4 years experience consulting for large donor, private and public sector organisations.

He is the immediate former ICT and Media Advisor to the Cabinet Secretary, Ministry of Agriculture. He worked at the Office of the Ombudsman and East African Business Council in Arusha.

Mr. Gecheo holds a Master's in Communication Management from Kigali Institute of Science and Technology, Rwanda and BSc. in Information Technology from JKUAT.

He was appointed as a member of USAC in May 2014 for a period of 3 years and reappointed with effect from 9th May 2017.
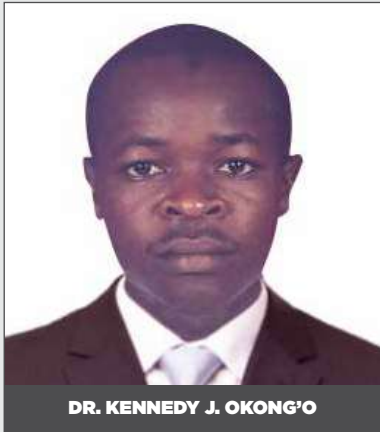
DR. KENNEDY J. OKONG'O

Dr. Kennedy J. Okong'o; (Born in 1982) is a certified Project Manager and a holder of PhD in Information Systems from the University of Cape Town, South Africa.

He has a practical policy and a research experience in the ICT for Development (ICT4D) space. In both private and public sectors, he has consulted in Africa and beyond as a business analyst, policy researcher and a project manager.

He has broad corporate experience and is a Professional Member of Computer Society of Kenya (CSK).

He was appointed as a member of USAC in May 2014 for a period of three years and reappointed with effect from 10th August 2017.

MR. LONGOLE WANGIROS JAMES

Mr. Longole Wangiros James ; (Born in 1975) is a participation specialist with over 10 years' experience working with International NGOs, quasi-government and Government institutions. His sectoral expertise includes rural development, conflict transformation and humanitarian assistance with a geographical focus on the Great Horn of Africa.

He also serves as the Chairman of the Board of Management for Loima Boys Secondary School in Loima Sub-County. James holds a Master's Degree in Sociology and, a Post Graduate Diploma in Conflict Management and Peace Studies from Makerere and Gulu Universities respectively.

He was appointed as a member of USAC in May 2014 for a period of three years and reappointed with effect from 10th August 2017.
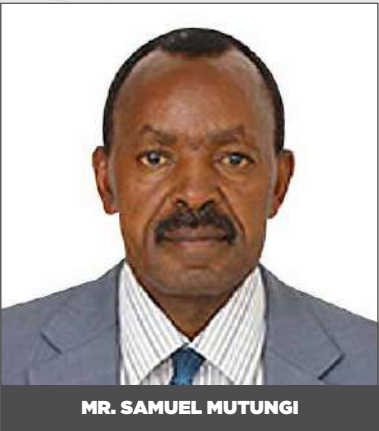
MR. SAMUEL MUTUNGI

Mr. Samuel Mutungi; (Born in 1955) has over 30 years' experience in ICT and corporate business leadership. He has served in various key executive management positions at Co-Operative Bank of Kenya including Director Operations, Director Retail Banking, Director Corporate Banking and Chief Manager ICT.

He holds a M.Sc. degree in Business Systems Analysis & Design from City University, London and a Bachelor of Education degree in Mathematics and Business Studies from the University of Nairobi. He also holds a Diploma in Electronic Data Processing from Dawson College, Montreal Canada.

He was appointed to the Universal Service Advisory Council in May 2014 for a three-year term and re-appointed with effect from 10th August 2017.

Management Team

MR. FRANCIS W. WANGUSI, MBS

Mr. Francis W. Wangusi, MBS was the **Director General** of the Communications Authority of Kenya.

Mr. Wangusi is currently pursuing a PhD in Management. He holds a Master's Degree in Space Sciences (Satellite Communications); BSc degree (Telecommunications Engineering); Charted Engineer-UK Certificate and Global Executive Masters Degree in Business Administration (GEMBA).

His term ended on 21st August 2019.

MRS. MERCY WANJAU

Mrs. Mercy Wanjau is the **Acting Director General,** Communications Authority of Kenya. Previously, Director, Legal services, since 1st of January 2019.

She holds a Master's degree in Law from the University of Cape Town, Degree in Law from the University of Nairobi.

She is a Certified Governance Auditor with ICPSK, an associate of the Chartered Institute of Arbitrators and an advocate of the High Court of Kenya.

CPA JOSEPH KIMANGA

CPA Joseph Kimanga is the **Director, Finance & Accounts** at the Communications Authority of Kenya.

He holds a Master's degree in Business Administration (Finance) and a Bachelor of Education (Arts) degree in Economics & Business Studies.

He is a Certified Public Accountant of Kenya-CPA (K).
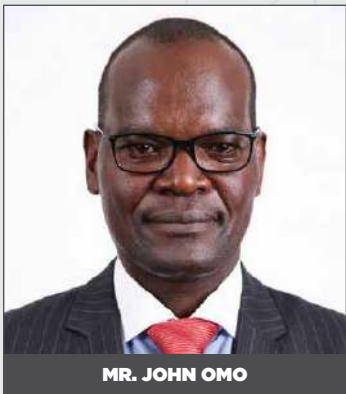
MR. JOHN OMO

Mr. John Omo was the **Director, Legal Services** at the Communications Authority of Kenya.

He holds a Master's of Laws degree, a Bachelors of Law degree as well as Diplomas in Law and Legal Practice Ethics.

He exited the CA Management on 31st December 2018.

MR. JUMA KANDIE

Mr. Juma Kandie is the **Director, Human Capital & Administration** at the Communications Authority of Kenya.

He holds an MSc in Human Resource Management, a Bachelor of Commerce degree as well as a Post Graduate Certificate in Strategy.
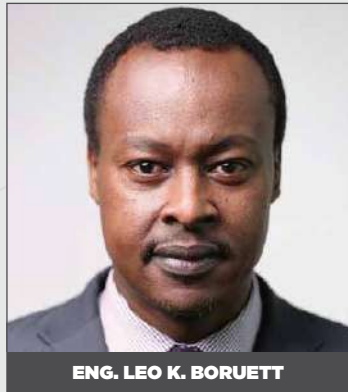
ENG. LEO K. BORUETT

Eng. Leo K. Boruett is the **Director, Multimedia Services** at the Communications Authority of Kenya.

He holds a MPhil Degree in Information Engineering; BSc Degree in Electrical and Electronics Engineering; Registered Professional Engineer-EBK; and Executive Master's Degree in Business Administration.

MR. CHRISTOPHER KEMEI

Mr. Christopher Kemei is the **Director, Licensing, Compliance and Standards** at the Communications Authority of Kenya.

He holds an MSc in Operational Telecommunications, and Bsc. in Physics.

MR. TOM OLWERO

Mr. Tom Olwero is the **Director, Frequency Spectrum Management** at the Communications Authority of Kenya.

He holds a BSc in Electrical Engineering and a Master of Business Administration (Management).

MR. MATANO NDARO

Mr. Matano Ndaro is the **Director, Competition, Tariffs and Market Analysis** at the Communications Authority of Kenya.

He is currently pursuing a Master's of Business Administration degree and holds a Bachelor of Arts degree in Economics and a Post Graduate Diploma in Regulation of Telecommunications.

MR. CHRISTOPHER WAMBUA

Mr. Christopher Wambua is the **Director, Consumer and Public Affairs** at the Communications Authority of Kenya.

He holds a Master's degree in International Studies, a postgraduate diploma in Mass Communications, a postgraduate diploma in Public Relations from the Chartered Institute of Public Relations and a degree in Education.

MR. MICHAEL KATUNDU

Mr. Michael Katundu is the **Director, Information Technology and Enterprise Resource Management** at the Communications Authority of Kenya.

He is a holder of an MSc in Computer Science and a BSc in Computer Science.

CPA ROSALIND MURITHI

CPA. Rosalind Murithi is the **Director, Risk Management and Internal Audit** at the Communications Authority of Kenya.

She holds a Master of Business Administration, Bachelor of Commerce Degree.

She is a Certified Public Accountant of Kenya - CPA (K).

MS. JANE ROTICH

Ms. Jane Rotich is the **Acting Assistant Director, Procurement** at the Communications Authority of Kenya (CA).

She holds a Master's degree in Business Administration (Strategic Procurement); Bachelor of Arts degree and a Postgraduate Diploma in Purchasing and Supplies.

MR. VINCENT NGUNDI

Mr. Vincent Ngundi is the **Assistant Director, Cyber Security and E- Commerce** at the Communications Authority of Kenya (CA).

He holds a Bachelor of Science degree in Computer Science, and a Global Executive MBA.

Message from the Chairman

I am pleased to present to you, on behalf of the Board of Directors, Management and Staff of the Communications Authority of Kenya, the Annual Report for the financial year ended 30th June 2019 in accordance with Section 22(1) of the Kenya Information and Communications Act, 1998.

As the regulator of the ICT sector, the Authority is cognizant of the central role that the sector plays as a key enabler of growth in all other sectors of the economy and as one of the foundations of national transformation and realization of both Vision 2030 and the Gig 4 Agenda. The Vision 2030 aims at creating "a globally competitive and prosperous country with a high quality of life by the year 2030".

While Information and Communications Technologies (ICTs) are a critical enabler of Vision 2030, they are also expected to be a key driving force towards the realization of the Government's Big 4 Agenda, which is focusing on the key priority areas of Industrialization, Manufacturing and Agro-processing; Affordable Housing; Food and Nutrition Security; and Universal Health Coverage (UHC).

The Authority has implemented the first year initiatives of its Strategic Plan for the period 2018-2023. During this year, the Authority facilitated rapid growth of the sector and supported realization of the Big 4 Agenda by fast-tracking ICT related regulatory and universal access initiatives. The Authority continued to facilitate achievement of universal access to ICT services by bridging the gap in the provision of ICT services in un-served and under-served areas of the country. Towards this end, the Authority continued the rollout of its USF- funded initiatives, that is, the Education Broadband and Voice Infrastructure Projects.

A competitive and robust ICT sector contributes to the national economy and has the potential to transform traditional economies into digital economies. It also enhances consumer choice as well as availability of diverse and more affordable ICT services. In this regard, the Authority continued to implement forward-looking regulation to foster competitive and efficient markets in the ICT sector.

The Authority has a responsibility to enhance online security, by addressing the rapid evolution of the global cyber threat landscape. Towards this end, the Authority enhanced the capabilities of the National KE-CIRT/CC, broadened multi-stakeholder engagement, undertook technical training for the local Sector Computer Incident Response Team (CIRTs), and promoted a culture of cyber security through various public awareness and engagement activities. These initiatives enhanced Kenya's proactive response to cyber threats.

The Authority is committed to transform the lives of all in Kenya through continuous facilitation of an enabling environment for provision of ICT services. This will greatly benefit consumers as well as further the growth and increased contribution of the ICT sector towards the country's Gross Domestic Product (GDP).

I commend the Board of Directors, Management and members of staff for their resilience in delivering the achievements during the year.

Ngene B. Gituku, EBS
Chairperson of the Board

Message from the Director General

The growth of the ICT sector in Kenya continued on an upward trend, contributing to the country's GDP. This growth was attributed to increased digitization and continuous uptake of ICT services. In line with our mandate and strategic objectives, the following are the highlights of the activities undertaken.

During the year, more Kenyans continued to access ICT services with mobile telephony subscribers rising to 52,168,066 from 45,568,924 recorded in the previous year. The increase in mobile subscription facilitated the increase in mobile money transfer subscription from 29,678,063 in the FY 2017/18 to 32,634,883 in the FY 2018/19. In order to increase consumer choice and competition among service providers, wallet-to-wallet interoperability of person-to-person mobile money transfer was launched in Kenya. This enables customers of different mobile service providers to receive money directly into their mobile wallets.

To promote security of people and critical infrastructure, the Authority undertook various initiatives aimed at enhancing the national cyber readiness and resilience. This entailed, among others, the enhancement of the capabilities of the National KE- CIRT/CC, and promoting a national culture of cyber security through various public awareness and engagement activities.

In a bid to promote the use and adoption of the dot KE country code top-level domain, the Authority, in consultation with the industry, developed a Restricted and Reserved Name List for the domain namespace. This is aimed at curbing abusive domain name registrations. In addition, the Authority introduced a new numbering level -0100- with a capacity of 100 billion numbers to cater for the envisioned Machine-to-Machine services.

In its effort to empower consumers, the Authority availed consumer advisory information targeting users of mobile, Internet, postal and courier services. In addition, the Authority availed information on e-waste and guidelines for the Child Online Protection (COP). The Authority also held a County ICT Consumer Forum dubbed 'Kikao Kikuu' in Kisumu County. This forum provided a platform to engage ICT service providers, consumers of ICT and the County Government on various ICT consumer issues.

In conclusion, the achievements mentioned would not have been possible without the contribution of the Authority's dedicated staff. I also wish to express my gratitude to the Authority's Board of Directors and the Ministry of Information, Communications and Technology for their continued support.

Mrs. Mercy Wanjau
Acting Director General

Preamble

Establishment and Mandate of the Authority
The Kenya Communications Act No.2 of 1999 (KCA) established the Authority in 1999 with a mandate to license and regulate the ICT sector. The KCA has since been amended a number of times, most notably in 2009 to Kenya Information and Communications Act, 1998 (KICA). The KICA expands the Authority's role to license and regulate the broadcasting and e-commerce sectors as well as the establishment of the Universal Service Fund (USF). Further amendments became necessary in 2013 to confer the Authority greateroperational autonomy in implementation of Articles 34 and 35 of the Constitution of Kenya, 2010 on freedom of media and access to information, respectively.

Additionally, the 2013 amendments to the KICA charged the Authority with the responsibility to promote and facilitate efficient management of the Internet resource as well as to develop a framework for facilitating the investigation and prosecution of cybercrime offences. It further reinforced the Authority's role in managing competition in the sector. The Authority is also entrusted with the responsibility of facilitating the development of postal and courier, telecommunications, radio communications, broadcasting and electronic transactions in Kenya through adoption of the best practice regulation and most appropriate technologies.

Corporate Governance
As a State Corporation, the Authority is expected to ensure compliance with the principles of good governance that are entrenched in Article 10 of the Constitution, the State Corporations Act, 2016 and the Code of Governance for State Corporations (Mwongozo). The principles of good governance seek to ensure efficiency, effectiveness, transparency, disclosure, accountability, risk management, internal controls, ethical leadership as well as good corporate citizenship in execution of the Authority's mandate.

Board of Directors
In accordance with Section 6(1) of the KICA, the Board of Directors of the Authority consists of a Chairperson appointed by the President in accordance with section 6B of the (KICA); three (3) Principal Secretaries responsible for matters relating to broadcast, electronic, print and all other types of media; finance; and internal security as well as seven (7) persons appointed by the Cabinet Secretary responsible for ICT, in accordance with section 6B of the KICA. Section 11(2) of KICA provides for the position of the Director General, who is the Chief Executive Officer of the Authority and an ex-officio Member of the Board. The Director General is also the Secretary to the Board and is responsible for the day-to-day management of the Authority.

Functions of the Board of Directors
The Board Charter sets out the specific responsibilities to be discharged by the Board of Directors individually and collectively. These include:

i) Exercising leadership, integrity and judgment in directing the Authority;

ii) Setting the vision, mission and values of the Authority;

iii) Developing strategies to achieve the Authority's mandate;

iv) Determining key performance indicators (KPIs) of the Authority, setting targets and monitoring performance;

v) Ensuring that internal structures and policies are in place;

vi) Identifying and managing key risk areas; and

vii) Ensuring preparation of annual financial statements and reports and disclosure of information to stakeholders.

Board Meetings
Pursuant to Section 8(1) (a) of the State Corporations Act, Cap 446, the Board of every State Corporation should meet at least four (4) times in every financial year. During the FY 2018/19, the Board held six (6) Full Board Meetings and two (2) Special Meetings.

Board Committees

Section 9 of the Act bestows the Board with the powers to delegate the exercise of any of its functions or duties to Committees. The Committees operate within the terms of reference developed by the Board. During the year in review, the Board delegated some of its functions and duties to the following Committees.

i. Finance Committee

This Committee has oversight responsibility on all financial management issues at the Authority. It consists of six (6) Members. The Committee met Seven (7) times during this period.

ii. Technical Matters Committee

This Committee handles technical issues including granting of licenses, review of the market structure and other regulatory interventions. It consists of six (6) Members. The Committee held five (5) meetings during the period in review.

iii. Staff and Administration Committee

This Committee is responsible for human resource and administrative matters. It consists of six (6) members. The Committee held four (4) meetings during the period.

iv. Broadcasting Standards Committee

This Committee sets media standards, regulates and monitors compliance with those standards. It consists of six (6) Members. The Committee held three (3) meetings during the period.

v. Board Audit and Risk Management Committee

This Committee comprises four (4) Members. The Committee provides oversight by offering objective advice and recommendations to the Board on whether the Authority's governance, risk management, and internal control processes are suitably designed and working as intended to achieve the objectives. The Committee held five (5) meetings during the period.

Risk Management and Internal Control Systems

The Authority's Board is charged with the responsibility of ensuring that management maintains an effective system of risk management and internal controls for reviewing its effectiveness. This system is designed to manage the risk of failure to achieve the Authority's objectives and to provide reasonable assurance against material misstatement or loss.

i. Risk Management

The Authority has in place a Risk Management Policy Framework, which defines the responsibilities of the Authority's Board Audit and Risk Committee as well as Management to enable effective risk identification, evaluation and management. During the FY 2018/19, the following key risks that could have financial, strategic and operational impact on the organizational performance, reputation and operations were identified: inadequate uptake of technology; non-compliance by licensees; cyber and information security threats; inordinate delay in legislative issues; inadequate public awareness on Authority's mandate; litigations and governance risk. Based on the identified risks, the Authority reviewed the procedure manuals, risk register and aligned them to its Strategic Plan 2018-23.

ii.Internal Control Systems

The Authority's internal controls processes are designed to provide reasonable assurance regarding the achievement of objectives,relating to efficiency and effectiveness of operations, reliability of financial reporting, and compliance with applicable laws and regulations. Management has the responsibility of proper stewardship of State resources. To achieve this, Management has put in place systems of internal control, which include approved policies and procedures that detail the operational and financial controls. The Authority continuously monitored adherence to these systems during its day-to-day business processes by undertaking audits in conformance to the Internal Audit Charter and International Auditing Guidelines and Standards.

Universal Service Advisory Council

Section 84J of the Kenya Information and Communications Act, 1998 (as amended), and the Kenya Information and Communications (Universal Access and Service) Regulations, 2010 provides for the establishment of the Universal Service Fund (USF) to be managed and administered by the Authority. Section 102A of the Act established USAC to provide strategic policy guidance for the administration of the Fund on behalf of the Board of the Authority. The Fund was created to support widespread access to, support capacity building and promote innovation in ICT services. USAC consists of a Chairperson and eight (8) Members appointed by the Cabinet Secretary, responsible for communications pursuant to Section 102K of the Act. The USAC held five (5) meetings during the year

Compliance with Code of Governance for State Corporations (Mwongozo)

The Authority continues to streamline and ensure implementation and compliance with the provisions of Mwongozo in its organizational as well as operational structure through administrative and legislative actions. In this regard, the Authority has proposed amendments of provisions of KICA to align it with Mwongozo.

ICT Sector Statistics at a Glance

Fixed Telephony Penetration Rate
2014/15: 0.20%
2015/16: 0.19%
2016/17: 0.16%
2017/18: 0.15%
2018/19: 0.13%

Mobile Telephony Penetration Rate
2014/15: 83.98%
2015/16: 90%
2016/17: 88.7%
2017/18: 97.8%
2018/19: 106.8%
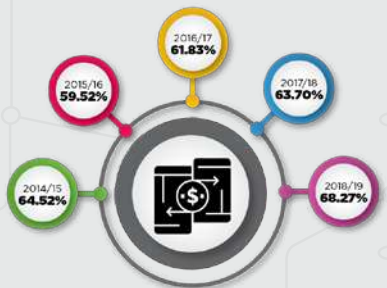
Mobile Money Penetration Rate
2014/15: 64.52%
2015/16: 59.52%
2016/17: 61.83%
2017/18: 63.70%
2018/19: 68.27%

Postal Service Outlets
2014/15: 623
2015/16: 623
2016/17: 623
2017/18: 623
2018/19: 623
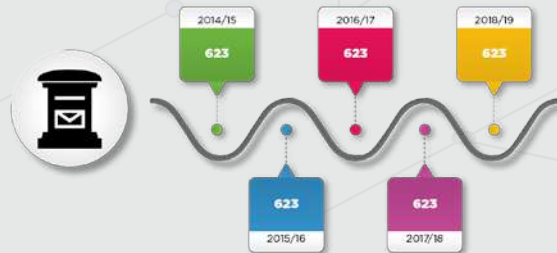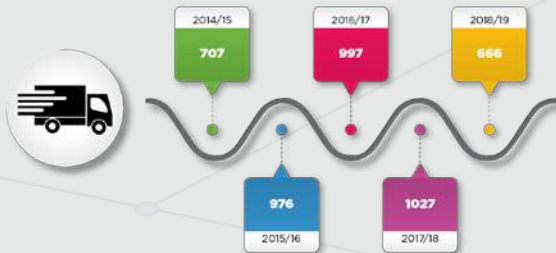
Courier Service Outlets
2014/15: 707
2015/16: 976
2016/17: 997
2017/18: 1027
2018/19: 666

The Strategic Plan 2018-23

Following the end of its 3rd (published) Strategic Plan 2013-18 on 30th June 2018, the Authority finalized development of its 4th Strategic Plan 2018-23. The 4th Strategic Plan re-focuses the Authority's strategic direction for the period 2018-23. It is aligned to the Vision 2030, Third Medium Term Plan (MTP III), Big Four Agenda, Africa Union Agenda 2063 and the United Nations (UN) Sustainable Development Goals (SDGs). The vision of the Authority in the Strategic Plan is to digitally transform our nation.

The Strategic Plan covers three (3) Key Result Areas (KRAs), and is being implemented through eight (8) strategic objectives and fourteen strategic initiatives. It is founded on the core values of integrity, innovation and excellence. It guides the Authority on its mission of building a connected society through enabling regulation, partnership and innovation, in pursuit of fulfillment of its brand promise, 'opening your world'.

A high-level summary of the Authority's 4th Strategic Plan 2018-23 is shown below.

Vision
A digitally transformed nation

Mission
Building a connected society through enabling regulation, partnership and innovation

Brand Promise
Opening Your World

1. Access and Market Development
2. Enabling Environment
3. Capacity Development

Key Result Areast

1.1 Achieve Universal Access to ICT services
1.2 Ensure Efficient ICT Markets
1.3 Ensure Sustainable Development of ICT

2.1 Ensure Appropriate Regulatory Environment
2.2 Enhance Stakeholder Engagement and Communication
2.3 Enhance Partnership and Collaboration

3.1 Attain High Institutional Capacity and Performance Excellence
3.2 Embrace a Reseach and Innovation Culture

Strategic Objectives

1.1.1 Implement universal access programmes
1.2.1 Foster competition in ICT sector
1.2.2 Drive appropriate deployment of infrastructure and services
1.3.1 Manage ICT regulatory services
1.3.2 Promote green ICT environment
1.3.3 Update national cyber security

2.1.1 Develop a responsive legal, regulatory and licensing regime
2.2.1 Develop and implement an intergrated stakeholder engagement, capacity building and communication strategy
2.3.1 Develop partnerships, collaborations and linkages

3.1.1 Implement Business Process Re-engineering and Automation Project
3.1.2 Develop human capacity
3.1.3 Enhance performance management and operational excellence
3.1.4 Upgrade technologies and tools
3.2.1 Establish R&D capacity and programmes

Strategic Initiatives

Values
Integrity   Innovation   Excellence

During the FY 2018/19, the Authority implemented year one strategic initiatives and associated activities in the Strategic Plan. This was aimed at facilitating the growth and development of the country's ICT sector.

Corporate Organization Structure

KEY

ADG - Assistant Director General
D/FSM - Director/Frequency Spectrum Management
D/MMS - Director/Multi Media Services
AD/CSE - Assistant Director/Cyber Security & E-commerce
D/CTMA - Director/Competition, Tariffs & Market Analysis
D/LCS - Director/Licensing, Compliance & Standards
D/LS/CS - Director/Legal Services/Corporate Secretary
D/HCA - Director/Human Capital & Administration
D/F&A - Director/Finance & Accounts
D/IT&ERM - Director/Information Technology & Enterprise Resource Management
D/CPA - Director/Communication & Public Affairs
D/RMIA - Director/Risk Management & Internal Audit
D/USF - Director/Universal Service Fund
AD/IRD - Assistant Director/Innovation, Research and Development
AD/PROC - Assistant Director/Procurement

CHAPTER

1

**MACROECONOMIC ENVIRONMENT
AND ICT SECTOR**

1. Macroeconomic Environment and ICT Sector

World economies are interdependent in nature and have linkages to various sectors in a country's economy. Understanding changes in the global and regional economies is important in appreciating changes in various sectors in an economy. Information and Communication Technologies (ICTs) are key in transforming traditional economies to digital economies. Digital technologies transform production of goods and services; enhance innovations and interactions between firms and their stakeholders. Digital technologies not only improve firm productivity, but also continue to play a significant role in achieving sustainable human development, poverty eradication, national security and international competitiveness. This chapter focuses on the various global, regional and country–specific economic indicators, which might have informed various ICT trends and policies during the year.

1.1 Macroeconomic Environment
The performance of the ICT sector is influenced by both global and local macroeconomic environment.

1.1.1 Global Economy
According to the 2019 World Economic Outlook (WEO)1 Report, the global Gross Domestic Product (GDP) growth rate decline to 3.6 per cent in 2018 from 3.8 per cent recorded in 2017. The decelerated growth is mainly attributed to trade tensions between the United States of America (USA) and China, uncertainty surrounding British exit (Brexit) from the European Union (EU), decline in business confidence, tightening of financial and trade conditions as well as policy uncertainties across several economies. In addition, a combination of country- and sector-specific factors further exacerbated the slowed growth.

Advanced economies exhibited a slowed growth rate of 2.2 per cent in 2018 compared to 2.4 per cent in 2017. This was attributed to weakening consumer and business sentiments, fiscal policy uncertainties, political and civil protests as well as delays in introducing the new fuel emission standards for diesel-powered vehicles in Germany. Similarly, growth in emerging markets and developing economies declined from 4.8 per cent in 2017 to 4.5 per cent in 2018. This decline was mainly due to policy and regulatory tightening leading to a decrease in business confidence and slowed domestic investments.

In Africa, some countries experienced improved economic conditions resulting in the continent's overall GDP growth rate remaining fairly stable in 2018 at 3.5 per cent, which is expected to increase to 4 per cent in 2019[2]. While non-resource-rich countries—supported by higher agricultural production, increasing consumer demand, and rising public investment—grew fastest (Senegal, 7 percent; Rwanda, 7.2 percent; Côte d'Ivoire, 7.4 percent), the two largest economies slowed down Africa's average growth (Nigeria 1.9 per cent and South Africa 1.2 per cent).

According to the Africa Economic Outlook (AEO) Report 2019, East Africa was the fastest growing region in Africa with an estimated GDP growth rate of 5.7 per cent in 2018. This was attributed to the recovery of agriculture, services and industrial sectors as well as investment in public infrastructure in Kenya, Uganda and Rwanda respectively. The Kenya Economic Survey 2019 estimates that East African Community (EAC) inflation rate decreased from 6.5 per cent in 2017 to 4.2 per cent in 2018.

1.1.2 Local Economy
Kenya's macroeconomic environment remained fairly stable with real GDP estimated to have expanded by 6.3 per cent in 2018 compared to 5.9 per cent in 2017 (Economic Survey 2019). This growth was attributed to sustained development in the transport sector, accelerated manufacturing activities as well as the increased agricultural production. The Agriculture, Forestry and Fishing sub-sector recorded an accelerated growth rate of 6.4 per cent from 1.9 per cent recorded in 2017 while the Manufacturing Sector recorded a growth of 4.2 per cent from 0.5 per cent reported in the previous year. Similarly, Electricity Supply; Transportation and Storage; ICT; Accommodation and Food services showed remarkable growth of 10.5 per cent, 8.8 per cent, 11.4 per cent and 16.6 per cent, respectively.

1.2 Information and Communication Technology Sector
The local ICT sector is influenced by the performance in the global ICT arena.

1.2.1 Global ICTs
Global ICT trends continue to indicate increased growth in mobile-cellular services, Internet services and broadband services. Emerging technologies such as Artificial Intelligence (AI), Internet of Things (IoTs) and block chain technology bolstered the increased growth.

Figure 1.1 shows a snapshot of the aforementioned ICT trends.

1 https://www.imf.org/en/Publications/WEO/Issues/2019/07/18/WEOupdateJuly2019.
2 https://www.afdb.org/fileadmin/uploads/afdb/Documents/Publications/2019AEO/AEO_2019-EN.pdf

Figure 1.1: Global ICT Indicators

Global ICT Developments, 2001 - 2018*

Note: *Estimate

Source: ITU World Telecommunication / ICT Indicators database
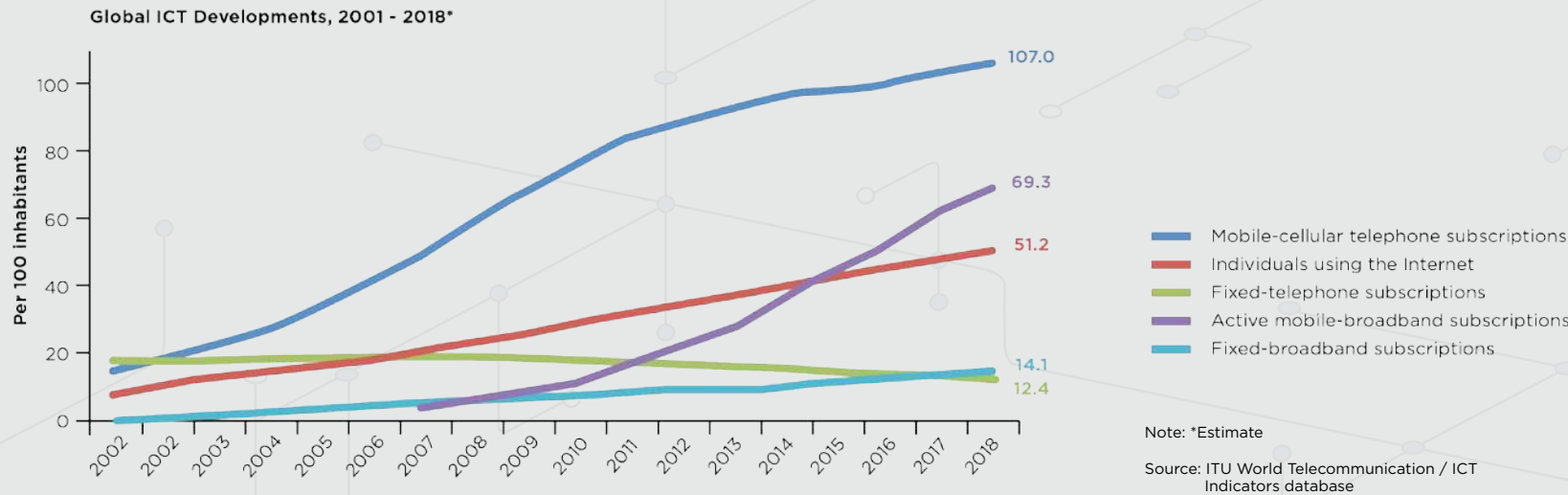
1.2.1.1 Mobile Cellular Services

Access to basic mobile telecommunication services has been on a continued upward trajectory over the past years. Global mobile-cellular subscriptions grew from 7.81 billion in 2017 to 8.16 billion in 2018, which is equivalent to 107.0 subscriptions per 100 inhabitants. This has largely been driven by significant growth in subscriptions in Asia-Pacific and Commonwealth of Independent States (CIS)[3]. In 2018, the CIS recorded the highest penetration rate of 136.8 per cent while Africa recorded the lowest at 76.0 per cent. Figure 1.2 shows regional mobile cellular penetration.

Figure 1.2: Regional Mobile Cellular Penetration

Mobile-cellular Penetration, 2018*

Note: *Estimate **Commonwealth of Independent States

Source: ITU World Telecommunication /ICT Indicators database
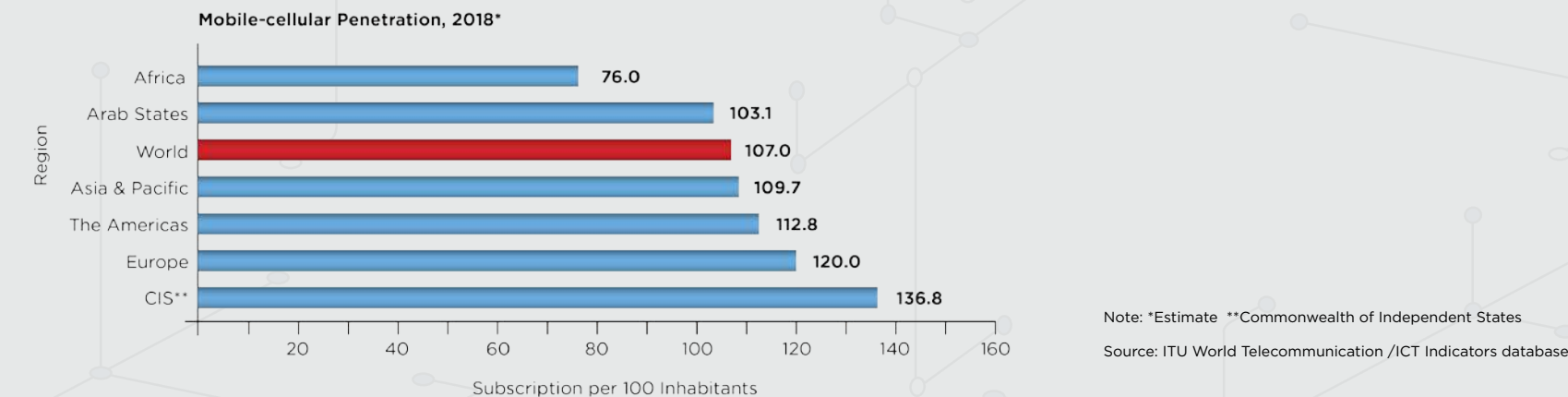
Overall, over the past two decades, the level of mobile-cellular subscriptions in developing countries has surpassed that of developed countries as illustrated in Figure 1.3.

Figure 1.3: Mobile Cellular Subscriptions by Level of Development

Note: * Estimate

Source: ITU World Telecommunication/ICT Indicators Database
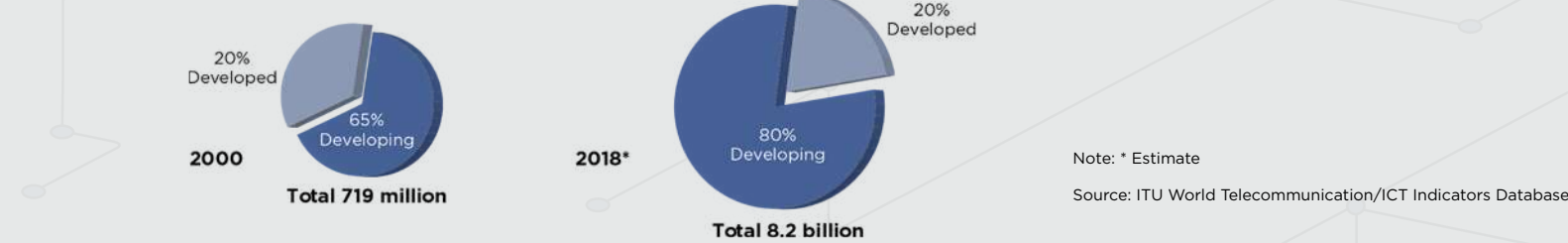
3 Regions are based on the ITU BDT Regions, see: http://www.itu.int/en/ITUD/Statistics/Pages/definitions/regions.aspx.html.

1.2.1.2 Internet Services

The ITU estimated that by the end of 2018, more than half of the global population was using Internet. The percentage of population using the Internet in developed, developing and least developed countries continued to show sustained growth in 2018 estimated at 80.9 per cent, 45.3 per cent and 19.5 per cent, respectively. According to the ITU, in 2018 it is estimated that Europe had the highest proportion of Internet users, with 79.6 per cent; Americas, with 69.6 per cent; Commonwealth of Independent States (CIS) with 71.3 per cent; Arab States with 54.7 per cent; Asia- Pacific with 47 per cent; and Africa with 24.4 per cent. The regional distribution of individuals using the Internet is shown in Figure 1.4.

Figure 1.4: Global Internet Usage

Individuals using the Internet, 2018*

Note: *Estimate **Commonwealth of Independent States

Source: ITU World Telecommunication /ICT Indicators database
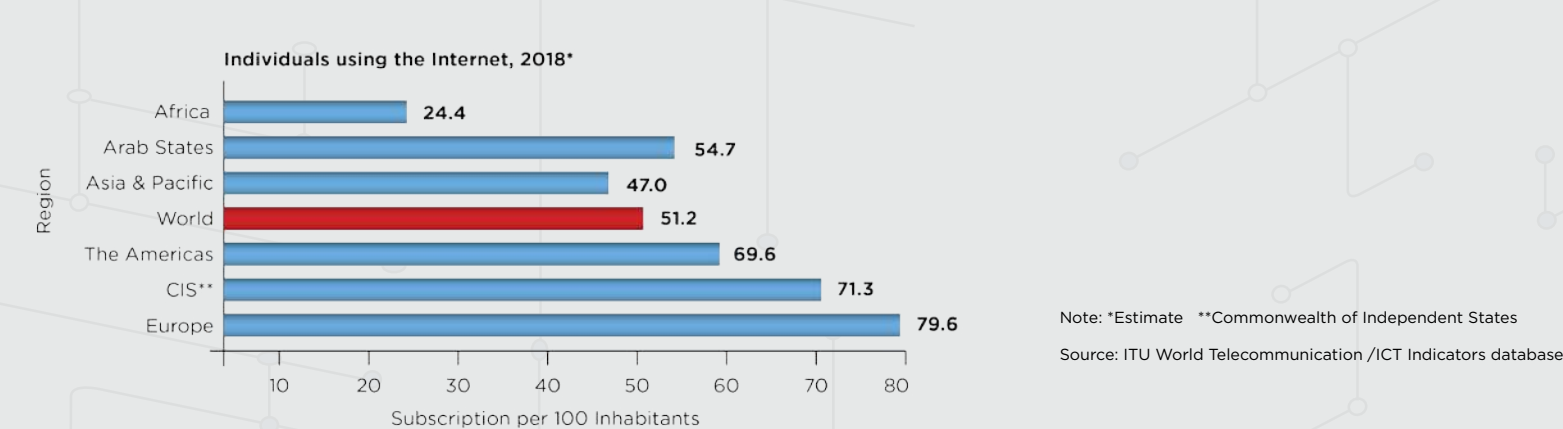
Internet usage in households is increasingly gaining momentum all over the world, with 57.4 per cent of the global households having access to Internet. Europe recorded the highest number of households with access to Internet at 82 per cent while Africa had the lowest at 22 per cent.

1.2.1.3 Broadband Services

Global mobile broadband subscriptions grew from 4.7 billion in 2017 to 5.3 billion in 2018, translating to a 69.3 per cent penetration rate. Overall, developing countries registered higher growth in mobile broadband subscriptions compared to developed countries. However, mobile broadband penetration rates for developing and developed countries in 2018 were estimated at 61 per cent and 111.2 per cent, respectively. The highest growth in mobile broadband subscriptions were observed in Asia-Pacific, the Arab States and Africa, whose penetration rates were estimated at 68.3 per cent, 62,7 per cent and 29.7 per cent, respectively. This is shown in Figure 1.5.

Figure 1.5: Regional Mobile Broadband Penetration 2018*

Note: * Estimate **Commonwealth of Independent States

Source: ITU World Telecommunication /ICT Indicators database
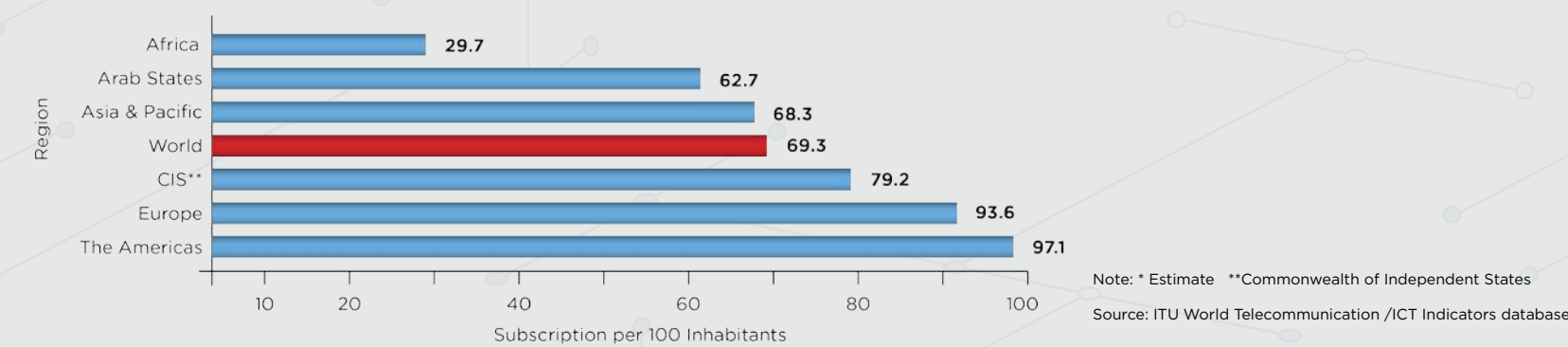
1.2.2 Local ICTs

The contribution of ICT sector to GDP as well as growth is summarized below.

1.2.2.1 Contribution of the ICT Sector to GDP

Table 1.1 shows the trend in contribution of ICT against GDP in Kenya in the past 5years

Table 1.1: Summary of Economic Indicators

Indicator	2014	2015	2016	2017+	2018*
Population (Millions)	43.0	44.2	45.4	46.6	47.8
GDP at market prices (KES Billion)	5,402.6	6,284.2	7,022.9	8,144.4	8,905
Growth of GDP at market Prices (Per cent Growth)	5.4	5.7	5.9	4.9	6.3
GDP Per Capita at Constant Prices (KES)	89,430.3	91,988.6	94,797.3	96,787.7	100,310.3
Transport and Storage GDP at Current Prices (KES Millions)**	462,457	510,488	565,829	607,503	711,352
Information and Communication GDP (KES Millions)	65,592.1	91,200.0	104,765.0	109,864.7	117,244.6
Information and Communication as Percentage of GDP	1.2	1.5	1.5	1.3	1.3
Percentage Change in Information and Communications at market prices (Per cent)	14.5	7.4	9.9	11.0	11.4
Private sector wage employment in Information and communication ('000)	102.7	109.7	115.2	122.4	129.3
Public Sector Wage Employment in Information and Communication ('000)	1.8	1.9	1.9	1.9	1.9
Consumer Prices, Annual Average [Index Numbers February 2009=100]	149.7	159.6	169.7	183.2	191.8
CPI Annual Inflation Rate (Overall) %	6.9	6.6	6.3	8.0	4.7

+ Revised * Estimate ** Includes Postal and Courier Activities
Source: Economic Survey 2019

1.2.2.2 Growth of the ICT Sector

The growth of the ICT sector has been on an upward trend for the fourth year running while its contribution to Kenya's GDP remained at 1.3 per cent. This growth is attributed to increased digitization of private business and Government services, continuous increase in uptake of ICT services by Kenyans, increased roll out of services to un-served and under-served areas. Figure 1.6 shows the information and communication sector GDP and growth.

Figure 1.6: Information and Communication GDP and Growth

1.3 Future Outlook

The future outlook in the economy and ICT sector are covered under 1.3.1 and 1.3.2.

1.3.1 Economic Outlook

According to the IMF's World Economic Outlook Report of July 2019, the global economic prospects are bleak and growth is forecasted to decline to 3.2 per cent in 2019, convalescing to 3.5 per cent in 2020. The forecasted pickup in global growth relies on supportive financial market sentiments, stabilization in currently stressed emerging market and developing economies, progress towards resolving trade-related tensions and policy differences as well as appropriate macroeconomic policies that are essential in stabilizing activities and strengthening the foundation of recovery.

The emerging market and developing economy are expected to grow at 4.1 per cent in 2019, increasing to 4.7 per cent in 2020. Growth in sub-Saharan Africa (SSA) is expected at 3.4 per cent in 2019 and 3.6 per cent in 2020, as robust growth in nonresource intensive countries partially offsets lackluster performance of the region's largest economies. Kenya's economic performance in 2019 is projected to be less optimistic (Economic Survey 2019), owing to the depressed rainfall, which may negatively impact agriculture, electricity, water supply as well as industries that have strong interlinkages with these sectors.

Nevertheless, the tourism sector, public consumption and private sector investments are projected to boost growth. Kenya's real GDP is projected to grow by 5.7 per cent in 2019, improving to 5.9 per cent in 2020, according to the World Bank Kenya Economic Update of 2019. While the medium-term growth outlook is stable, recent threats of drought and continued subdued private sector investment could drag down growth in the near-term.

Policies across all economies should focus on fostering equal opportunities, investing in digital economy, green energy and transport infrastructure as well as enhancing people's skills. The priority across all countries should be to strengthen resilience, enhance inclusion, reduce trade and technology tensions as well as address constraints hampering potential output growth.
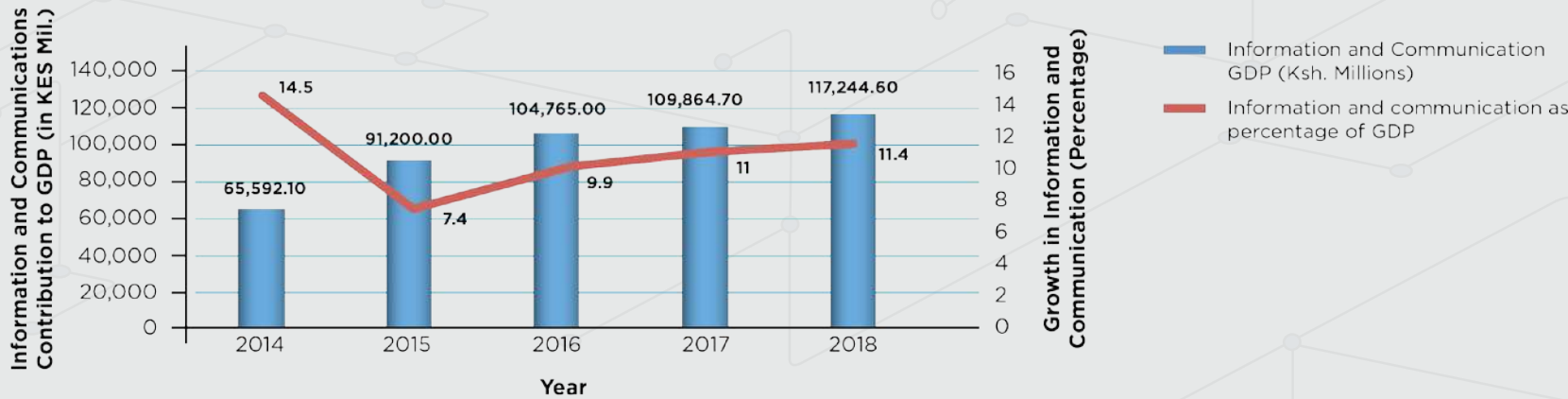
1.3.2 Outlook in the ICT Sector

ICT is expected to continue playing a key role in shaping trends in the Global economy. Artificial Intelligence (AI), Cloud Computing, Mobile Fifth Generation (5G), Cyber Security, Block Chain and the Internet of Things (IoT) are the primary technologies expected to play a significant role in shaping trends in various sectors of the economy. Global System Mobile Association (GSMA), The Mobile Economy 2019, proposes that AI will be key to future business and digital transformation. It will increasingly drive autonomous and intelligent networks as well as improve customer experience through greater learning of customer behaviour. Operators across the globe are therefore expected to focus on AI with various AI-based applications such as network operation/planning, chatbots, digital assistants, customer care and advertising as well as AI as a service.

Boundaries between mobile and the wider digital ecosystem are also expected to continue to blur, as data monetisation will continue to pose a challenge to operators. Many operators are therefore expected to move beyond their traditional ICT businesses to explore new opportunities in a fast-changing competitive landscape. One such opportunity is the content production and distribution. This area is undergoing significant transformation driven by shifting consumer behaviour, new players and changing content production and distribution models. To benefit from the unprecedented level of content consumption, more operators are expected to enter this content space. In addition, existing content providers are expected to strengthen their existing content offerings through vertical integration and partnerships with Over the Top (OTT) video service providers.

As captured by GSMA in its The Mobile Economy 2019 Report, there remains a need for most countries to modernise regulatory frameworks. The world has changed, and regulation needs to advance with the times. Authorities should therefore be looking at two key areas for review and reform: firstly, regulatory frameworks should be reviewed and updated to promote market dynamism, competition and consumer welfare, while discarding legacy rules that are no longer relevant in the context of the digital ecosystem. Secondly, governments should reduce the sector-specific tax burden to encourage investment in new technologies. By setting the right regulatory context, governments can create incentives for technological innovation and investment that will benefit the whole society.
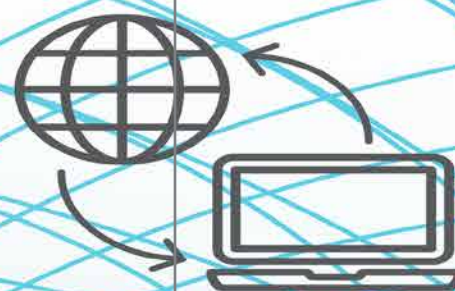
WIFI SIGNAL

TRANSMISSION

SIGNAL EMISSION
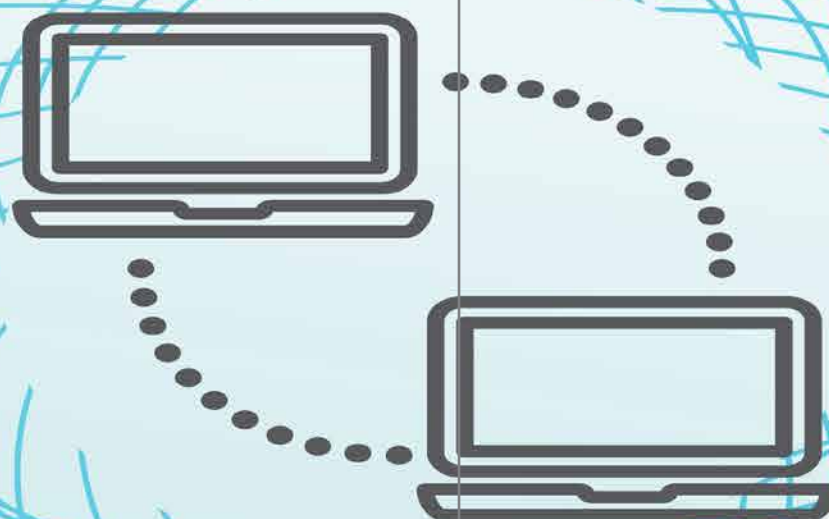
CONNECTIVITY

SIGNAL

SIGNAL TRANSFER

CELL PHONE
TOWER

SERVICE RADIUS

CHAPTER

II

MANAGEMENT OF ICT
RESOURCES

2. Management of ICT Resources

The Authority manages ICT resources to ensure their efficient and optimal utilization in the provision of ICT services. These include: frequency spectrum, domain names and numbering resources. The management of these resources ensures sustainable development of ICTs.

2.1 Radio Frequency Spectrum Management

The Authority manages scarce radio frequency spectrum to ensure its efficient utilization in the deployment of ICT services in the country. In this regard, the Authority plans, allocates, assigns and issues frequency licenses for use in various services. These services are mobile cellular, terrestrial fixed and fixed wireless access, satellite, Frequency Modulation (FM) radio, digital terrestrial television (DTT), aeronautical radio, amateur radio and private radio networks.

2.1.1 Mobile Cellular Services

During the year, the number of Second Generation (2G) and Third Generation (3G) transceivers increased marginally to 161,867 and 66,990 from 154,250 and 53,557, respectively. The Fourth Generation (4G) transceivers more than doubled to 17,744 from 7,469 the previous year. This is attributed to the issuance of spectrum in the 700 MHz and 800MHz bands to two licensees, which enabled the roll out of services on 4G technologies.

The growth in deployment of 2G, 3G and 4G transceivers in the country are shown in Table 2.1.

Table 2.1: Mobile Cellular Systems

Operator	Technology	2014/15	2015/16	2016/17	2017/18	2018/19
Telkom Kenya Ltd	2G	7,631	8,594	13,571	16,162	13,701
	3G	3,192	3,813	4,945	8,018	8,230
	4G	-	-	-	-	1,637
Airtel Networks Kenya Ltd	2G	16,811	18,848	18,407	23,060	25,744
	3G	1,892	5,235	6,580	7,752	12,118
	4G	-	-	255	1,260	2,844
Safaricom Limited	2G	65,552	65,120	105,582	115,028	122,422
	3G	14,216	21,770	31,191	37,787	46,642
	4G	-	-	3,618	6,209	13,263
Total Number of Transceivers	**2G**	**89,994**	**92,562**	**137,560**	**154,250**	**161,867**
	2G	**19,300**	**30,818**	**42,716**	**53,557**	**66,990**
	4G	**-**	**-**	**3,873**	**7,469**	**17,744**

Source: Economic Survey 2019

Figure 2.1: Mobile Cellular Systems Transceivers
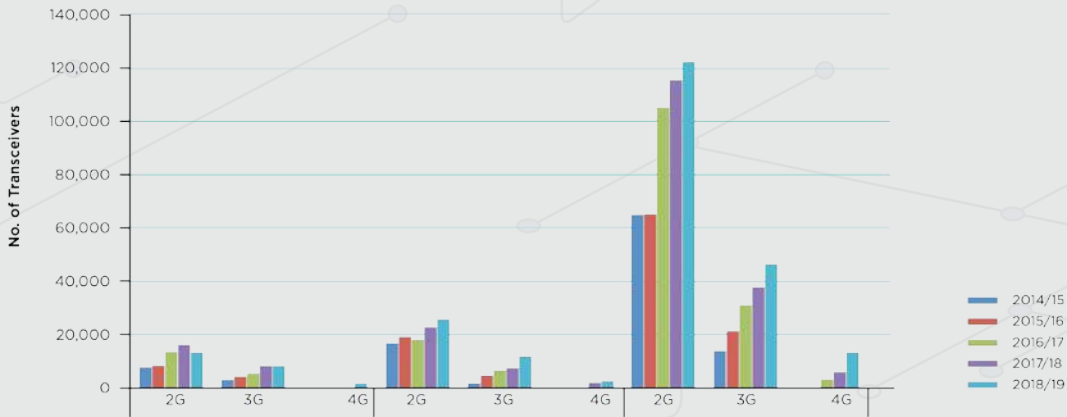
2.1.2 Fixed Wireless Access Systems

Fixed wireless access systems are traditionally deployed in the licensed 1.7GHz, 3.3GHz and 3.5GHz frequency bands to provide last mile connectivity to consumers. During the year, there was decreased deployment of fixed wireless systems attributed to preference of offering the same services in the unlicensed and unprotected 5GHz Industrial, Scientific and Medical (ISM) frequency band and fibre. Table 2.2 shows a summary of the deployment of fixed wireless access transceivers. Figure 2.2 shows fixed wireless access transceivers deployed.

Table 2.2: Fixed Wireless Access Systems

Frequency Band	Number of Transceivers				
	2014/15	2015/16	2016/17	2017/18	2018/19
1.7 GHz	276	80	82	61	62
3.3 GHz	201	218	137	110	108
3.5 GHz	1,692	1,784	1,783	1,779	497
Total	**2,169**	**2,082**	**2,002**	**1,950**	**667**

Source: Communications Authority of Kenya

Figure 2.2: Fixed Wireless Access Systems

2.1.3 Fixed Terrestrial Links

Fixed terrestrial links are used for traffic backhaul by telecommunications networks. During the year in review, the Authority assigned 147 fixed links bringing the total number to 7,620. The growth in the number of fixed links is attributed to the continued roll out of the 4G technologies by Mobile Network Operators (MNOs) requiring more backhauling. This included assignment of frequencies in the 80GHz band, which has attracted growing interest due to their capacity and directivity. Table 2.3 shows the deployment of fixed terrestrial links over the years. Figure 2.3 shows fixed terrestrial links deployed.

Table 2.3: Fixed Terrestrial Links

Frequency Band	Cumulative Number of Fixed Links				
	2014/15	2015/16	2016/17	2017/18	2018/19
5 GHz	1,501	2,274	3,168	2,331	2,214
6 GHz	66	29	72	73	67
7/8 GHz	1,108	1,285	1,286	1,469	1,610
11 GHz	5	12	12	12	12
13 GHz	349	351	406	461	421
15 GHz	2,679	2,763	2,731	2,385	2,589
18 GHz	75	59	72	121	150
23 GHz	513	481	488	436	407
38 GHz	107	126	188	182	141
80 GHz	-	-	-	3	9
Total	**6,403**	**7,380**	**8,423**	**7,473**	**7,620**

Source: Communications Authority of Kenya

Figure 2.3: Fixed Terrestrial Links
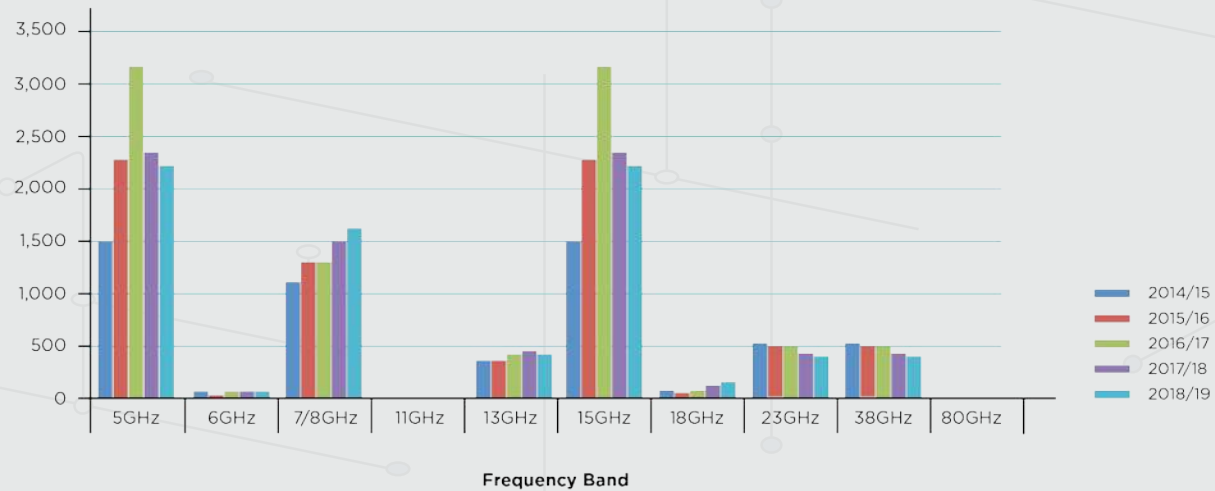
2.1.4 Satellite Systems

Satellite systems provide widespread voice, data and broadcast services. During the year, the Authority assigned frequencies for five (5) additional satellite earth stations and five (5) private very small aperture terminals (VSAT) stations.

2.1.5 Private Radio Networks

Private radio networks are used for communication within an entity and not open to the public. Compared to the previous financial years, the downward trend in the licensing of private land mobile services reversed during the year in review with the licensing of 218 additional private land mobile stations comprising 217 Very High Frequency (VHF) and 1 High Frequency (HF).

This reversal may signal the beginning of resurgence in the deployment of private radio networks. The licensing of base stations and mobile stations in the HF and VHF bands over the years is shown in Table 2.4.

Table 2.4: Additional Private Land Mobile Station

Frequency Band	Station Type	2014/15	2015/16	2016/17	2017/18	2018/19
VHF	Fixed	113	79	72	10	35
	Mobile/ Portable	1,166	649	559	52	244
	Total	**1,279**	**728**	**631**	**62**	**279**
HF	Fixed	10	4	1	2	0
	Mobile	34	5	3	0	3
	Total	**44**	**9**	**4**	**2**	**3**

Source: Communications Authority of Kenya

2.1.6 Aeronautical Radio
Aeronautical radio networks provide ground-to-ground and air-to-ground communication services to aviation operators. During the year, thhe Authority issued 579 aircraft station licenses compared to 673 the previous year.

2.1.7 Amateur Radio
Amateur radio is the use of radio frequency spectrum for purpose of non-commercial exchange of messages, wireless experimentation, private recreation and emergency communication. In collaboration with the Amateur Radio Society of Kenya (ARSK), the Authority issues amateur radio licenses to individuals who are duly certified by the ARSK or an equivalent body from another country. During the year, the Authority issued 30 amateur radio operator licenses compared to 19, the previous year.

2.1.8 Radio Alarm Network
A radio alarm network is a wireless system aimed at detecting unauthorized access into a premise. The network comprises an alarm decoder located at the control centre connected to wireless alarm terminals. During the year, there was a 70 per cent reduction in the overall number of VHF alarm units deployed in radio alarm networks compared to the previous year. This decrease was due to decommissioning of radio alarm networks, which may be attributed to adoption of alternative technologies. Figure 2.4 shows the deployment of alarm units over the years.

Figure 2.4: VHF Alarm Units
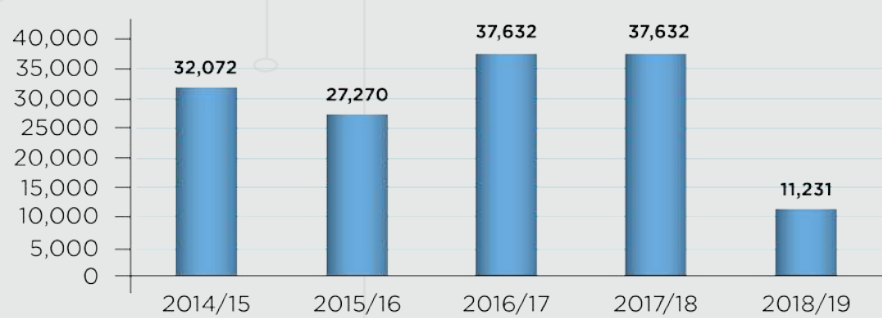
2.1.9 Digital Terrestrial Television (DTT) Broadcasting Frequencies
DTT broadcasting frequencies are used by land-based (terrestrial) television (TV) stations to broadcast content to televisions in digital format. During the year in review, there was a slight decline in the number of digital TV frequency assignments. The decline was mainly attributed to GoTV's decommissioning of transmitters. Table 2.5 and Figure 2.5 provide the number of frequencies assigned to digital TV signal distributors.

Table 2.5: Cumulative Digital TV Frequency Assignments

Signal Distributors	Assignments 2017/18	Assignments 2018/19
Africa Digital Network (ADN)	38	38
Gotv Kenya (GoTV)	58	49
Lancia Digital Broadcasting (LDB)	14	14
Pan Africa Network Group (PANG)	122	125
Signet Signal Distributors (SSD)	101	101
Total	333	327

Source: Communications Authority of Kenya

Figure 2.5: Digital TV Frequencies
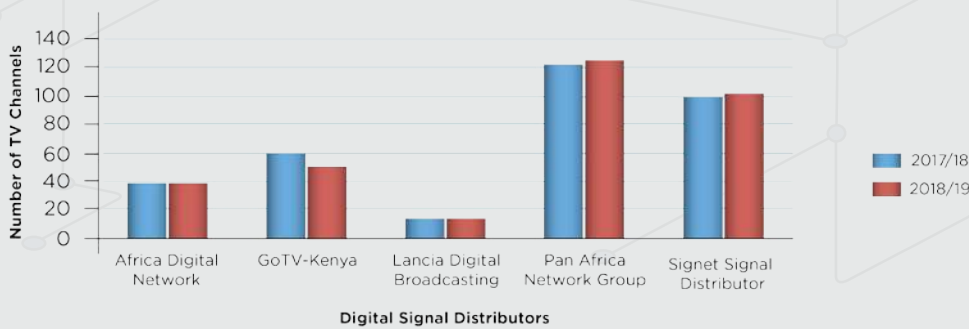
2.1.10 Frequency Modulation (FM) Broadcasting Frequencies
A radio station utilises frequency modulation (FM) broadcasting frequency to broadcast content on radio. During the year in review, there was an 11 per cent increase in the number of frequencies assigned for FM radio broadcasting. The Authoritynassigned FM broadcast frequencies to 104 FM stations compared to 93 the previous year. The number of frequencies assigned to commercial and community FM stations in the last five years is summarised in table 2.6.
Table 2.6: FM Broadcasting Frequencies

Table 2.6: FM Broadcasting Frequencies

Financial Year	Commercial FM Stations	Community FM Stations	Total
2014/15	33	5	38
2015/16	46	12	58
2016/17	66	4	70
2017/18	76	17	93
2018/19	17	87	104

Source: Communications Authority of Kenya

Figure shows the distribution of FM broadcasting by type.

Figure 2.6: Distribution FM Sound Broadcasting by Type
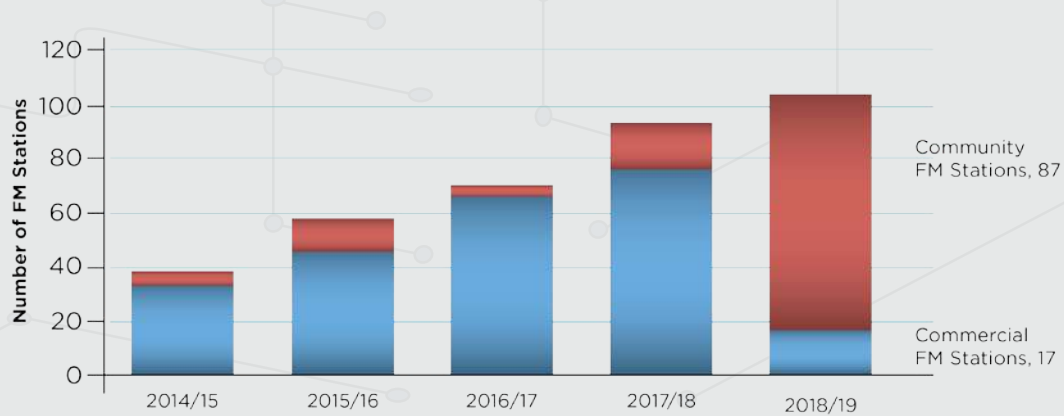
2.1.11 Maritime Mobile Service Identity
A Maritime Mobile Service Identity (MMSI) is a series of nine digits, which are sent in digital form over a radio frequency channel in order to uniquely identify ships and related maritime infrastructure. In the course of the year, the Authority assigned eight (8) MMSI to ships and 23 MMSI to beacons operated by the Kenya Ports Authority (KPA). Table 2.7 provides a summary of the number of MMSI assigned in the last two years.

Table 2.7: Maritime Mobile Service Identity Assigned

Financial Year	2017/18	2018/19
MMSI Maritimes Vessels (Boats)	3	8
MMSI Beacons	38	23
Total	41	31

Source: Communications Authority of Kenya

2.2 Management of Numbering Resources

Numbering resources are numerals that uniquely identify subscribers in communication networks. The Authority manages the National Numbering Plan that provides for numbering resources assigned to various telecommunication services.

2.2.1 Telecom Numbering Resources

The Authority assigns numbering resources for configuration of telecommunication systems to enable seamless interconnectivity amongst telecommunication service providers and provision of end-user services.

2.2.1.1 Assignment of Telecom Numbering Resources

The Authority assigned nine (9) mobile National Destination Codes (NDCs) to facilitate mobile telephony services, as well as one Central Office Code (CoC) for fixed telephony services. Other resources assigned included four (4) Short Codes and one (1) Mobile Network Code for data services. The Authority also introduced a new numbering level (0100) with a capacity of 100 billion numbers to cater for the envisioned Machine-to-Machine services. Machine-to-Machine communications refers to the direct communication between devices. Ten million numbers in this new numbering level were assigned. Table 2.8 shows numbering resources assigned during the last five years.

Table 2.8: Numbering Resources Assigned

Number Category	2014/15	2015/16	2016/17	2017/18	2018/19
Mobile NDC *	4	11	13	9	9
Mobile Network Code	0	0	2	0	1
Mobile Number Portability Routing	0	0	2	0	0
Fixed CoC **	35	23	140	374	1
Premium Rate Numbers	200	10	1	0	0
4 Digit Short Codes	8	10	3	4	6
Bulk SMS Short Codes	8,300	1,000	0	2,000	0
Toll Free Numbers	0	10	10,000	10,200	0
National Signaling Point Codes	1	0	2	1	0
International Signaling Point Codes	0	0	2	0	0
Issuer Identification Number	0	0	3	0	0
Machine to Machine	0	0	0	0	10,000,000

*One (1) Mobile National Destination Code (NDC) is equivalent to 1,000,000 mobile telephony subscriber numbers.

**One (1) Fixed telephony Central Office Code (CoC) is equivalent to 1,000 fixed telephony subscriber numbers.

Source: Communications Authority of Kenya

2.2.1.2 National Numbering Plan Utilisation

The Authority continually monitors the utilisation of numbering resources provided for in the National Numbering Plan. Table 2.9 provides a summary of the numbering resources that have been assigned viz-a-viz the capacity.

Table 2.9: Status on Assignment of Telecoms Numbering Resource as at 30th June 2019

Resource Type	Capacity	Assigned Resources	Assigned (Per cent)
Mobile National Destination Codes (MNDC)	200,000,000	107,000,000	53.5
International Signaling Point Codes (ISPC)	16	10	62.5
5-Digit Short Codes (SC-5)	80,000	51,403	64.25
4-Digit Short Codes (SC-4)	400	32	8
3-Digit Short Codes (SC-3)	20	11	55
Fixed Numbers (FN)	182,000,000	7,401,000	4.07
Network Colour Codes (NCC)	8	3	37.5
Premium Rate Numbers (PRN)	1,000,000	138,000	13.8
Toll Free Numbers (TFN)	1,000,000	112,000	11.2
International Mobile Station Identification Codes (IMSI)	100	11	11
National Signaling Point Codes (NSPC)	4,096	448	10.94
Data Network Identification Codes (DNIC)	10	1	10
International Mobile Station Identification Codes (IMSI)	100	10	10
National Signaling Point Codes (NSPC)	100	9	9
Data Network Identification Codes (DNIC)	100,000,000,000	10,000,000	0.01

Source: Communications Authority of Kenya

2.2.1.3 Mobile Number Portability

Number portability enables consumers to retain their mobile telephone numbers if they opt to change their mobile service provider. This enhances consumer convenience and choice, efficient utilization of numbering resources as well as promoting competition in the sector. In this regard, the Authority continuously monitors the availability of mobile number portability services to consumers. The porting statistics for the last five years are shown in Table 2.10.

Table 2.10: Monthly Porting Statistics

Number Category	2014/15	2015/16	2016/17	2017/18	2018/19
Mobile NDC *	4	11	13	9	9
Mobile Network Code	0	0	2	0	1
Mobile Number Portability Routing Code	0	0	2	0	0
Fixed CoC **	35	23	140	374	1
Premium Rate Numbers	200	10	1	0	0
4 Digit Short Codes	8	10	3	4	6
Bulk SMS Short Codes	8,300	1,000	0	2,000	0
Toll Free Numbers	0	10	10,000	10,200	0
National Signaling Point Codes	1	0	2	1	0
International Signaling Point Codes	0	0	2	0	0
Issuer Identification Number	0	0	3	0	0
Machine to Machine	0	0	0	0	10,000,000

Source: Communications Authority of Kenya

2.2.2 Management of Dot KE Domains

The Authority is mandated to promote the use and adoption of the dot KE country code top-level domain (ccTLD). This is Kenya's unique and authentic identity on the Internet. The use of dot KE domains promotes cyber security by enhancing the level of data and intellectual property protection, while stimulating the growth of eservices.

In consultation with the industry, the Authority developed a Restricted and Reserved Name List (RRNL) for the Dot KE country Top-Level Domain (ccTLD) namespace. This is aimed at curbing abusive domain name registrations, which may facilitate brand and identity theft among other forms of cybercrime.

The Kenya Network Information Centre (KENIC) is the licensed registry for the Dot KE domain namespace. In the course of the year, the Authority conducted annual regulatory compliance audit of KENIC. The audit established that KENIC was in compliance with the regulatory requirements. By the end of the period, KENIC had registered a total of 87,807 domain names. This was an increase of 17 per cent compared to the previous period. Table 2.11 shows the steady increase in registered domains over the years.

Table 2.11: Registered Dot KE Domains

Sub Domain	Use	Number of Domains				
		2014/15	2015/16	2016/17	2017/18	2018/19
CO.KE	Companies	43,483	53,990	61,969	69,287	82,721
GO.KE	Government Entities	325	368	397	448	538
OR.KE	Non Profit-Making Organizations	1,491	1,759	1,947	1,948	1,908
AC.KE	Institutions of Higher Education	885	791	738	804	919
SC.KE	Lower and Middle Level Institutions	175	605	980	1,168	1,139
NE.KE	Personal Websites and E-mail	93	182	189	434	153
ME.KE	Personal Websites and E-mail	566	337	309	372	223
MOBI.KE	Mobile Content	51	46	48	184	43
INFO.KE	Information	112	128	147	451	163
Total		**47,181**	**58,206**	**66,724**	**75,096**	**87, 807**

Source: Communications Authority of Kenya

3. Promoting Competition

The Authority manages competition to ensure effective and efficient ICT markets through licensing of ICT service providers, regulating provision of services and enhancing competition. Competitive markets benefit societies and ensure that personal freedoms to produce, consume and innovate are preserved. A competitive and robust ICT sector contributes to expansion of the national economy and has the potential to transform traditional economies into digital economies.

3.1 Licensing

The Kenya Information and Communications Act, 1998, mandates the Authority to license providers of telecommunications, radio communications, broadcasting, electronic transactions, postal and courier services.

3.1.1 Telecoms Licensing

In its effort to increase the number of players in the telecommunications market, the Authority issued 329 new telecom licences. At the same time 125 licenses expired, bringing the total number of licences to 2,987, as shown in Table 3.1.

Table 3.1: Telecommunications Licensees

License Category	2014/15	2015/16	2016/17	2017/18	2018/19
Telecommunications Contractors	542	665	517	593	677
Technical Personnel	714	653	502	561	542
Submarine Cable Landing Rights	3	3	3	3	3
International Gateway Systems and Services	14	13	12	12	12
Application Service Providers	163	206	207	240	290
Content Service Providers	261	320	323	364	424
Network Facility Providers Tier 1	3	3	3	3	3
Network Facility Providers Tier 2	22	23	23	24	27
Network Facility Providers Tier 3	19	24	25	30	34
Business Process Outsourcing	44	50	26	28	30
Telecommunications Vendors	393	432	515	552	594
Public Communication Access Centers	14	14	15	15	15
Dot KE Subdomain Registrars	0	48	61	67	76
Vendor and Contractor	637	231	132	132	131
Technical Personnel	251	230	96	93	92
Internet Service Providers	58	36	12	12	11
Value Added Service Providers	30	8	4	4	4
Premium Rate Service Providers	-	24	12	9	9
Local Loop Operators	10	7	5	5	5
Landing Cable Rights	-	2	1	1	1
Internet Exchange Point	-	2	1	1	1
Landing Rights Authorization for Global Mobile Personal Communications via Satellite	3	3	3	3	4
International Operator Backbone and Gateway	0	2	1	1	1
Data Carrier Network Operator	2	8	3	1	1
Total	**3,156**	**3,008**	**2,502**	**2,754**	**2,987**

Source: Communications Authority of Kenya

3.1.2 Type Approval

The Authority type-approves telecommunication equipment to ensure conformity as well as compatibility with national and international standards. A total of 485 models of equipment were type-approved as compared to 371 the previous year. This represents a 30.7 per cent increase that is mainly attributed to type-approved broadcast transmitters and satellite terminals, which grew by 585 per cent and 33 per cent, respectively.

The Authority also facilitated importation of telecommunications equipment by various international organizations through the issuance of 24 clearance authorizations. The number of type-approval/acceptance applications handled is shown in Table 3.2.

CHAPTER

III

PROMOTING COMPETITION

Table 3.2: Type Approval/Acceptance Applications Handled

Equipment Type	2014/15	2015/16	2016/17	2017/18	2018/19
Data Routers	2	7	15	17	24
Gateway/Switches/PABX	12	16	30	26	28
PSTN/IP Server Equipment	0	0	3	17	9
Wireless Terminals/System	0	0	0	6	0
Transceiver-VHF/UHF	22	16	16	6	25
Transceiver-HF	0	0	1	0	2
Transceiver-Citizen Band (CB)	0	0	4	0	0
Low Power Wireless Terminals*	147	182	63	0	0
Satellite Terminal	0	0	1	6	24
Alarm Transmitter	0	0	1	1	0
Broadcast Equipment	7	1	2	7	48
VSAT Equipment (Transceiver, BUC, HPA, etc)	0	0	0	0	2
Global System for Mobile Communications (GSM) Interface and BTS	0	3	9	0	13
VOIP Terminal	0	0	0	10	12
Telephone Set	0	0	0	3	0
GSM Mobile Phones	186	161	202	242	259
Fax Machine	0	13	24	8	11
Modem	0	1	3	12	0
DVB T2 receivers (Set-top boxes, IDTV and conditional access modules)	44	27	26	4	11
LTE Terminals	0	5	11	0	0
Microwave Equipment	8	2	3	6	17
Total	**428**	**434**	**414**	**371**	**485**

Source: Communications Authority of Kenya

*Category is exempt from type approval/acceptance since the FY 2017/18

3.1.3 Postal Licensing

The Authority issued 27 national and four (4) international courier licenses. As a result, the number of postal and courier licensees increased by 6.0 percent from 216 the previous year to 229 as shown in Table 3.3.

Table 3.3: Licensed Postal and Courier Operators

	2015/16	2016/17	2017/18	2018/19
Public Postal Operator (PCK)	1	1	1	1
National	140	144	170	178
International	38	41	45	50
Total	**179**	**186**	**216**	**229**

Source: Communications Authority of Kenya

*Category is exempt from type approval/acceptance since the FY 2017/18

3.1.4 Broadcasting Licensing

The Authority issued 71 broadcasting licences compared to 55 the previous year. The increase in the number of licences issued is attributed to increase in the number of commercial free-to-air (FTA) TV and community FTA radio. Table 3.4 shows the number of licenses issued across various broadcasting license categories.

Table 3.4: Number of Broadcasting Licenses by Category

Category of license	FY 2016/17	FY 2017/18	FY 2018/19
Commercial FTA TV	34	20	35
Commercial FTA Radio	1	30	23
Community FTA TV	2	0	4
Community FTA Radio	1	1	7
Subscription Broadcasting Services*	-	-	2
Subscription Management Services	3	1	-
Cable Subscription Broadcasting	4	0	-
Terrestrial Subscription Broadcasting	2	1	-
Satellite Subscription Broadcasting	1	0	-
Self-Provisioning Broadcast Signal Distributor	0	1	0
Internet Protocol Television Broadcasting	2	1	0
Landing rights	4	0	0
Total	**54**	**55**	**71**

*This new license category combines Internet protocol television broadcasting, cable subscription broadcasting, terrestrial subscription broadcasting and satellite subscription broadcasting.

Source: Communications Authority of Kenya

3.2 Trends In The Provision Of Ict Services

The Authority facilitates the development of a conducive environment for the provision of ICT services and monitors trends that inform regulatory interventions.

3.2.1 Mobile Telephony Services

The total number of mobile telephony subscribers rose to 52,168,066 from 45,568,924 recorded in the previous year. This represented a growth rate of 14.48 per cent, which is slightly higher than 13.2 per cent exhibited in the previous year. The ratio of prepaid to post-paid subscriptions remained at approximately 34:1.

Mobile service providers recorded a general increase in their subscriber bases: Airtel Networks Kenya Limited (31.7 per cent), Safaricom PLC (11.2 per cent), Telkom Kenya Limited (6.0 per cent) and Mobile Pay Limited (4.8 per cent). Conversely, the subscriber base of Finserve Limited dropped by 3.91 per cent. Table 3.5 shows a detailed distribution of subscribers per operator.

Table 3.5: Mobile Telephony Services as at the End of the Financial Year

| Mobile Operator	2014/15	2015/16	2016/17	2017/18	2018/19
Safaricom PLC	24,183,903	25,941,488	29,228,896	29,780,048	33,118,553
Airtel Networks Kenya Limited	7,002,464	6,588,825	6,179,182	9,744,440	12,837,025
Telkom Kenya Limited	4,053,111	5,238,162	2,898,511	3,995,365	4,235,632
Finserve Kenya Limited	873,643	2,015,352	1,864,838	1,959,009	1,882,440
Mobile Pay Limited	-	-	87,786	90,062	94,416
Total	**36,113,121**	**39,783,827**	**40,259,476**	**45,568,924**	**52,168,066**

Source: Communications Authority of Kenya

Telkom Kenya Limited and Airtel Networks Kenya Limited gained some market share as illustrated in Figure 3.1.

Figure 3.1: Mobile Network Services Market Share per Service Provider
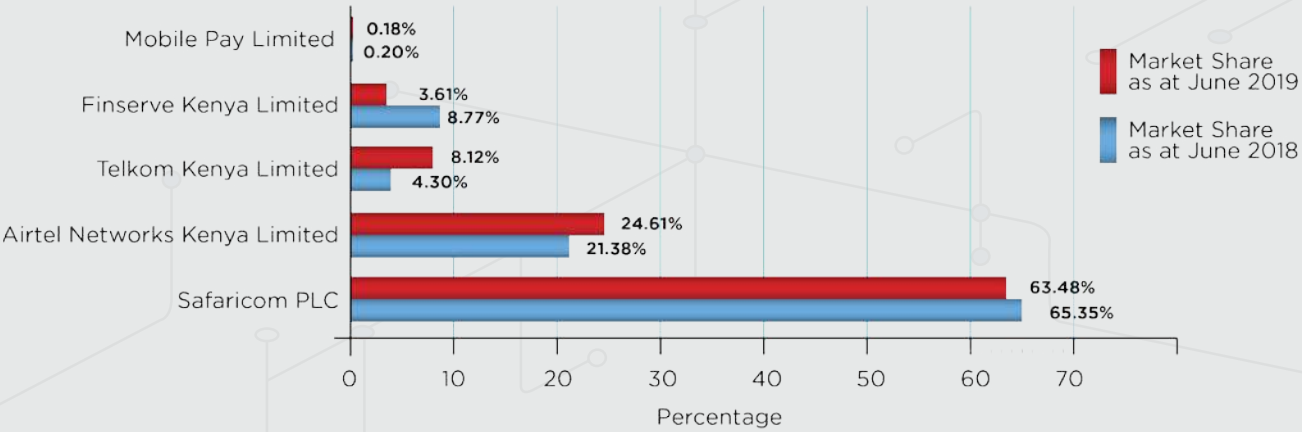
The total number of minutes of local calls made increased by 24.4 per cent, whilst the total number of short message service (SMS) reduced by 1.1 per cent from the previous year, as shown in Table 3.6.

Table 3.6: Mobile Traffic Indicators as at the End of the Financial Year

Mobile Voice Traffic		2014/15	2015/16	2016/17	2017/18	2018/19
Voice Traffic						
On-net Calls in Minutes		29,554,870,078	36,695,058,937	37,775,948,439	44,024,755,088	54,914,778,317
Off-net Calls in Minutes	To mobile	4,370,097,507	4,901,169,055	5,516,441,769	4,895,887,311	6,767,792,350
	To fixed	80,925,071	67,027,299	89,632,702	74,500,816	56,486,171
Total Number of Minutes of Local Calls		34,005,892,656	41,663,255,291	42,746,336,566	49,630,829,559	61,739,056,838
International Incoming Calls in Minutes		629,576,490	742,481,905	568,488,634	606,044,544	552,658,092
International Outgoing Calls in minutes		471,483,639	485,351,241	462,006,950	434,294,824	423,804,532
SMS Traffic (Number of Messages)		27,443,621,730	33,321,048,435	56,698,425,774	66,838,027,325	66,103,922,628

Source: Communications Authority of Kenya

The minutes of the on-net mobile traffic continued to be higher than that of the off-net mobile traffic. The percentage share of on-net mobile traffic vis-a-vis off-net mobile traffic is shown in Figure 3.2.

Figure 3.2: Share of On-Net vs Off-Net Minutes of Local Calls
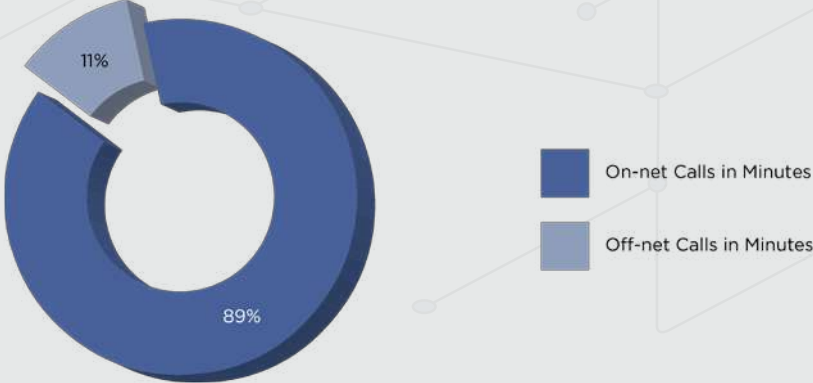
3.2.2 Mobile Financial Services

According to the FinAccess Household Survey Report 2019 by the Central Bank of Kenya (CBK), Kenya National Bureau of Statistics (KNBS) and Financial Sector Deepening), formal financial inclusion grew from 15 per cent in 2006 to 43.9 per cent in 2019. The report attributed the decline in attractiveness of informal and excluded financial services to the introduction and continued uptake of mobile financial services. This uptake highlights the important role of mobile financial services in thegrowth and development of Kenya's economy.

In the year under review, wallet-to-wallet interoperability of person-to-person (P2P) mobile money transfer service was launched in Kenya. This service enables customers of different mobile service providers to receive money directly into their mobile wallets. The innovative service is aimed at promoting competition among the service providers, as well as increasing consumer choice. The growth of mobile money subscriptions over the last five years is shown in Table 3.7.

Table 3.7: Mobile Traffic Indicators as at the End of the Financial Year

Operator	Jun-15	Jun-16	Jun-17	Jun-18	Jun-19
Safaricom PLC (Mpesa)	21,338,328	17,120,278	22,624,298	23,946,174	26,900,772
Telkom Kenya Limited (T-Kash)	192,531	193,831	194,445	63,023	76,061
Airtel Networks limited (Airtel Money)	3,119,812	4,853,869	1,530,645	3,619,415	3,681,194
MobiKash	1,714,170	1,772,466	1,772,466	-	-
Mobile Pay Limited (Tangaza)	503,556	503,556	87,786	90,442	94,416
Finserve Limited (Equitel Money)	873,643	1,860,647	1,864,838	1,959,009	1,882,440
Total Number of Subscribers	27,742,040	26,304,647	28,074,478	29,678,063	32,634,883

Source: Communications Authority of Kenya

The total number of active mobile financial services subscribers grew by 9.96 per cent as compared to 5.71 per cent growth in the previous financial year.

Figure 3.3: Mobile Financial Services Market Share Per Operator
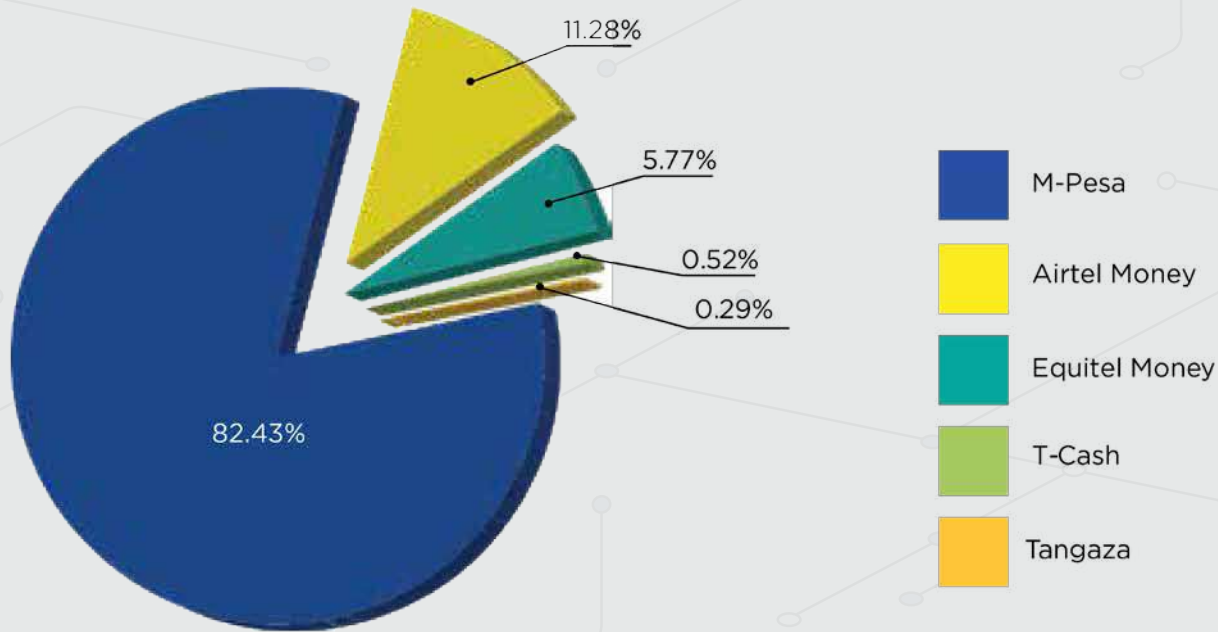
Similarly, the total number of registered mobile money transfer agents increased by 24,410 to stand at 290,432, while the total value of transactions rose by 17.13 per cent as shown in Table 3.8.

Table 3.8: Mobile Financial Services as at the End of the Financial Year

Service Provider	Jun-15	Jun-16	Jun-17	Jun-18	Jun-19
Total Number of Agents	129,357	158,777	180,657	266,022	290,432
Total Number of Transactions (Sending and Withdrawal)	-	-	1,809,060,843	2,419,728,996	3,113,444,578
Total Value of Transactions (Sending and withdrawal) in KES	-	-	4,621,335,817,397	7,216,119,374,092	8,452,390,769,012
Total Number of Mobile payments	-	-	1,117,558,719	1,778,332,875	2,276,659,139
Total Value of Mobile Payments in KES	-	-	2,353,437,167,416	4,603,841,510,286	7,148,459,944,348

Source: Communications Authority of Kenya

3.2.3 Internet Services

Internet subscriptions grew by 21.51 per cent. This growth was driven by the increase in mobile, satellite, fixed fibre optic and fixed cable modem subscriptions. However, there was a reduction in subscriptions for terrestrial wireless and digital subscriber line, as shown in Table 3.9.

Table 3.9: Internet Subscriptions as at the End of the Financial Year

Operator	2014/15	2015/16	2016/17	2017/18	2018/19
Mobile data/Internet subscriptions	19,809,709	26,758,789	29,205,204	40,743,570	49,532,380
Terrestrial wireless data/Internet subscriptions	17,721	13,449	47,231	122,037	66,989
Satellite data/Internet subscriptions	635	280	693	1,165	1,243
Fixed Digital Subscriber Line (DSL) data/Internet subscriptions	2,597	3063	2,715	1,254	1,014
Fixed fibre optic data/Internet subscriptions	93,598	27,571	54,700	135,964	213,199
Fixed cable modem (Dial Up) data/Internet subscriptions	25	77,319	99,971	101,508	132,072
Other Fixed Data Subscriptions	-	-	-	7,352	7,408
Total Internet Subscriptions	19,924,285	26,880,471	29,410,514	41,112,850	49,954,305

Source: Communications Authority of Kenya

Mobile data Internet continued to dominate data Internet subscriptions. Figure 3.4 shows the proportion of mobile to fixed data/Internet subscriptions.

Figure 3.4: Proportion of Mobile to Fixed Internet Subscriptions

- Mobile data Subscriptions
- Total Fixed (Wired) Internet Subscriptions
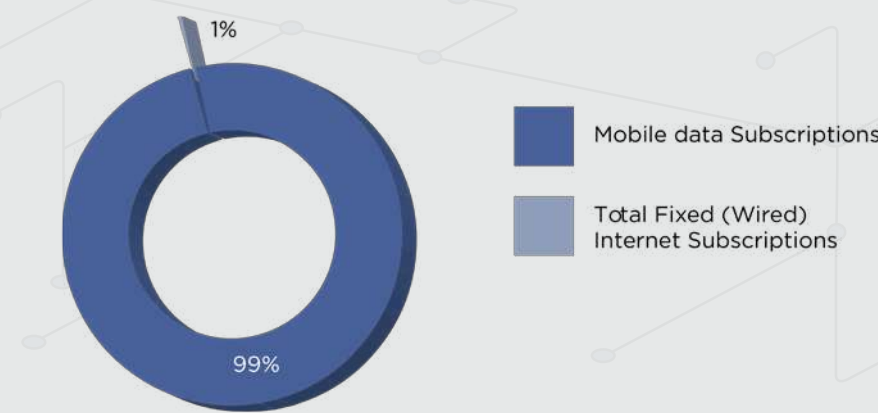
3.2.4 Broadband Services

The total broadband service subscriptions grew by 8.08 percent to stand at 22.2 million up from 20.5 million recorded in the previous year. Mobile and fixed broadband subscriptions grew by 8 per cent and 42 per cent, respectively. In contrast, fixed wireless subscriptions declined sharply by 44.6 per cent. The marginal growth in total subscriptions can mainly be attributed to expansion of 4G network thus increasing mobile broadband Ssubscriptions. This is shown in Table 3.10.

Table 3.10: Number of Broadband Subscriptions as at the End of Financial Year

Financial Year	2014/15	2015/16	2016/17	2017/18	2018/19
Fixed Broadband (DSL, Satellite, Cable, Fibre and Other)	94,769	107,799	157,896	246,729	350,408
Fixed Wireless (WIMAX)	17,103	13,366	46,485	121,637	67,343
Mobile	5,215,987	10,746,074	15,342,699	20,170,696	21,780,859
Total	**5,327,859**	**10,867,239**	**15,447,109**	**20,539,062**	**22,198,610**

Source: Communications Authority of Kenya

The total available bandwidth capacity stood at 4,707.46 Gbps as compared to 3,277.67 Gbps in the previous year. A detailed distribution of undersea and satellite bandwidth capacity is provided in Table 3.11.

Table 3.11: Available International Bandwidth as at the End of Financial Year

Financial Year	2014/15	2015/16	2016/17	2017/18	2018/19
SEACOM Capacity (Gbps)	770.00	950.00	2,020.00	2,220.00	2,840.00
TEAMS Capacity (Gbps)	820.00	702.00	702.00	702.00	702.00
EASSY Capacity (Gbps)	39.10	39.10	83.00	161.30	912.84
LION2 Capacity (Gbps)	39.20	39.20	101.40	188.70	247.04
Total Undersea Bandwidth Capacity (Gbps)	**1,668.30**	**1,730.30**	**2,906.40**	**3,272.00**	**4,701.88**
Satellite Bandwidth Capacity (Gbps)	0.27	0.47	0.47	5.67	5.58
Total Available Bandwidth Capacity (Gbps)	**1,668.57**	**1,730.77**	**2,906.87**	**3,277.67**	**4,707.46**

Source: Communications Authority of Kenya

The used international undersea bandwidth grew by 44.2 per cent and used international satellite bandwidth grew by 11.5 per cent, as shown in Table 3.12

Table 3.12: International Used Bandwidth as at the End of Financial Year

Year	2014/15	2015/16	2016/17	2017/18	2018/19
International Undersea Bandwidth (Gbps)	788.3	877.3	879.5	926.8	1,336.2
International Satellite Bandwidth (Gbps)	0.18	0.47	0.27	4.6	5.13
Total International Bandwidth (Gbps)	**788,484.8**	**877.8**	**879.8**	**931.4**	**1,341.3**

Source: Communications Authority of Kenya

3.2.5 Fixed Network Voice Services

Fixed network voice service subscriptions declined by 9.1 per cent to stand at 62,708 as shown in Table 3.13.

Table 3.13: Fixed Network Subscriptions

Operator	FY 2016/17	FY 2017/18	FY 2018/19
Wananchi Group Kenya Limited	44,146	44,706	1,067
Safaricom PLC	340	751	39,521
Telkom Kenya Limited	26,821	23,099	21,693
Mobile Telephony Network (MTN) Kenya Limited	438	431	427
Total Subscriptions	**71,745**	**68,987**	**62,708**

Source: Communications Authority of Kenya

The total traffic in minutes for calls from fixed to mobile networks increased marginally by 0.31 per cent to stand at 41,764,274. However, the total traffic in minutes from mobile to fixed network declined for the second year running from 74.5 million to 56.5 million minutes, which translates, to a 24.18 percent. This is depicted in Figure 3.5.

Figure 3.5: Voice Traffic Pattern for Fixed Networks
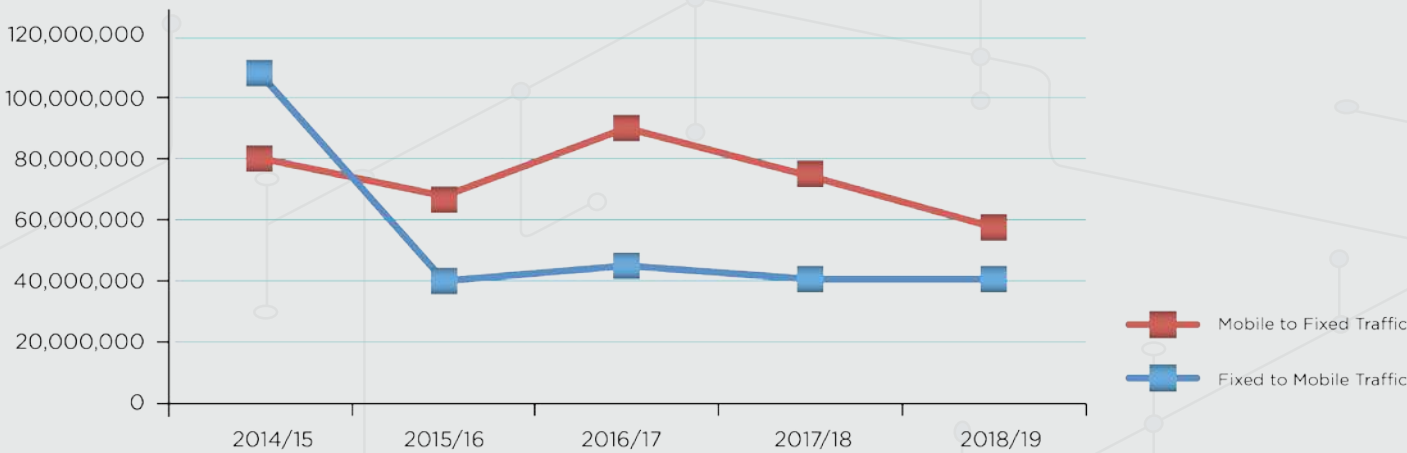
International incoming and outgoing traffic in minutes increased by 33.6 per cent and 33.4 per cent, respectively. This is shown in Figure 3.6.

Figure 3.6: International Incoming and Outgoing Calls
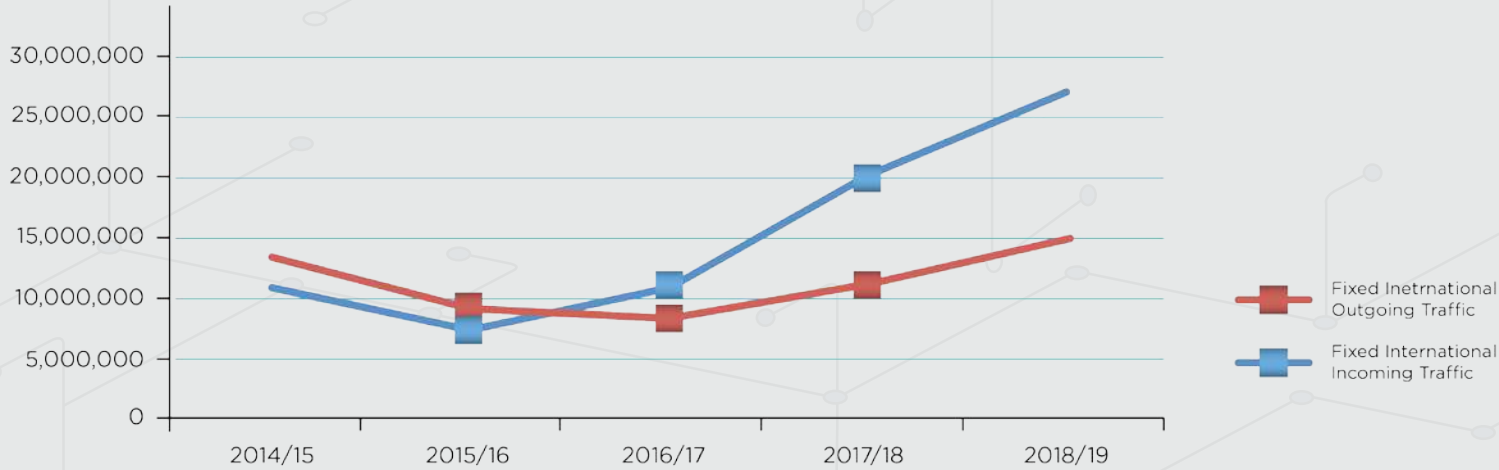
3.2.6 Postal and Courier Services
The total number of postal outlets increased marginally by 1.8 per cent. This growth was solely because of the 3.0 per cent increase in the number of private operator outlets. Postal and courier network indicators are shown in Table 3.14

Table 3.14: Postal and Courier Network Indicators as at the end of Financial Year

Network		2014/15	2015/16	2016/17	2017/18	2018/19
Public Postal Operator		1	1	1	1	1
Total Post Offices		623	623	623	623	623
Departmental Offices		477	446	447	447	447
Sub-Post Offices		146	146	146	146	146
Private Letter Boxes	Installed	450,000	450,472	450,472	450,472	430,350
	Rented	382,500	362,566	362,566	373,892	382,901
	Un-let	67,500	87,906	87,906	76,580	67,571
Letter Posting Boxes		890	890	891	891	891
Public Counter Positions		1,100	479	480	480	532
Automated Public Counters		716	472	473	480	532
Non-Automated Public Counters		384	7	7	0	0
Stamp Vending Licensees		4,274	883	883	883	883
Stamp Vending Machines		280	38	38	38	38
Private Courier Operator Outlets		707	976	997	1,027	666
Total Outlets (Post Offices + Private Operators Outlets)		1,330	1,599	1,620	1,650	1,289

Source: Communications Authority of Kenya

3.2.7 Broadcasting Services
The Authority regulates the broadcasting sub-sector by developing standards, regulating content and monitoring compliance and enforcement.

3.2.7.1 Free-to-Air Broadcasting Services
The number of commercial free-to-air (FTA) television stations on air increased from 66 to 85, while the number of Public and Community FTA TV remained at 3 and 1, respectively. The number of on-air Community FM radio rose to 42 from 38 recorded in the previous year while the number of on-air Commercial and Public radio stations remained at 131 and 13, respectively, as shown in Figure 3.7.

Figure 3.7: Free-to-Air Broadcasting
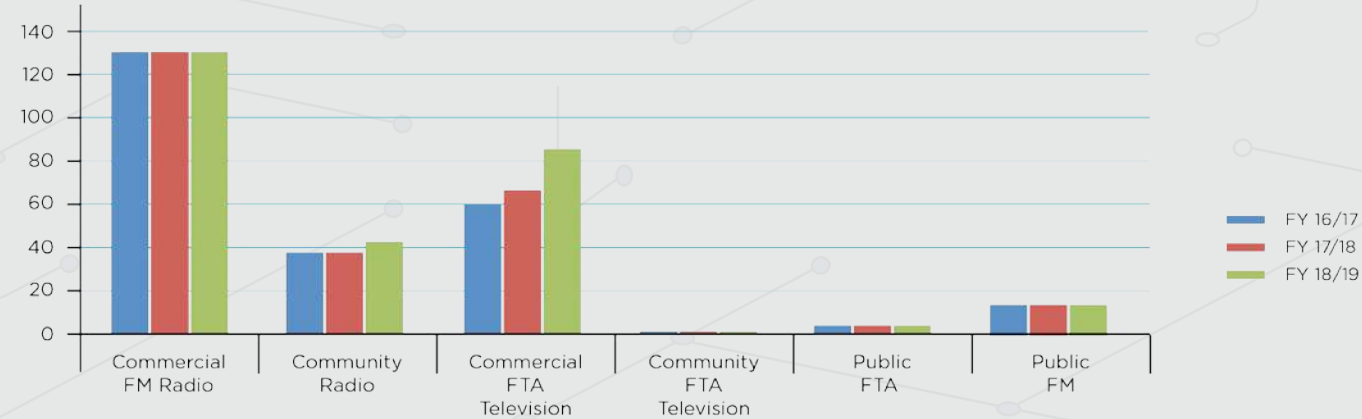
3.2.7.2 Subscription Broadcasting Services

Terrestrial subscription broadcasting services had the highest subscriber base with 4,080,324 from 3,809,244 subscribers recorded the previous year. This was followed by Satellite at 1,209,799 from 995,012 and Cable at 171,939 from 153,462 subscribers. The preference for terrestrial subscription can be attributed to the affordability of bouquets on the platform. Figure 3.8 shows the number of subscriptions to broadcasting services.

Figure 3.8: Number of Subscriptions to Broadcasting Services

3.2.7.3 Broadcasting Signal Distribution Services

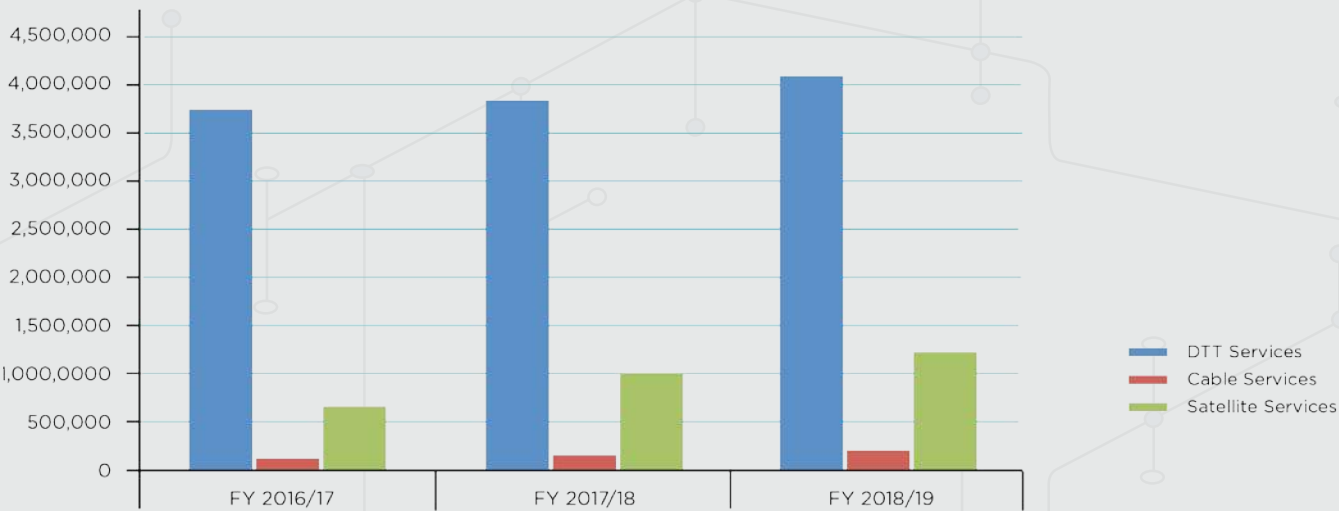The DTT population coverage stood at 86.0 per cent. ADNL had the highest DTT per cent population coverage at 78.6 per cent, followed by GOTV at 75.36 per cent, with SIGNET registering 61.21 per cent, PANG at 55.85 per cent and BAMBA at 39.72 per cent.

The broadcasting signal distributors (BSDs) enhanced their infrastructure in order to accommodate local insertions of content at reduced cost and hence increasing consumer choice. Figure 3.9 shows the DTT population coverage.

Figure 3.9: Digital Terrestrial Population Coverage in Percentage
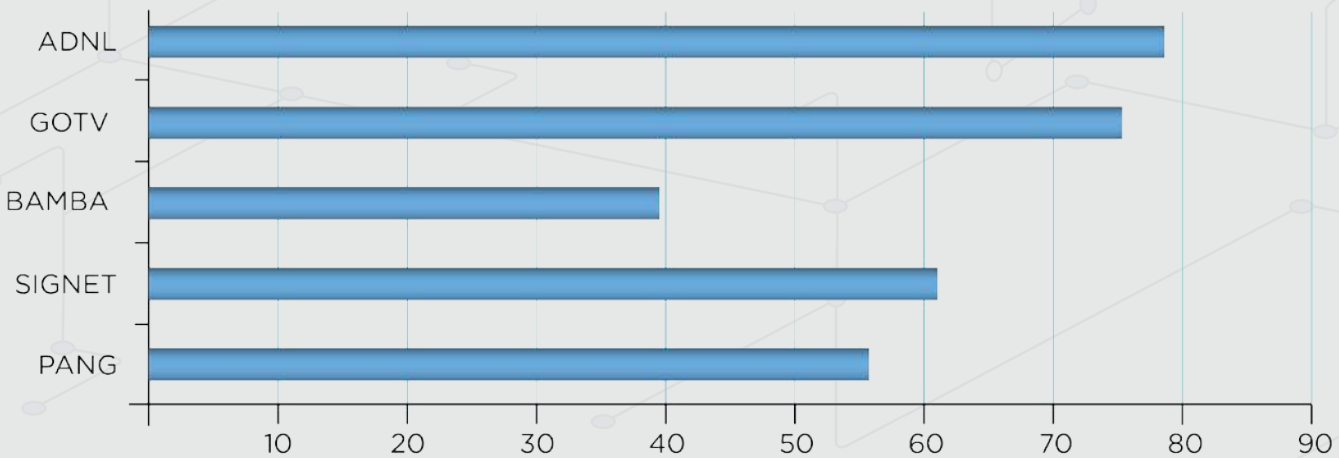
3.3 Tariffs and Competition

The Authority evaluates, approves and monitor tariffs, promotions and special offers in the ICT sector to ensure conformance to the sector laws and regulations. This is done in order to promote competition in the industry and protect consumers.

3.3.1 Fixed And Mobile Network Services

The Finance Act, 2018 increased excise duty on telephone and Internet data services to 15 per cent up from 10 per cent, which led to an increase in the default tariff rates for some mobile services. Consequently, the prices of voice, SMS, and data went up by 4 per cent, 10 per cent and 8 per cent, respectively. In contrast, the average pay-as-you-go (PAYG) off-net rate went down by 4 per cent.

On the other hand, the interconnection rates and regional roaming rates under the One Network Area Framework remained the same, as they were not affected by changes in excise duty. Table 3.15 shows changes in the average pay-as-you-go (PAYG) retail tariffs for fixed and mobile communications services.

Table 3.15: Average Tariffs as at the End of Financial Year in KES

Mobile Tariffs	FY 2017/18	FY 2018/19
Retail Mobile Communications		
Average On-net PAYG Rate per minute	2.67	2.79
Average Off-net PAYG Rate per minute	3.17	3.04
Average Price per SMS	1	1.1
Average Mobile Data Price per MB	4	4.3
Retail Fixed Communications*		
Average fixed-fixed	6	6
Average fixed-mobile	12	12

*Based on Telkom Kenya Limited household non-bundle Rate

Source: Communications Authority of Kenya

Figure 3.10 shows convergence of pre-paid as well as post-paid on-net and off-net voice tariffs

Figure 3.10: Evolution of PAYG Voice Tariffs
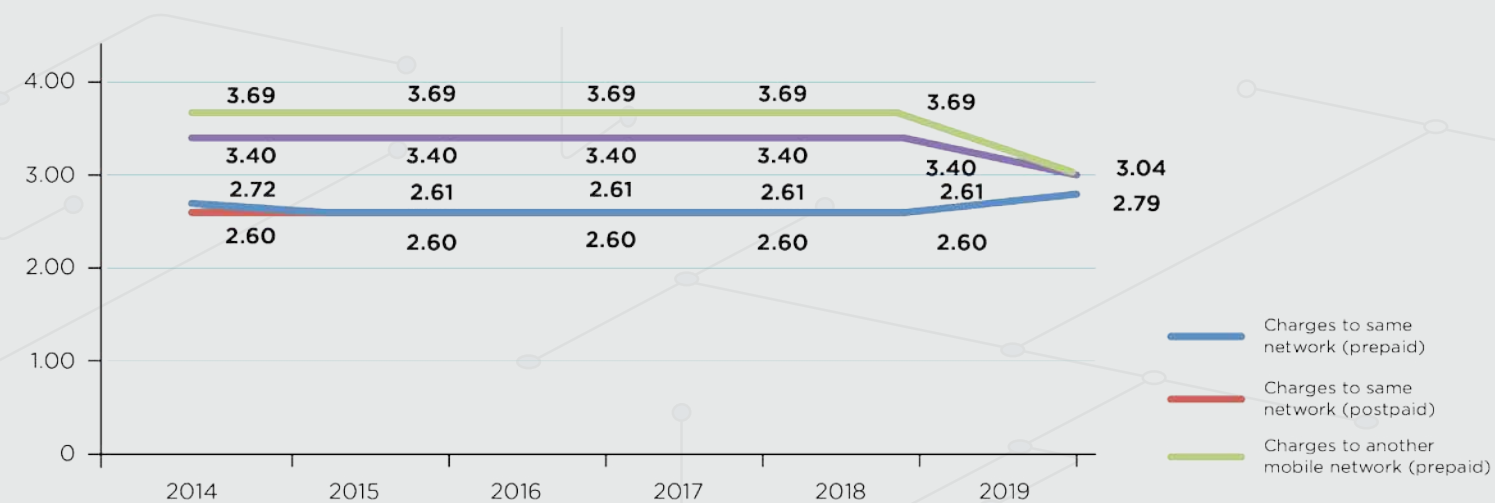
During the year in review, the Authority approved 28 new retail tariffs. In addition, the Authority approved 59 promotions and special offers, which depicts a 6.3 per cent decrease compared to the previous year. The trend in promotions and special offers is shown in Figure 3.11.

Figure 3.11: Promotions and Special Offers
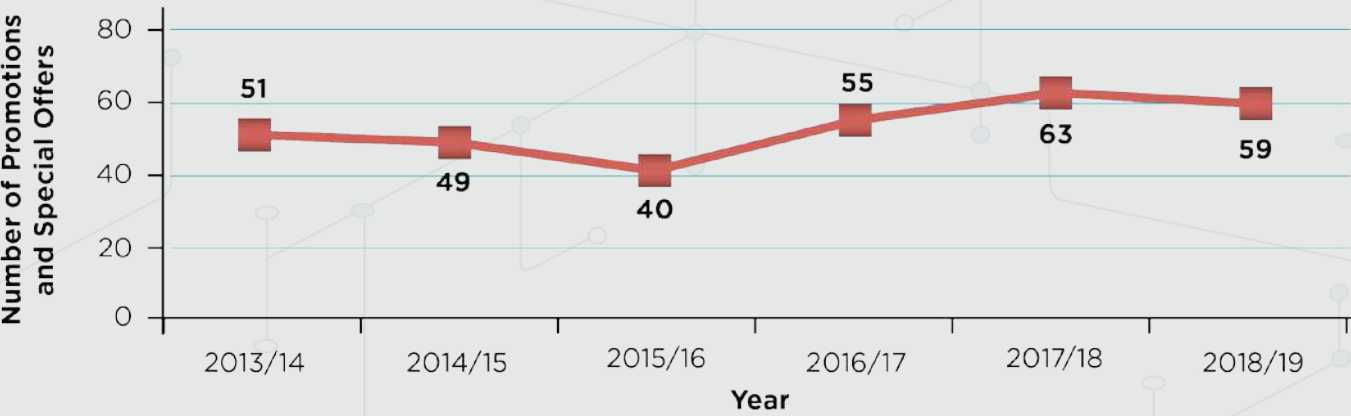
Figure 3.12 shows targeted products for promotions and special offers by MNOs

Figure 3.12: MNOs Products Promotions and Special Offers
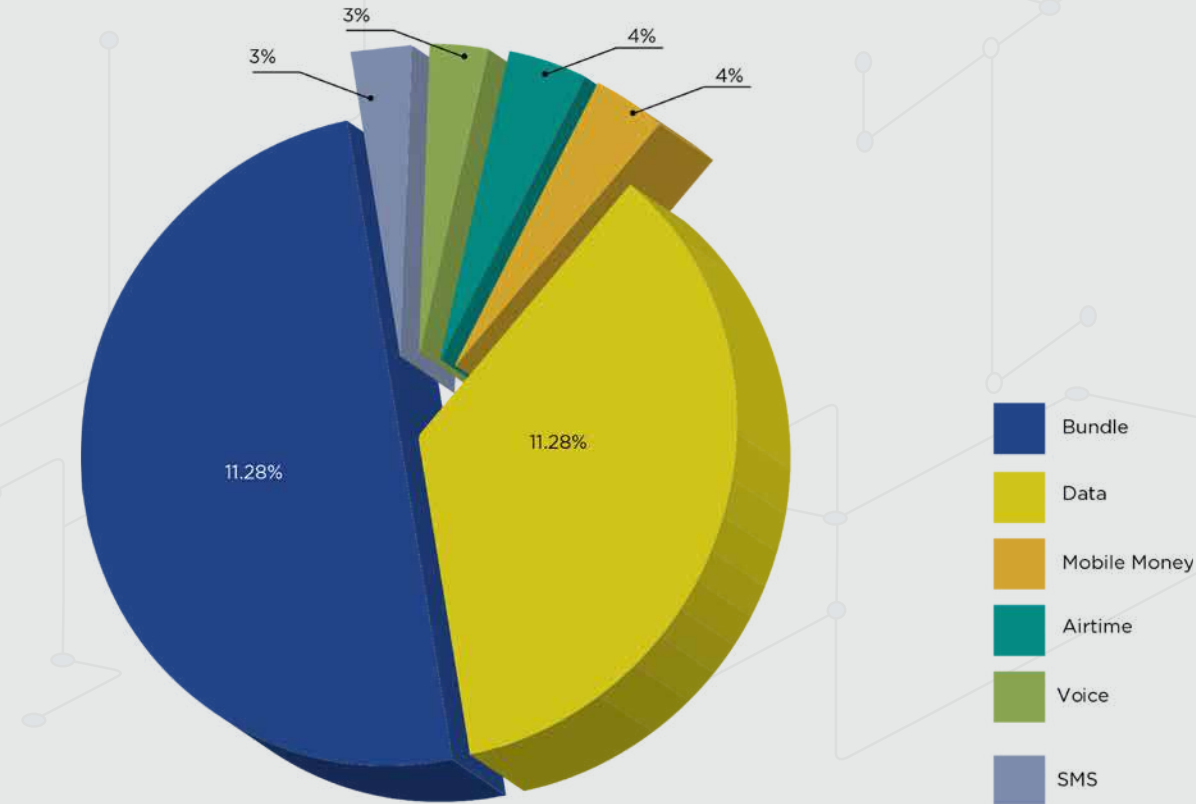
3.3.2 Broadcasting Services

The Authority continued to implement Determination No. 2 of 2016 Terrestrial Broadcast Signal Distribution on Pricing and Access Framework, which prescribes price caps on broadcast signal distribution. During the year, the Authority implemented Phase 3 of the broadcast signal distribution tariffs glide-path as shown in Table 3.16.

Table 3.16: Broadcast Signal Distribution Charges in KES per Site per Mbit/s

		KES per site Mbit/s per month		
		Phase 1-2016	Phase 2-2017	Phase 3-2018
BSD	Nairobi	89,545	91,753	93,411
	Other Cities/Towns	37,311	38,306	39,074
	Rural	32,961	33,759	34,352
Satellite up linking, National		234,015	234,319	234,594
Satellite reception	Nairobi	668	697	723
	Other Cities/Towns	835	872	904
	Rural	835	872	904
Local insertion (per channel not per Mbit/s		1,536	1,593	1,597

Source: Communications Authority of Kenya

CHAPTER

IV

ENSURING
COMPLIANCE

4. Ensuring Compliance

The Authority inspects, monitors and undertakes enforcement activities to ensure compliance with the law. This is aimed at verifying compliance with license conditions, quality of service thresholds, assessing conformance with standards, and ensuring the integrity of public communications infrastructure.

4.1 Inspections

The Authority conducted countrywide inspections of licensees' operations and facilities to determine the level of compliance with licence conditions. The Authority also inspected ICT installations to determine compliance with installation standards.

4.1.1 Telecommunications Inspections and Certification of Installations

The Authority carried out a total of 752 inspections during the year. This represents an increase of 449 per cent compared to the previous year. The sharp increase was as a result of increased inspections on subscriber identity module (SIM) card registrations across the country. The overall compliance based on the inspections was 44.7 per cent compared to 29.2 per cent the previous year. A summary of the inspected and compliant licensees is shown in Table 4.1.

Table 4.1: Summary of Telecommunication Licensee Inspections and Certification

Category	Inspected					Inspected				
	2014/15	2015/16	2016/17	2017/18	2018/19	2014/15	2015/16	2016/17	2017/18	2018/19
Content Service Provider	39	65	48	33	20	35	35	14	10	6
Application Service Provider	25	46	45	30	50	22	31	23	9	13
Network Provider Facilities	14	3	3	3	3	3	3	3	3	3
Business Outsourcing Process	1	1	3	-	3	1	0	1	-	3
International System & Services	13	10	1	2	-	12	9	1	2	-
Telecommunications Contractor	2	5	2	7	70	2	4	2	3	19
Private VSATS	0	1	1	-	-	0	0	0	-	-
Dot KE Domain	0	0	2	1	1	0	0	2	2	1
General (BTS Sites, Equipment vendors, SIM Card distributers, cybercafés and mobile money shops	8	0	1	49	594	8	0	1	10	291
Certification of Network Installations*	-	-	-	7	4	-	-	-	7	4
Total	108	146	114	137	752	94	93	48	40	336

* New category

Source: Communications Authority of Kenya

4.1.2 Radio-Communications Inspections

The Authority conducted country-wide on-site inspections at 1,324 radio stations comprising 698 fixed point-to-point links, 119 land mobile, 386 FM broadcast transmitter sites and 121 digital TV broadcast transmitter sites as summarized in Table 4.2.

Table 4.2: Number of On-site Inspections Conducted for the Last Five Years

Service/Year		2014/15	2015/16	2016/17	2017/18	2018/19
Land Mobile Networks		76	11	34	104	119
Broadcast Transmitters (Radio)		141	21	231	110	386
Broadcast Transmitters (TV)		-	-	54	38	121
Fixed Networks	Number of Sites	-	397	345	300	698
	Number of Links	-	-	-	-	1,850
Total		217	429	664	552	1,324*

* Does not include the number of fixed links

Source: Communications Authority of Kenya

4.1.2.1 Land Mobile Radio Stations

Land mobile services comprise of radio-communication in the HF, VHF and Ultra High Frequency (UHF) bands. The Authority undertook inspections that focussed on: programmed frequencies; status of equipment type-approval; network location and configuration as well as adherence to license conditions. A total of 119 land mobile networks were inspected out of which 69 were compliant translating to a compliance level of 58.0 per cent compared with 60.6 per cent in the previous year. The noncompliance was in the following areas: unauthorized expansion of existing networks; programming unauthorized frequencies and establishment of networks without
 authorisation/licence.

4.1.2.2 FM Radio and Digital TV Broadcast Stations

The Authority undertook inspections of FM radio and digital TV transmitter stations. These inspections focussed on: transmit frequency; status of equipment typeapproval; installation of band pass filter for FM stations; transmit power; installation site; antenna gain; and adherence to license conditions. The compliance level for FM radio was 85.23 per cent while that of digital TV broadcasting was 52.89 per cent. The non-compliance was mainly observed in the following areas: type-approval, transmit power and band pass filter. Table 4.3 shows the compliance levels.

Table 4.3: Compliance Levels

Inspection Area		Number of Sites and Links Inspected	Compliance Level (Per cent)
Broadcast (FM)		386	85.23
Broadcast (TV)		121	52.89
Land Mobile		119	58.00
Fixed	Number of Sites*	698	-
	Number of Links	1,850	83.00

* Data on number of sites not used in computation of compliance levels.

Source: Communications Authority of Kenya

4.1.2.3 Fixed Radio-Communication Installations

The Authority inspected 1,850 fixed links across the country. The main areas of focus were: transmit and receive frequencies; bandwidth; installation site and adherence to licence conditions. A total of 1,533 links were compliant, which represented a compliance level of 82.7 per cent compared to 86.8 per cent realized the previous year.

4.1.3 Postal and Courier Licensees Inspections

During the year, the Authority inspected 581 postal and courier outlets compared to 341 the previous year. This represents an increase of 70.4 per cent. The inspections covered 272 Postal Corporation of Kenya (PCK) outlets and 309 courier outlets. These inspections established that 190 outlets were compliant indicating a compliance level of 32.70 per cent.

4.2 Monitoring

Frequency monitoring is a spectrum management function, which helps in planning and use of frequencies to avoid incompatible
usage and identify sources of harmful interference.

4.2.1 Radio Monitoring and Frequency Interference Resolution

In an effort to ensure that users of assigned spectrum do not experience interruption, the Authority monitors frequencies utilisation before assignment and resolves frequency interference cases.

4.2.1.1 Frequency Monitoring

The Authority handled 21 cases for radio monitoring in HF, VHF, UHF and super high frequency (SHF) bands. The Authority also conducted FM and TV broadcast monitoring during the course of on-site inspection. Table 4.4 shows a summary of the frequency monitoring activities.

Table 4.4: Number of Frequency Monitoring Activities

Year	2014/15	2015/16	2016/17	2017/18	2018/19
V/U/SHF	13	15	32	10	14
HF	2	2	2	5	3
Broadcast (Surveillance)/Broadband	62	7	11	7	4
Total	**77**	**24**	**45**	**22**	**21**

Source: Communications Authority of Kenya

4.2.1.2 Radio Frequency Interference Resolution

A total of 78 interference cases were handled during the year, of which 64 were resolved as summarized in the table below. The resolution rate was 84.62 per cent as compared to 84.4 per cent in the previous year. Table 4.5 shows the number of frequency interference cases handled.

Table 4.5: Number of Frequency Interference Cases

Frequency Band/Service	Total	Resolved	Total	Resolved	Total	Resolved	Total	Resolved	Total	Resolved
VHF, UHF and SHF	13	10	27	25	19	47	36	60	48	14
HF	-	-	-	-	0	5	3	0	0	0
Broadcasting	2	2	7	5	8	2	2	18	18	0
Broadcasting	**15**	**12**	**34**	**30**	**27**	**54**	**41**	**78**	**66**	**14**

Source: Communications Authority of Kenya

4.2.2 Broadcast Content Monitoring

The Authority develops and monitors compliance to broadcasting content standards. Towards this end, the Authority monitored FTA television and radio licensees compliance to the following standards: local content quota requirement of 40 per cent; PwDs sign language insert; advertisements requirements (<10 minutes in every 30 minutes of programming, 40 per cent local); children's programs of at least 5 hours per week; and appropriate content during the watershed period.

4.2.2.1 Compliance with Local Content Quota

The Authority monitored the level of broadcasters' compliance to the following requirements: local content quota requirement of 40 per cent; PwDs sign language insert; advertisements requirements (10 minutes in every 30 minutes of programming, 40 per cent local); children's programs of at least 5 hours per week; and appropriate content during the watershed period. The Authority monitored broadcast content of 51 TV stations and 12 FM radio stations. The broadcast monitoring findings are summarized in Table 4.6.

Table 4.6: Summary of Broadcast Content Monitoring

Parameters	Number of Compliant Stations 2016/17	Number of Compliant Stations 2017/18	Number of Compliant Stations 2018/19
Local content quota requirement of 40%	32	40	38
PWDs sign language insert requirement	23	23	23
Advertisement (maximum limit of 10 minutes in every 30 minutes of TV programming)	49	48	51
Advertisements requirement (40% local)	49	48	51
Children's programs requirement of at least 5hrs per week	5	6	4
Appropriate content requirement during the watershed period	48	48	51

Source: Communications Authority of Kenya

4.2.2.2 Performance of the Various Genres

Music continued to have the highest weekly average followed by religious programming and talk shows as shown in Table 4.7.

Table 4.7: Broadcast Local Content by Genre in Minutes

Genre (Air Time Allocation)	FY 2016/17	FY 2017/18	FY 2018/19
Music	2,449	2,763	2,328
Religious	2,156	1,357	1,621
Talk shows	1,664	1,307	1,157
Children	179	321	300
Reality	242	314	207
Drama	171	143	221
Comedy	75	67	43
Docs/Educ	207	236	407
Sports	-	36	68
Current affairs	-	264	243
Magazine	-	336	521

Source: Communications Authority of Kenya

Figure 4.1 shows the annual compliance levels of the broadcast content by genre.

Figure 4.1: Broadcast Content by Genre
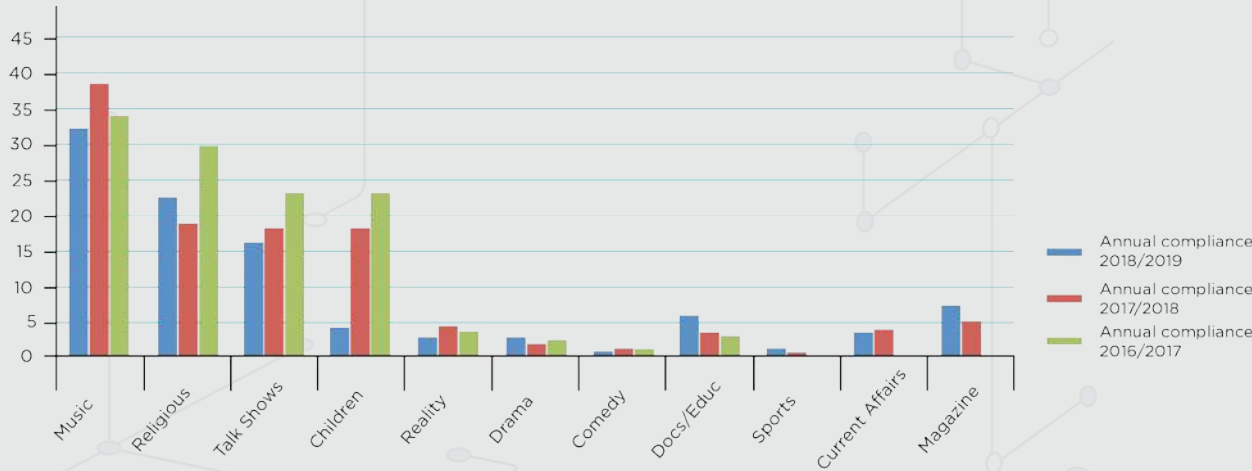
4.2.2.3 Children's Programming

The Authority also monitored licensed stations' compliance levels for the children's programming content. The stations' compliance levels to the children's programming are shown in the Table 4.8.

**Table 4.8: Children's Programs Requirement of at Least 5 Hours per Week (300 Minutes)**

Duration of Children Programming (Minutes)	No. of Stations 2016/17	No. of Stations 2017/18	No. of Stations 2018/19
30 minutes – 100 minutes	7	9	8
100 minutes - 300 minutes	8	11	12
300 minutes and above	5	6	5

Source: Communications Authority of Kenya

The Authority also monitored compliance levels for the children's programming. The annual compliance levels are shown in Figure 4.2.
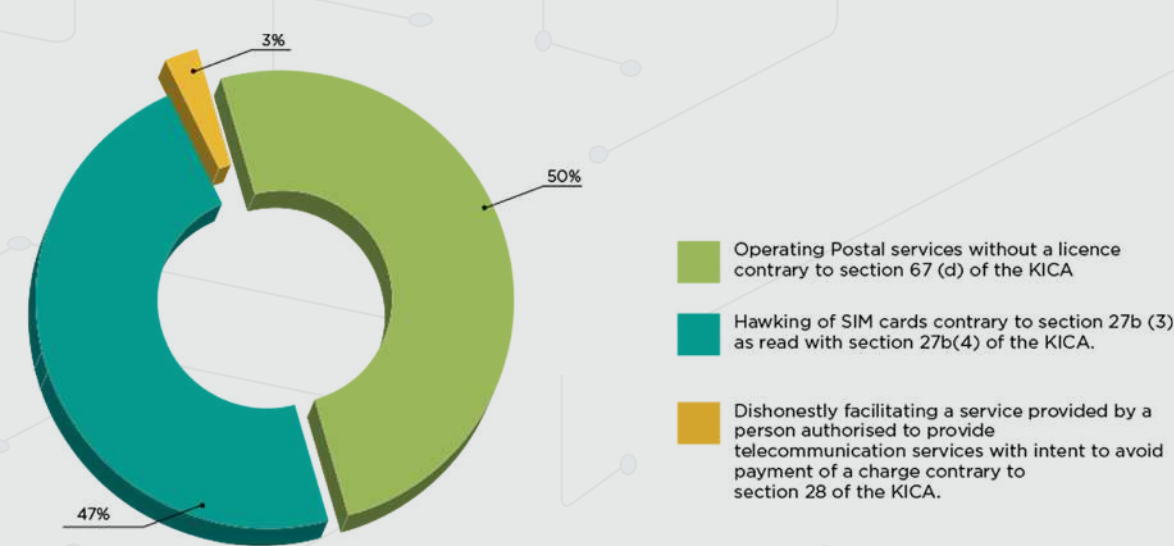
Figure 4.2: Children's Programmes Requirement of at Least 5 hours per Week
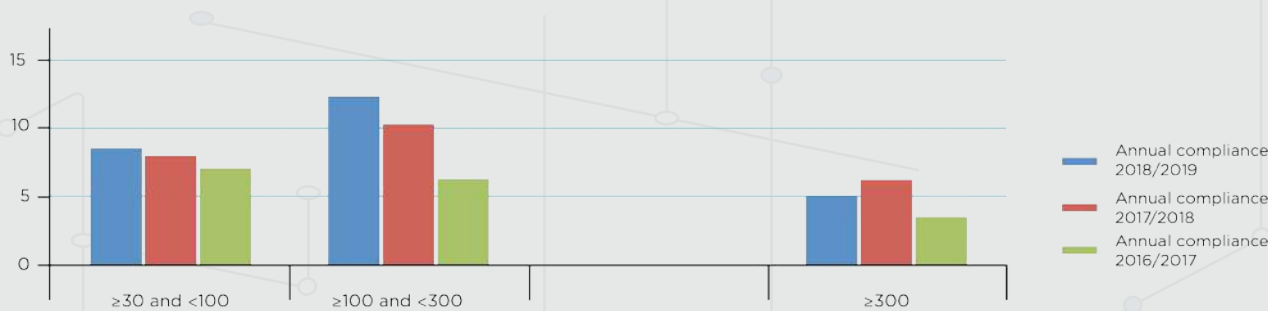
4.3 Enforcement

The Authority, in its enforcement activities saw the prosecution of 38 cases. In these cases, 25 were concluded and 13 are still ongoing Figure 4.3 shows the offences that were committed.

Figure 4.3: Enforcement Activities for FY 2018/19

4.4 Evaluation of Environmental Impact Assessment Reports

The Authority collaborates with the National Environmental Management Authority (NEMA) to assess the environmental impact of ICT installations. This aims at ensuring that various ICT installations in the country are compliant with environmental standards. In compliance with Section 60 of the Environment Management and Coordination Act (EMCA) of 1999 (as amended), NEMA routinely submits to the Authority Environmental Impact Assessment (EIA) Reports on proposed ICT installations for review. The Authority assessed 70 EIA Reports during the year in review.

5. Management of Cyber Security

The global cyber threat landscape is continuously evolving with cyber attackers modifying and perfecting cyber threat distribution schemes, resulting in a rapid evolution in cyber threat attack methodologies such as phishing emails, smishing, vishing, pretexting, baiting as well as quid-pro-quo. Cyber crime outfits globally are aligning to existing criminal structures to optimize cyber crime for financial gain. These evolving cyber threat actors include Advanced Persistent Threat (APT) groups, which are the world's most potent hacking threat, since they have resources that afford them protections that other standard cyber criminal groups do not have These groups have gained notoriety for targeting corporates, compromising major global carriers as well as using their networks to track and spy on their targets, with a focus on exfiltration of trade secrets and intelligence targeting both private businesses and government agencies.

The Authority is mandated to develop a framework for facilitating the investigation and prosecution of cybercrime offenses. In furtherance of this mandate, the Authority has in place the National Kenya Computer Incident Response Team - Coordination Centre (National KE-CIRT/CC), which is a multi-agency framework that is Kenya's National point of contact on cyber security matters. This multi-agency approach is aimed at expediting the response to and resolution of cyber threats where the roles, strengths and synergies of the various government agencies lead to enhanced efficiencies and effectiveness.

5.1 National Cyber Security Management

The Authority undertook various activities aimed at enhancing national cyber readiness and resilience. This entailed among others, enhancement of the capabilities of the National KE-CIRT/CC, broadening multi-stakeholder engagement, technical training for the local sector Computer Incident Response Team (CIRTs) as well as promoting a national culture of cyber security through various public awareness and engagement activities. These initiatives are geared at enhancing Kenya's proactive response to cyber threats.

The National KE-CIRT/CC detects, prevents and responds to cyber threats targeted at the country on a 24/7 basis. The centre also coordinates response to cyber security matters. This is done in collaboration with relevant actors locally and internationally. Figure 5.1 shows an overview of the functions of the National KE-CIRT/CC.

Figure 5.1: Functions of the National KE-CIRT/CC

CHAPTER
V
MANAGEMENT OF CYBER SECURITY
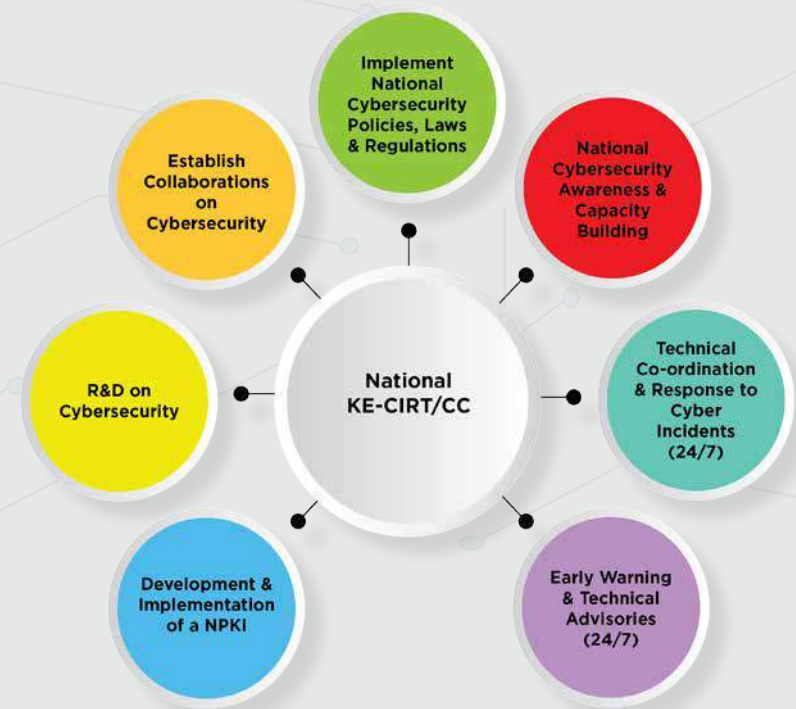
5.2 Cyber Threats Detected

The National KE-CIRT/CC proactively detected and responded to various cyber threats targeting Kenya. The centre also dispatched cyber threat advisories to the public and to National KE-CIRT/CC Cyber Security Committee (NKCC) constituents. The National KECIRT/CC detected 51,902,260 cyber threat events compared to 23,815,972 the previous year.

This increase may be attributed to the enhancement of the KE-CIRT/CC detection capabilities, enhanced collaboration with external partners, as well as increased global cyber attacks. These attacks targeted individuals, corporates and government systems including critical infrastructure and essential services.

These attacks varied from denial-of-service (DoS), which included botnet and bruteforce attacks that led to denial of computer services and illegal access to computer systems; online impersonation via social media accounts and domain names; website attacks that involve website defacement; malware and ransom-ware; social engineering attacks that involved spam and phishing attacks; online abuse that included online fraud, hate speech, incitement to violence and fake news; and system misconfiguration. Table 5.1 shows a summary of the report on National Cyber Threats.

Table 5.1: Cyber Threats Detected

No.	Cyber Attack Vector	2016/17	2017/18	20118/19
1.	Malware attacks	4,146,435	16,306,547	40,893,141
2.	Web application attacks	2,656,675	3,743,638	6,109,184
3.	Botnet/DDOS	952,327	3,756,334	4,852,022
4.	System Misconfiguration	-	6,158	47,913
5.	Online Abuse	61	3,295	458
6.	Online Impersonation	46	368	568
	Total Cyber Threats	**7,755,498**	**23,815,972**	**51,903,286**

Source: Communications Authority of Kenya

5.3 Cyber Threats Advisories

To enhance the feedback process, the Authority issued 48,664 cyber threat advisory reports of cyber incidents to the affected critical infrastructure service providers. Further, the Authority held monthly cyber security forums for the local cyber security community to discuss topical issues on cyber security as well as quarterly NKCC meetings. A summary of cyber threats validated and escalated is shown in Table 5.2.

Table 5.2: Cyber Threats Validated and Escalated

No.	Cyber Attack Vector	2016/17	2017/18	20118/19
1.	Malware	94	1,848	6,715
2.	System Misconfiguration	-	1,881	38,320
3.	Botnet/DDOS	56	291	868
4.	Online Impersonation	46	244	568
5.	Online Abuse	15	2,767	458
6.	Web Application Attacks	14	149	1,735
	Total Cyber Threats	**225**	**7,180**	**48,664**

Source: Communications Authority of Kenya

5.4 Cyber Security Collaborations

In view of the cross border nature of cyber crime, international collaborations are an essential component of cyber security management. The Authority continued to enhance its trust network at the local and international level through collaborations and information sharing with various global cyber security partners.

These partners included ITU, Forum for Incident Response and Security Teams (FIRST), Internet Corporation for Assigned Names and Numbers (ICANN), Facebook, Twitter, Google, GoDaddy, G7 24/7 Cybercrime Network and 48 other National CIRTs.

The Authority also established new collaborations with the Portuguese National CERT (CERT.PT).

CHAPTER
VI

EMPOWERING AND PROTECTING THE CONSUMER

6. Empowering and Protecting the Consumer

The Authority is mandated to empower consumers of ICT services and protect their interests. This is achieved by safeguarding the rights and responsibilities of ICT consumers and service providers as stipulated in the KICA and regulations thereunder (https://ca.go.ke/about-us/statutes-regulations/sector-legislation/). In ensuring that consumers are protected, the Authority requires all licensed ICT service providers to establish appropriate customer care and complaints handling mechanisms as well as publish the charges, terms and conditions of services. The Authority undertook various regulatory interventions to understand and empower consumers. This was done through conducting consumer surveys, education and outreach.

6.1 Consumer Education And Information

The Authority executed various consumer education initiatives to empower consumers in order to make informed decisions in the ICT market. The education activities were executed under the following programmes:

6.1.1 Child Online Protection

The Authority recognizes that children and youth are early adopters of technology and are increasingly being exposed to risks and vulnerabilities in the cyber-space. In view of this, the Authority carried out various activities geared towards Child Online Protection. These include: endorsement of GSMA's "We Care Campaign", a mobile phone service industry initiative that saw mobile operators commit towards developing mechanisms to protect children online; participation in 2018 Kenya Music Festivals and 2019 Kenya Drama and Film Festivals; created Child Online Protection (COP) awareness in 6 schools in Nairobi, Busia and Bungoma Counties; as well as exhibiting in the 14th Kenya Primary School Head Teachers Associations Annual Delegates Conference.

Arising from the findings of the consumer trends and behavior survey carried in the previous year, the Authority conducted cyber safety awareness in an effort to enhance the national cyber-hygiene levels. The Authority participated on various activities under the theme "Child Online Protection and Safe Use of Internet".

As part of the celebrations to commemorate the Safer Internet Day, the Authority hosted a live breakfast show on Citizen TV, which focused on child online protection and cyber security in Kenya. The Authority also participated in the launch of the Kenya Scouts Curriculum on online safety, created awareness on online safety in collaboration with Digital TV broadcaster Elimu TV at the Makini School.

6.1.2 Consumer Education Initiatives

The Authority held a County ICT Consumer Forum dubbed 'Kikao Kikuu' in Kisumu County, which was preceded by a road show and an ICT-centric Exhibition. The forum provided a platform to engage ICT service providers, consumers of ICT services and the County Government. The engagement also enabled the Authority to obtain feedback from consumers regarding various issues on ICT services within the County. In addition, the Authority conducted awareness during the Lamu Cultural Festival, KASS Marathon, Chemusus Dam Marathon, Law Society of Kenya (LSK) Conference, information Systems Audit and Control Association (ISACA) Conference, Friends Church Yearly Meeting.

In its effort to empower consumers, the Authority availed consumer advisory information targeting users of mobile, Internet, postal and courier services. In addition, the Authority availed information on e-waste and guidelines for the Child Online Protection. This information was disseminated during all consumer education outreach activities, corporate events, PCK outlets, Huduma Centres and National Public Libraries. A total of 1,007,859 consumer education materials were distributed during the year as compared to 621,771 the previous year.

6.2 Understanding the Consumer

The Authority undertakes regular consumer trends and behavior surveys, customer satisfaction surveys, to gather insight into the behavior of ICT services consumers in Kenya. These surveys seek to continuously assess consumer behavior in the market with the aim of obtaining an objective view of the consumer trends, behavior and satisfaction with regards to the use of ICT services. The findings from the surveys inform consumer protection and empowerment mechanisms as well as initiatives.

To a large extent, the enquiries were general in nature, touching on information regarding the Authority's various mandates on the ICT industry. Some were in regard to internships and business opportunities. These are shown in Figure 6.2.

Table 6.1: Number of Enquiries Processed in the FY 2018/19

Service	Number
CSR Sponsorships	2
Visit related	3
Research	3
Broadcasting (Radio/TV/Satellite/Cable/Digital)	27
Frequency Licensing	8
Public Affairs	17
Telecom Licensing	86
Postal/Courier	16
Criminal use of facilities (Email/Internet/Phone)	10
Customer Information	7
Cyber Crime	15
Fraud (Money Transfer/SMS/Calls)	43
Service Provision Failures/Interruptions: (Mobile/Internet/TV)	96

| Service	Number
Quality of Service & Experience (Voice/Data/Multimedia/Customer Service)	44
Unsolicited Communications: Marketing/Promotions SMS	35
Confidentiality breaches	16
Internships	98
Billing (Internet/Mobile/Fixed Wireless)	67
Requests for Training	5
Others	209
Quality of Service & Experience (Customer Service/Data/Voice/Multimedia)	50
Customer Premises Equipment (Warranty Violations)	13
Confidentiality/Privacy Breaches: Identity theft	7
Service Interruptions (Fixed/wireless/Internet/Mobile)	96
Customer Information (Inaccurate information/misleading advertisement)	11
Total	**984**

Figure 6.2: Proportionate Representation of Enquiries Received
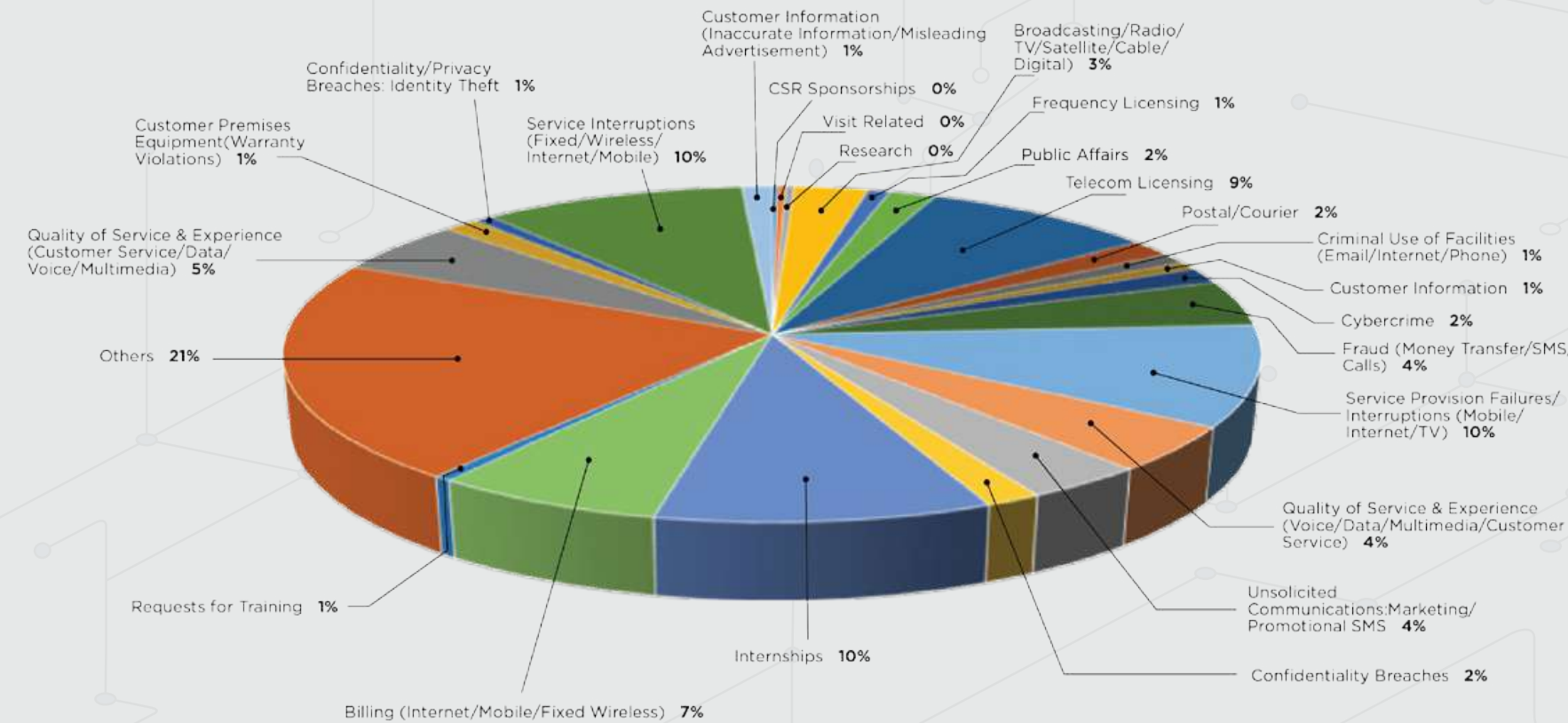
Staff during Sundowner Trivia event which is used to create awareness on service delivery at the Authority

Customer Information (Inaccurate Information/Misleading Advertisement) **1%**
CSR Sponsorships **0%**
Visit Related **0%**
Research **0%**
Broadcasting/Radio/TV/Satellite/Cable/Digital) **3%**
Frequency Licensing **1%**
Public Affairs **2%**
Telecom Licensing **9%**
Postal/Courier **2%**
Criminal Use of Facilities (Email/Internet/Phone) **1%**
Customer Information **1%**
Cybercrime **2%**
Fraud (Money Transfer/SMS/Calls) **4%**
Service Provision Failures/Interruptions (Mobile/Internet/TV) **10%**
Quality of Service & Experience (Voice/Data/Multimedia/Customer Service) **4%**
Unsolicited Communications:Marketing/Promotional SMS **4%**
Confidentiality Breaches **2%**
Internships **10%**
Billing (Internet/Mobile/Fixed Wireless) **7%**
Requests for Training **1%**
Others **21%**
Quality of Service & Experience (Customer Service/Data/Voice/Multimedia) **5%**
Customer Premises Equipment(Warranty Violations) **1%**
Confidentiality/Privacy Breaches: Identity Theft **1%**
Service Interruptions (Fixed/Wireless/Internet/Mobile) **10%**

Officials from the telecommunications industry sign a pledge to safeguard chidren against harmful content during the launch of We Care campaign in Kenya. The initiative is supported by the Authority

USF

UNIVERSAL SERVICE FUND
COMMUNICATION ACCESS FOR ALL

7. Universal Service initiatives

In ensuring that all Kenyans have access to ICT services, the Authority implemented Universal Service Fund (USF) supported initiatives. The Authority also enforced universal service obligations (USO) embedded in the licence conditions of service providers.

7.1 Projects Supported By Universal Service Fund

The Authority implemented various initiatives to address ICT access gaps identified in the Universal Service Fund (USF) Implementation
Strategy for the FY 2017/18 to FY 2022/23. The initiatives were education broadband and voice infrastructure projects. The Education Broadband Project involves provision of Internet connectivity to all public secondary schools in the country while the Voice Infrastructure Project targets to provide mobile telecommunication services in 348 sub-locations, which are un-served and underserved.

7.1.1 Education Broadband Project

The Education Broadband Project commenced in the FY 2017/18 and has so far provided Internet connectivity to 565 public secondary schools with a speed of 5Mb/s down link and 1 Mb/s uplink.

7.1.2 The Voice Infrastructure Project

The implementation of the Voice Infrastructure Project commenced in the FY 2017/18. During the year in review, the Authority rolled out mobile telephony services in additional 36 sub-locations bringing the total number of served sublocations to 66. The sites in which the sub-locations are connected under the USF initiatives are shown in Figure 7.1.

Figure 7.1: USF Connected Sites
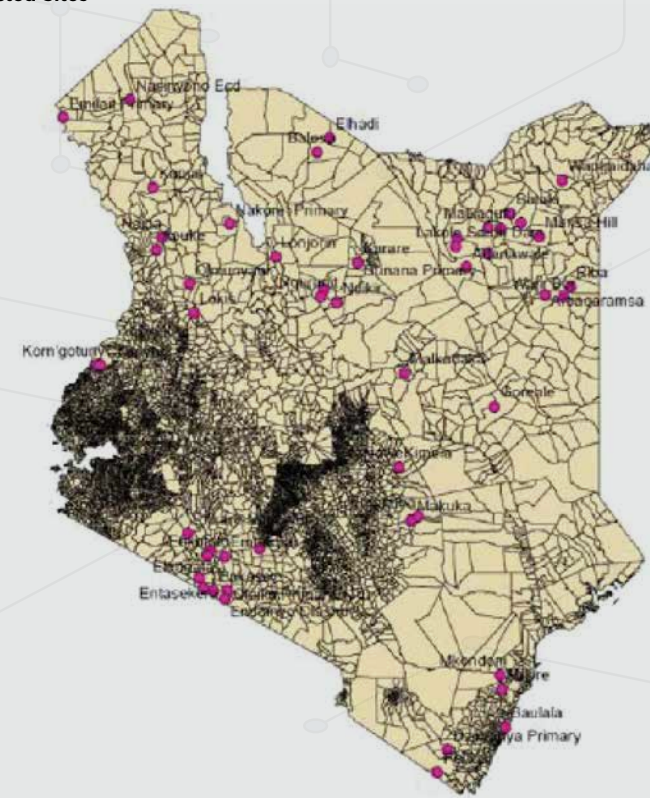
7.2 Universal Service Obligations

The MNOs are required to roll out services in under-served and un-served sublocations under universal service obligation (USO) incorporate in their licence conditions. Towards this end, a total of 246 sites covering 345 sub-locations were connected.

CHAPTER
VII
UNIVERSAL SERVICE INITIATIVES

CHAPTER
VIII

CAPACITY BUILDING, IMPROVEMENT OF SYSTEMS AND WORKING ENVIRONMENT

8. Capacity Building, Improvement of Systems and Working Environment

The Authority undertook various activities towards strengthening its institutional capacity and ensuring efficient service delivery These activities included: building capacity of its workforce to enhance competence; improvement of the working environment; modernization of its systems and improvement of internal processes.

The Authority's human capital strategy is aimed at attracting and retaining a highly skilled and competent workforce. Towards this end, one (1) staff was recruited at management level to better meet the regulatory demands of the growing ICT sector. In addition, six (6) employees exited the service of the Authority thereby bringing the staff complement to 271. The female to male ratio stood at 44:56, which is above the constitutional threshold of one-third gender affirmative action in ensuring gender equality and equity.

8.1 Capacity Building
With the rapid change and complexity in the ICT sector, there is an ever-increasing demand to keep abreast with innovations and technology. In this regard, the Authority carried out capacity building for staff and provided opportunities for linking the industry with academia.

8.1.1 Organizational Learning
To enhance staff skills and competencies, the Authority implemented training and development initiatives that focused on creating a learning organization as well as ensuring efficient and effective performance. The Authority built staff capacity based on identified needs and carried out training programmes as summarized in Table 7.1.

Table 8.1: Organizational learning in Various Areas

Management Skills Development	Regulatory & Technical Capacity Building	Organizational Effectiveness
• Leadership and Supervisory skills development	• Broadcasting Content Regulation	• Enforcement and Compliance
• Project and Contract Management	• Incident Handling Penetration Testing	• Knowledge Management
• Report and Rapporteur/Minute writing	• Postal Courier Regulation	• Coaching and Mentoring
• Communication and Presentation Skills	• Cyber Security and Cyber Law Policy	• Understanding the Tender Process - Public Procurement and Asset Disposal Act 2015
• Preparation and Evaluation of Tenders	• Machine to Machine, Internet of Things (IoT), Big Data and Artificial Intelligence (AI)	• Personal Financial Management
• Financial Reporting and Accounting for Regulators	• Evolving Trends and Radio Frequency Spectrum Management	• Quality Service Management
	• Law for Economic Regulation and Competition Policy	• Leadership and Management of the Union

8.1.2 Building Capacity in the Industry
The Authority conducted capacity building programmes in the ICT sector in partnership with the Commonwealth Telecommunications Organization (CTO), United States Telecommunications Training Institute (USTTI) and Global System for Mobile Communications Association (GSMA). The programmes were based on identified industry needs and technological trends in the market. These were: Big Data; Artificial Intelligence; Consumer and Child On-line Protection; Spectrum Management and Regulation; and Internet of Things (IoT).

Further, the Authority organized cyber security trainings on cyber forensic investigation, vulnerability assessment auditing, system administration and firewall administration.

8.1.3 Knowledge Transfer between Industry and Academia
In line with creating a knowledge-based economy as envisaged in the economic pillar of Vision 2030, the Authority provided attachment for seven (7) students under the Presidential Digital Talent Programme (PDTP). The Authority also enabled knowledge transfer between industry and academia by providing internship opportunities to 136 youths from tertiary institutions.

Further, the Authority participated in the curriculum review for the School of Computing and Informatics at the Masinde Muliro University of Science and Technology (MMUST). The Authority hosted Mt Kenya University, Jomo Kenyatta University of Agriculture and Technology (JKUAT), Aga Khan High School, MMUST and the National Defense College on study visits.

8.1.4 Research, Innovation and Knowledge Management

The Authority has put in place a knowledge management framework to identify, capture, store and share its knowledge assets to meet the demands arising from the dynamic transformations in the ICT sector. In line with this framework the Authority leveraged on local and regional symposiums, to promote local ICT innovation. The Authority also developed an Innovation, Research and Development (IR&D) Policy to guide research and innovation activities. Subsequently, the Authority commenced a collaborative research initiative with Strathmore University on TV whitespace technology.

8.2 Working Environment

In an effort to create a conducive working environment for its employees, the Authority undertook various initiatives. These initiatives were aimed at enhancing productivity, efficiency, effectiveness and improved service delivery. Some of the initiatives included ensuring: occupational health and safety; employee wellness and youth empowerment; environmental sustainability; gender and disability mainstreaming; HIV/AIDS awareness as well as prevention of alcohol and drug abuse. The Authority undertook a survey with an independent consultant on the work environment satisfaction perception yielding a satisfaction index of 83.

8.2.1 Occupational Health and Safety

The Authority's premises were audited and certified to be compliant with the Health, Safety and Environment Standards, Fire and Other Places of Work Rules (2007). In compliance with safety standards, the Authority conducted an emergency and fire drill to assess staff preparedness.

8.2.2 Employee Wellness

In ensuring wellness and work-life balance, the Authority's employees participated in the 39th Kenya Communications Sports Organizations (KECOSO) Games in Kakamega. The games provided an opportunity for staff to show case their talent in sporting activities. In an effort to enhance synergy at the workplace, the Authority undertook team building for its employees. Further, the Authority provided training for its employees on personal financial management and pre-retirement planning.

8.2.3 Environmental Sustainability

The Authority developed an Environmental Sustainability Policy to promote sustainable use of ICTs, in line with the best environmental practices. The Authority prioritizes environmental sustainability practices such as enhanced energy efficiency and adoption of renewable energy. In this regard, the Authority installed solar power in its remote monitoring stations and planted 600 trees at Kahawa Monitoring Station. The Authority was also audited and certified by NEMA to be compliant with relevant environmental management standards.

In recognition of the negative health and environmental impact of electronic waste (e-waste), the Authority in collaboration with NEMA facilitated sensitization training on e-waste management and environmental sustainability. In addition, the Authority collaborated with other stakeholders in the development of the national e-Waste Management Strategy. Further, the Authority participated in the 2019 World Environment Day, where it sensitized the public on e-waste management.

8.2.4 Gender and Disability Mainstreaming

The Authority implemented various initiatives on gender and disability mainstreaming in line with the Constitution. This was achieved through: enhanced accessibility to the corporate website by Persons with Disabilities (PwDs), revised broadcast licence conditions to incorporate sign language, training of staff on gender and disability mainstreaming. Further, front office staff were trained on sign language.

8.2.5 Campaign Against HIV/AIDS

The Authority sensitized staff on behaviour change initiatives, post exposure prophylaxis (PEP) as well as stigma associated with HIV/AIDs. The Authority also conducted a wellness day for staff and family members that involved wellness checks such as blood pressure, blood sugar, voluntary counselling and HIV testing (VCT), body mass index (BMI) as well as dental checks. The same was also carried out for the public during the ICT County Forum dubbed 'Kikao-kikuu' in Kisumu.

8.2.6 Prevention of Alcohol and Drug and Substance Abuse

The Authority implemented its Workplace Policy on Alcohol and Drug Abuse. The Authority's staff were also sensitized and trained on drugs and substance abuse prevention, with an emphasis on early identification of alcoholism, treatment and prevention. The Authority also trained its counsellors and encouraged staff to utilizethe counselling, psychiatric and rehabilitative centres already integrated into the medical scheme as part of its initiative towards Employee Assistance Programme (EAP).

8.3 National Cohesion and Values

The Authority celebrated its quarterly National Patriotic Day with emphasis on embracing diversity, integrity and high ethical values. Staff were trained on the importance of upholding ethics and integrity at the workplace.

As part of awareness creation, the Authority uploaded the Code of Conduct and whistle-blowers policy statement on its website to encourage the public to report any incidence of ethical misconduct.

The Authority complied with the Public Officers Ethics Act (2003), by ensuring staff obtained and completed their Wealth Declaration Forms. The forms were submitted to the Ministry of Public Service within the statutory timelines. New staff signed an Integrity Pact/Oath in compliance with the Authority's Code of Conduct. The Code of Conduct incorporates Article 232 of the Constitution on the Values and Principles of Public Service and Chapter Six (6) of the Constitution on Leadership and Integrity.

As a sector member of the Kenya Leadership and Integrity Forum (KLIF), the Authority implemented the Kenya Integrity Plan (KIP). The main objective of KIP is to: combat and reduce the incidence of corruption and unethical conduct; improve institutional governance and business ethics for transparency and accountability; enhance efficiency and effectiveness in service delivery in the private and public sectors; create and maintain partnerships in the fight against corruption and unethical behaviour; as well as strengthen the policy and legal frameworks.

8.4 Automation of the Internal Process

The Authority implemented the first phase of its plan to re-engineer and automate its processes by adopting an Enterprise Resource Planning (ERP) system. The adoption of ERP shall lead to an increase in efficiency of operations, enhance service delivery to both internal and external stakeholders, increase ability to monitor performance and enhanced planning and decision making capability through access to more accurate and timely information. ERP system provides an avenue for integration with other vital system at the Authority and its service providers. In line with its IT roadmap, the Authority re-engineered its licensing management processes.

CA staff at a team buliding exercise

Staff pose for a photo during a Gender Mainstreaming Workshop

9. Corporate Communication and International Liaison

The Authority carries out a number of activities in relation to its corporate communications banner to establish and maintain good relations with its stakeholders. The Authority is also the Kenya's designated representative to regional and international ICT intergovernmental bodies. In fulfilment of this obligation, the Authority engaged various stakeholders on industry matters, participated in various local, regional and international fora.

9.1 Corporate Communication

The Authority developed a communications strategy to guide its communication. The strategy will go a long way in improving the Authority's relationship with stakeholders, creating public awareness and enhancing buy-in for its operational and regulatory initiatives. In addition, the Authority carried out the following activities: publicity, stakeholder engagement, public consultation, corporate social responsibility, exhibitions and promotional activities as well as perception survey.

9.1.1 Public Activities

In a bid to scale up public awareness on its mandate, the Authority in collaboration with Kenya Broadcasting Corporation (KBC) sponsored the airing of the African Cup of Nations (AFCON) games. During the games, TV and radio commercials on the Authority's mandate were aired to enhance its brand awareness in light of high viewership in the country.

9.1.2 Stakeholder Engagement

The Authority continued to engage stakeholders in the ICT sector as well as local communities on various activities. In order to ensure that the Authority consistently maintains good relationships with stakeholders, a stakeholder engagement framework was developed as a guiding blueprint.

9.1.3 Public Consultations

The Authority undertook public consultations on various issues including: Data Protection Bill 2018; Revised Broadcasting Programming Code; Kenya's readiness for convergence in Broadcasting and Telecommunications; National Addressing System (NAS); and the National Broadband Strategy (NBS).

9.1.4 Public Engagement Activities

The Authority undertook public engagement activities on various issues including: Monthly Cyber Security Fireside Chats, Kikao Kikuu, Lamu Cultural Festival, the ICT Week, Coast Innovation Week and Kuza Broadcasting Awards.

9.1.5 Corporate Social Responsibility

The Authority through its Corporate Social Responsibility (CSR) is committed to improving the quality of life of local communitie and the society at large. Some of the activities carried out under the CSR banner include: provision of computers and Internet connectivity to five schools; Mater Heart Run; Talanta Football Club; Sports Personality of the Year Awards (SOYA) and Greening Kenya Campaign.

9.1.6 Exhibitions and Promotional Activities

In a bid to further enhance its visibility, the Authority sponsored and participated in the following activities: ITU Telecom World in Durban, South Africa; 1st Telecoms, Electronics and Mobiles (TEMs) ICT Expo; Law Society of Kenya (LSK) Annual Conference; Media Conference by the Media Council of Kenya (MCK); and the Kalasha International Awards. The Authority also sponsored the KASS Marathon and various golf tournaments.

9.1.7 Perception Survey

The Authority undertook a perception survey to gauge public awareness, attitudes and opinion on the CA brand. According to the survey, public awareness on the Authority rose from 80 per cent the previous year to 86 per cent.

CHAPTER

IX

CORPORATE COMMUNICATION AND INTERNATIONAL LIAISON

ICT Cabinet Secretary Mr.Joe Mucheru speaks at a Kenyan luncheon as part of campaign for a seat at the International Telecommunication union (ITU) Council.Kenya was re-elected alongside 12 other African countries

Delegation from the Uganda Communications Commission on a tour of Base Transmitter Station in Kajiado County

9.2 International Liaison

The Authority represents the country in regional and international ICT bodies to which Kenya is affiliated. In this regard, the Authority meets related financial obligations and participates in forums organized by the respective organizations. The Authority's participation in these meetings is informed by the need to ensure Kenya's interest are articulated and safeguarded.

9.2.1 Membership to Regional and International Organizations

The Authority subscribes to various regional and international ICT organisations. These organizations include: ITU, African Telecommunications Union (ATU), Universal Postal Union (UPU), Pan African Postal Union (PAPU), Commonwealth Telecommunications Organisation (CTO), East African Communications Organization (EACO), African Advanced Level Telecommunications Institute (AFRALTI), Association of Regulators of Information and Communication of Eastern and Southern Africa (ARICEA) and Smart Africa Alliance.

The Authority coordinated campaigns that led to the election of a Kenyan, Mr. John Omo (former Director of Legal Services at the Authority) for the position of Secretary General of the ATU for four (4) years tenure. In the same breadth, the Authority was successful in rallying the support of ITU Member States for Kenya's bid for re-election into the ITU Council for the period 2019-23. Kenya has served in the ITU Council since 1982.

9.2.2 Regional and International Engagements

The Authority participated in a number of technical and policy meetings and conferences organized by various international and regional ICT organizations. These included; Smart Africa, Internet Governance Forum (IGF), ICANN, ITU, ATU, UPU, PAPU, CTO, EACO and AFRALTI. The Authority hosted a number of key international meetings and conferences in Kenya, in close collaboration with the international affiliated organizations. The Authority also hosted the 5th ATU Conference of Plenipotentiaries in Nairobi Kenya, ITU Centres of Excellence (CoE) Steering Committee Meeting for African Networks as well as the USTTI Training Seminar.

9.2.3 Benchmarking

The Authority hosted several delegations from other African regulatory agencies on benchmarking missions. Some of the delegations hosted by the Authority included: Telecommunications Regulatory Board of Cameroon, Uganda Communications Commission (UCC), Malawi Communications Regulatory Authority (MACRA), National Telecommunications Communications of Sierra Leone and Zambia Information Communications Technology Authority (ZICTA).

Winners of the Kuza Awards 2019 pose with their trophies

Kenya's Matano Ndaro (centre), Chairman of the Taskforce on the Reform of the System applied to Contributions by UPU Member Countries

Kenya's delagation to the Universal Postal Union's Extraordinary Congress held in Addis Ababa

Kenya's Mr.John Omo receives instruments of office upon his election as the Secretary General of the African Telecommunications Union (ATU)

The Authority annually sponsors and participates in the Mater Heart Run

CA Chairman Mr.Ngene Gituku (left) during the unveilling of a three classroom block and three teachers' quarters at the Meguarra Primary School in Kajiado County as part of CA's Corporate Social Responsibility

The three classroom block constructed by the Authority at Meguarra Primary School in Kajiado County

10. Procurement and Financial Statements

10.1 Procurement and Disposal

The Authority adhered to the principles of transparency, accountability, openness and value for money in its procurement processes, as provided for in the Constitution of Kenya 2010, the Public Procurement and Asset Disposal Act, 2015 and attendant Regulations as well as the Authority's Procurement Policy Manual.

The Authority's procurement budget was KES 1,675,623,823.78, out of which KES 1,453,538,568.70 was utilized. In compliance with the Access to Government Procurement Opportunities (AGPO), the Authority awarded tenders worth KES 219,023,397.50 against a target of KES 238,262,100.00. In an effort to support the sustainability of local industry, the Authority awarded tenders worth KES 1,004,564,795.01 to local entities against a target of KES 664,995,440.00. Table 9.1 shows a summary of the top ten tenders awarded during the year in review.

Table 10.1: Top – Ten Tenders Awarded in FY 2018/19 by Value

No.	Item Description	Firm Awarded the Tender	Tender Amount
1.	Supply, delivery, installation, training commissioning and maintenance of Radio Spectrum Monitoring and Direction Finding System	M/s Broad Band Communication Networks Ltd	EUR 4,846,448.80
2.	Tender for supply, delivery, installation, training commissioning and maintenance of Network Performance Quality of Service Monitoring System	M/s Com Twenty One Ltd	USD 1,635,000.00
3.	Tender for supply, installation, configuration and maintenance of an IT Security, Information and Event Management (SIEM) System	M/s Trans Business Machines Ltd	USD 582,682.12
4.	Supply, delivery, installation and maintenance of additional equipment for Quality of Service Monitoring System (QoSMS)	M/s Broad Band Communication Networks Ltd	USD 734,752.92
5.	Supply, installation, configuration and maintenance of an ICT Security Information and Event Management (SIEM) System	M/s Com Twenty One Ltd	USD 417,585.00
6.	Request for proposal for provision of quarterly audience and industry data	M/s Kenya Audience Research Foundation	KES 23,959,410.00
7.	Tender for supply delivery installation and maintenance of E-Board System	M/s Triple Play Communication Limited	KES 20,181,462.22
8.	Supply, delivery, installation, commissioning, and maintenance of broadcast loggers at CA Centre and Central and Eastern Regional Office (CERO)	M/s Com Twenty One Ltd	KES 112,520,000.00
9.	Supply delivery installation commissioning and maintenance of Solar Hybrid Supplementary Power Supply Solutions for CA Stations	M/s Power Options Ltd	KES 12,140,405.90
10.	Contract for installation, configuration, commissioning and maintenance of 50 Mbps internet connectivity link at CA Centre	M/s Liquid Telecommunications Limited	KES 6,368,000.00

CHAPTER

X

PROCUREMENT AND FINANCIAL STATEMENTS

10.2 Financial Statements

The Authority's financial statements for the period ended 30th June 2018 were submitted to the Office of the Auditor General within the statutory timeline of 30th September 2018.

The summary of the Authority's Audited financial Statements for the period ended 30th June 2018 is provided below.

10.2.1 Statement of the Directors' Responsibilities

Communications Authority of Kenya
Annual Report and Financial Statements
For the year ended June 30, 2018

X. STATEMENT OF DIRECTORS' RESPONSIBILITIES

Section 84(O) of the Kenya Information and Communications Act of 1998 (CAP 411A), Public Financial Management act of 2012 and the Public Audit Act, require the Directors to prepare financial statements in respect of the Authority, which give a true and fair view of the state of affairs of the Authority at the end of the financial year/period. The Directors are also required to ensure that the Authority keeps proper accounting records which disclose with reasonable accuracy the operations of the Authority. The Directors are also responsible for safeguarding the assets and funds of the Authority.

The Directors are responsible for the preparation and presentation of the Authority's financial statements, which give a true and fair view of the state of affairs of the Authority as at the end of the financial year (period) ended on June 30, 2018. This responsibility includes: (i) maintaining adequate financial management arrangements and ensuring that these continue to be effective throughout the reporting period; (ii) maintaining proper accounting records, which disclose with reasonable accuracy at any time the financial position of the Authority; (iii) designing, implementing and maintaining internal controls relevant to the preparation and fair presentation of the financial statements, and ensuring that they are free from material misstatements, whether due to error or fraud; (iv) safeguarding the assets of the Authority; (v) selecting and applying appropriate accounting policies; and (vi) making accounting estimates that are reasonable in the circumstances.

The Directors accept responsibility for the Authority's financial statements, which have been prepared using appropriate accounting policies supported by reasonable and prudent judgements and estimates, in conformity with International Public Sector Accounting Standards (IPSAS), and in the manner required by the KICA Act, PFM act and the Public Audit Act. The Directors are of the opinion that the Authority financial statements give a true and fair view of the state of Authority's transactions during the financial year ended June 30, 2018, and of the Authority's financial position as at that date. The Directors further confirm the completeness of the accounting records maintained for the Authority, which have been relied upon in the preparation of the Authority's financial statements as well as the adequacy of the systems of internal financial control.

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Communications Authority of Kenya
Annual Report and Financial Statements
For the year ended June 30, 2018

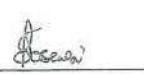STATEMENT OF DIRECTORS' RESPONSIBILITIES (Continued)

Nothing has come to the attention of the Directors to indicate that the Authority will not remain a going concern for at least the next twelve months from the date of this statement.

Approval of the financial statements

The Authority's financial statements were approved by the Board on 27th September 2018 and signed on its behalf by:

Director General   Director Finance & Accounts   Board Chairman

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Source: Extracts from the Audited Accounts FY 2017/18

10.2.2 Revenue

Communications Authority of Kenya
Annual Report and Financial Statements
For the year ended June 30, 2018

XI.   STATEMENT OF FINANCIAL PERFORMANCE
      FOR THE YEAR ENDED 30 JUNE 2018

|	Note	2018 Kshs'000	2017 Kshs'000
Revenue from non-exchange transactions			
License Fees	6	7,620,184	7,361,159
Revenue from exchange transactions			
Finance income	7	1,298,357	1,110,283
Other Income	8	4,163	315,271
		1,302,519	1,425,554
Total revenue		8,922,703	8,786,713
Expenses			
Employee costs	9	1,140,209	1,193,354
Directors Expenses	10	53,995	47,211
Depreciation and Amortization Expense	11	376,498	352,609
Repairs and maintenance	12	204,835	105,422
General expenses	13	2,631,195	1,969,111
Total Expenses		4,406,732	3,667,707
Other gains/(losses)			
Gain on sale of assets	14	783	1,164
Gain on foreign exchange transactions	15	3,413	35,608
Surplus		4,520,167	5,155,778
Dividend/Remittance Surplus	30	4,068,151	4,188,975
Surplus for the period		452,017	966,803

The notes set out on pages 6 to 28 form an integral part of these Financial Statements

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Source: Extracts from the Audited Accounts FY 2017/18

10.2.2.1 Sources of Revenue
In the FY 2017/18, the Authority earned revenue of KES 8.922 billion. This comprised of annual frequency license fees of KES 6.223 billion, annual operating license fees of KES 1.392 billion, finance income of KES 1.298 billion and other income of KES 9.091 million. Included in other income is revenue arising from type approval, registration fees, sale of tender documents, staff rent and penalties levied during the year. Figure 10.1 shows a distribution of the Authority's revenue.

Figure 10.1: Sources of Revenue
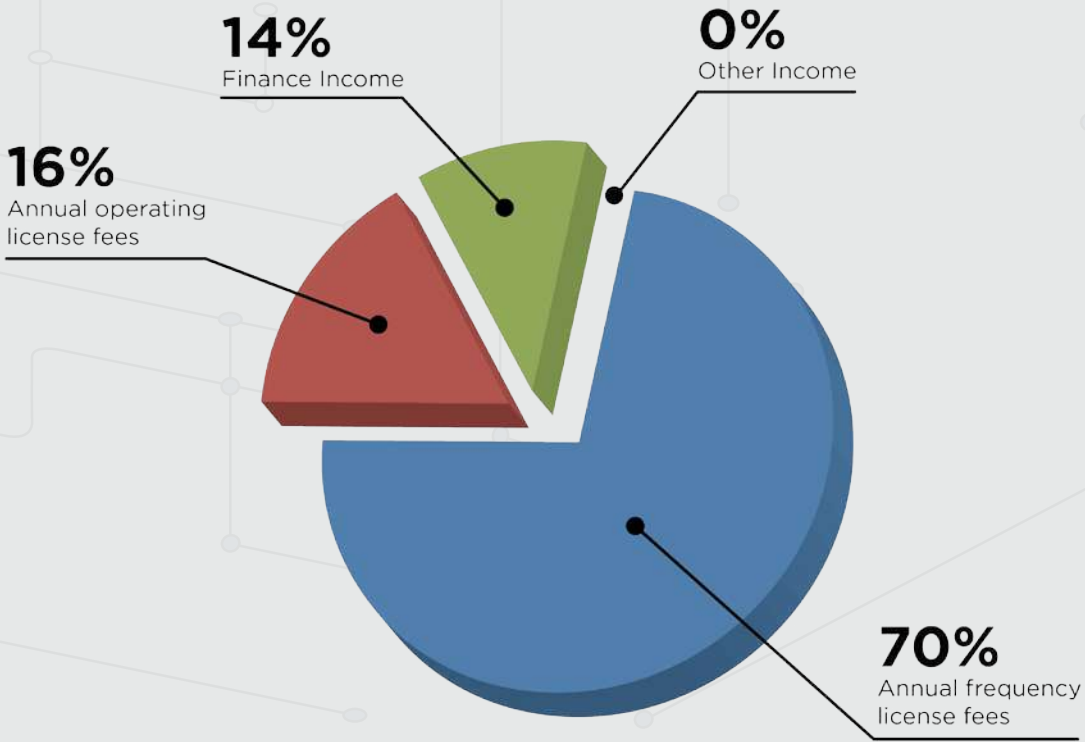
10.2.3 Expenditure
During the FY 2017/18, the total operating costs were KES 4.406 billion compared to KES 3.667 billion in the FY 2016/17, representing an increase of 20 per cent. This increase is mainly attributed to bad and doubtful debts provision cost of KES 702.837 million that was made during the year.

10.2.4 Surplus
The surplus as at 30th June 2018 was KES 4.520 billion. During the year, the Authority made a provision of KES 4.068 billion, being 90 per cent of the Authority's surplus, to be remitted to The National Treasury. The resultant net surplus was KES 452.017 million.
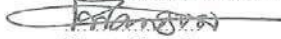
10.2.5 Statement of Financial Position as at 30th June 2018

Communications Authority of Kenya
Annual Report and Financial Statements
For the year ended June 30, 2018

XII. STATEMENT OF FINANCIAL POSITION
AS AT 30 JUNE 2018

	Note	2018 Kshs'000	2017 Kshs'000
ASSETS			
Current Assets			
Cash and cash equivalents	16	12,903,177	12,394,988
Receivables from non-exchange transactions	17	877,014	1,145,722
Receivables from exchange transactions	18	561,321	531,305
Total Current Assets		**14,341,512**	**14,072,015**
Non- Current Assets			
Property, plant and equipment	20	2,980,782	2,594,525
Intangible Assets	21	834,408	730,570
Total Non-Current Assets		**3,815,190**	**3,325,096**
TOTAL ASSETS		**18,156,702**	**17,397,110**
LIABILITIES			
Current Liabilities			
Provisional Dividend/Remittance Surplus	30	4,068,151	4,188,975
Trade and other Payables from exchange transactions	22	897,145	456,306
Payments received in advance	23	26,479	19,425
Total Current Liabilities		**4,991,774**	**4,664,706**
TOTAL LIABILITIES		**4,991,774**	**4,664,706**
NET ASSETS		**13,164,927**	**12,732,404**
Owners' Equity	30	741,965	741,965
Accumulated Surplus		12,422,963	11,990,439
Total Net assets and Liabilities		**13,164,927**	**12,732,404**

The Financial Statements set out on pages 1 to 28 were signed on behalf of the Board of Directors by:

Director General
Name: Francis Wangusi

Date: 28th September 2018

Head of Finance
Name: Joseph M Kimanga
ICPAK Member No. 4341
Date: 28th September 2018

Chairman of the Board
Name: Ngene Gituku

Date: 28th September 2018

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Source: Extracts from the Audited Accounts FY 2017/18

10.2.6 Audited Financial Statements

10.2.6.1 Assets
The assets of the Authority were KES 18.156 billion which comprised of cash and cash equivalent of KES 12.903 billion; receivables from non-exchange transactions of KES 877.014 million; receivables from exchange transactions of KES 561.321 million; property, plant and equipment of KES 2.980 billion; and intangible assets of KES 834.408 million.

10.2.6.2 Liabilities
As at 30th June 2018, the Authority's total liabilities stood at KES 4.991 billion. This comprised of a provision for surplus remittance to the National Treasury of KES 4.068 billion; trade and other payables of KES 897.145 million; and payments received in advance of KES 26.479 million.

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Reporting Cybercrime in Kenya

Cybercrime incidents can be reported to the National KE-CIRT/CC through any of the following means:

The Authority's website, http://www.ca.go.ke under the "Information Security" section.

The Authority's National KE-CIRT/CC website, http://www.ke-cirt.go.ke under the "Report an Incident" section;

Send an email to: incidents@ke-cirt.go.ke;

Via a letter addressed to:
The Director-General
Communications Authority of Kenya (CA)
CA Centre, Waiyaki Way
P.O. Box 14448 NAIROBI 00800

Visit the Authority's National KE-CIRT/CC located at the CA Centre along Waiyaki Way

REPORTING CYBERCRIME IN KENYA

Cyber crime incidents can be reported to the National KE-CIRT/CC through any of the following means:

> The Authority's website, http://www.ca.go.ke under the "Information Security" section.

> The Authority's National KE-CIRT/CC website, http://www.ke-cirt.go.ke under the "Report an Incident" section.

> Send an email to: incidents@ke-cirt.go.ke.

> Via a letter addressed to:
The Director General
Communications
Authority of Kenya (CA)
CA Centre, Waiyaki Way
P.O. Box 14448
NAIROBI 00800

> Visit the Authority's National KE-CIRT/CC located at the CA Centre along Waiyaki Way.

HEAD OFFICE
CA Centre
P.O. Box 14448
Nairobi 00800
Mobile: +254 0703 042 000
Email: info@ca.go.ke

CA WESTERN REGION OFFICE
1st Floor, KVDA Plaza
P.O. Box 2346
Eldoret 30100
Mobile: +254 0703 042 105
Email: wro@ca.go.ke

CA COASTAL REGION OFFICE
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P.O. Box 80141
Mombasa 80100
Mobile: +254 0703 042 152
Email: cro@ca.go.ke

NYANZA REGIONAL OFFICE
2nd Floor Lake Basin Mall
P.O Box: 2016, Kisumu 40100
Mobile: +254 703 042 130
Email: nro@ca.go.ke

CENTRAL REGIONAL OFFICE
Ground Floor, Advocates Plaza
P.O Box: 134, Nyeri 10100
Mobile: +254 703 042 181
Email: cero@ca.go.ke

CA_Kenya

Communications Authority of Kenya

www.ca.go.ke

Communications Authority of Kenya

CA Kenya

Consumer complaints:
chukuahatua@ca.go.ke

CA is ISO 9001:2008
and ISO 27001:2013 certified

COMMUNICATIONS AUTHORITY OF KENYA
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