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REPUBLIC OF KENYA



THE NATIONAL ASSEMBLY

TWELFTH PARLIAMENT - FOURTH SESSION

PARLIAMENT
OF KENYA
LIBRARY

THE DEPARTMENTAL COMMITTEE ON COMMUNICATION, INFORMATION
AND INNOVATION

REPORT OF THE DELEGATION TO THE ITU REGIONAL WEEK ON
EMERGING TECHNOLOGIES FOR SUSTAINABLE DEVELOPMENT AND
DIGITAL TRANSFORMATION 26TH TO 30TH AUGUST 2019 IN DUBAI UNITED
ARAB EMIRATES

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| THE NATIONAL ASSEMBLY PAPERS LAID | |
| DATE: 04 MAR 2020 | DAY Am WEDNESDAY |
| TABLED BY: | HON. WILLIAM KISANG CHAIRPERSON - C.I.I. |
| CLERK AT THE TABLE: | |

DIRECTORATE OF COMMITTEE SERVICES
CLERK'S CHAMBERS
PARLIAMENT BUILDINGS
NAIROBI-KENYA

MARCH, 2020

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CHAIRPERSON'S FOREWORD

A delegation of seven (7) Members of the Departmental Committee on Communication, Information and Innovation was nominated to attend the ITU Regional Week on Emerging Technologies for sustainable Development and Digital Transformation in the Arab Region held in Dubai at the United Arab Emirates, Ethiopia on 26th to 30th August, 2019 which ITU Regional week on “emerging technologies” for sustainable development and digital transformation in the Arab Region was organized by ITU and hosted by the Telecommunication Regulatory Authority and the National Telecom Regulatory Authority of Dubai and supported by GSMA capacity building.

The mobile industry is preparing to embark on the transition to fifth generation (5G) technology which will build on the achievement of 4G while also creating new opportunities for innovation. 5G technology was going to usher in a new era that would see connectivity become increasingly fluid and flexible. The purpose of the meeting was to build the capacity of the participants and the course was to cover the key aspects of 5G technology and examines the role governments and regulators can play in helping unblock the benefits of future services for their citizens.

The objective of the forum was to enable the participants to learn about underlying technologies and concepts associated with 5G, to discover the key differences between 5G technology and previous generations of mobile technology as well as to ensure that the participants understand how government and regulators can help accelerate the development of 5G technology and services countries.

The Committee appreciates the support offered by the Offices of the Speaker and the Clerk of the National Assembly for both logistical and technical support accorded to the Committee in the execution of its mandate.

Pursuant to Standing Order No. 199, it is my pleasant duty to present the report of the Departmental Committee on Communication, Information and Innovation on the proceedings of the forum.

HON. WILLIAM KISANG, M.P. - CHAIRPERSON

PREFACE

1.1 Committee Mandate

1. The Departmental Committee on Communications, Information and Innovation is established under Standing Order 216 whose mandate pursuant to the Standing Order 216 (5) is as follows;
 - a. Investigate, inquire into, and report on all matters relating to the mandate, management, activities, administration, operations and estimates of the assigned Ministries and departments;
 - b. Study the programme and policy objectives of Ministries and departments and the effectiveness of the implementation;
 - c. Study and review all legislation referred to it;
 - d. Study, assess and analyze the relative success of the Ministries and departments as measured by the results obtained as compared with their stated objectives;
 - e. Investigate and inquire into all matters relating to the assigned Ministries and departments as they may deem necessary, and as may be referred to them by the House;
 - f. To vet and report on all appointments where the Constitution or any law requires the National Assembly to approve, except those under Standing Order 204 (Committee on Appointments);
 - (fa) examine treaties, agreements and conventions;
 - g. make reports and recommendations to the House as often as possible, including recommendation of proposed legislation;
 - h. make reports and recommendations to the House as often as possible, including recommendation of proposed legislation;
 - i. consider reports of Commissions and Independent Offices submitted to the House pursuant to the provisions of Article 254 of the Constitution; and
 - j. Examine any questions raised by Members on a matter within its mandate.
2. In accordance with Second Schedule of the Standing Orders, the Committee is mandated to oversee Communication, Information, media and broadcasting (except for broadcast of parliamentary proceedings), Information Communications Technology (ICT) development and advancement of technology and modernization of production strategies.

1.2 Committee Membership

1 The Departmental Committee on Communication, Information and Innovation was constituted by the House in December 2017 and comprises of the following Members-

Hon. Kisang William Kipkemoi, M.P (**Chairperson**)
MP for Marakwet West Constituency

Jubilee Party

Hon. George Macharia Kariuki (**Vice Chairperson**)
MP for Ndia Constituency

Jubilee Party

Hon. Liza, Chelule Chepkorir, MP
M.P for Nakuru County

Jubilee Party

Hon. Gertrude Mbeyu Mwanyanje
MP for Kilifi County
Orange Democratic Party

Hon. Alfah O. Miruka, MP
M.P for Bomachoge Chache Constituency

Kenya National Congress

Hon. Wamuchomba, Gathoni, MP
MP for Kiambu County

Jubilee Party

Hon. Annie Wanjiku Kibeh, MP
MP for Gatundu North Constituency

Jubilee Party

Hon. (Eng.) Mark Nyamita Ogola, MP
MP for Uriri Constituency

Orange Democratic Party

Hon. Joshua Kimilu, Kivinda, MP
MP for Kaiti Constituency

Wiper Democratic Party

Hon. John Kiarie Waweru, MP
MP for Dagoretti South

Jubilee Party

Hon. Marwa Kitayama Maisori, MP
MP for Kuria East Constituency

Jubilee Party

Hon. Erastus Nzioka Kivasu, M.P.
MP for Mbooni
New Democrats Party

Hon. Mwambu Mabongah, MP
MP for Bumula Constituency

Independent

Hon. Innocent Momanyi Obiri, MP
Bobasi Constituency

People's Democratic Party

Hon. Maritim Sylvanus, MP
MP for Ainamoi Constituency

Jubilee Party

Hon. Godfrey Osotsi Atieno, MP
Nominated

African National Congress

Hon. Mwangaza Kawira, MP
MP for Meru County

Independent

Hon. Anthony, Tom Oluoch, MP
MP for Mathare Constituency

Orange Democratic Party

Hon. Jonah Mburu, MP
MP for Lari Constituency

Jubilee Party

1.3 Committee Secretariat

2 The Committee is facilitated by the following secretariat: -

Ms. Hellen Kina
Clerk Assistant II/ Lead Clerk

Ms. Ella Kendi
Clerk Assistant II

Ms. Marlene Ayiro
Senior Legal Counsel

Mr. Gorod Abdirahaman
Fiscal Analyst II

Ms. Lorna Okatch
Research Officer III

1.4 The Committee delegation to the Forum

3 Following the invitation by CAK the Committee nominated the following Members to attend ITU Regional Week on Emerging Technologies for sustainable Development and Digital Transformation in the Arab Region held in Dubai at the United Arab Emirates

1. Hon. George Kariuki. MP – **Leader of the Delegation**
2. Hon. Godfrey Osotsi. MP
3. Hon. Erastus Nzioka Kivasu, MP
4. Hon. Kawera Mwangaza. M.P
5. Hon. Joshua Kimuli. Mp
6. Hon. Alphah Miruku. MP
7. Hon. Annie Kibe. MP

The Members were accompanied by Ms. Marlene Andia Ayiro, Senior Legal Counsel and secretary to the delegation.

2.0 INTRODUCTION

- 4 The International Telecommunication Union (ITU) Regional Week on Emerging Technologies for sustainable Development and Digital Transformation in the Arab Region held in Dubai at the United Arab Emirates with an aim of expanding the conversation, as well as knowledge and skills development to different parts of the continent and the world at large.
- 5 The mobile industry is preparing to embark on the transition to fifth generation (5G) technology, which will build on the achievements of 4G while also creating new opportunities for innovation. 5G technology was seen as one that was going to usher in a new era that would see connectivity become increasingly fluid and flexible. This regional week was scheduled to provide a capacity building course for participants which course covered the key aspects of 5G technology and examines the role governments and regulators can play in helping unlock the benefits of future 5G services for their citizens.
- 6 The workshop was intended to hold a training to ensure that the participants are given relevant skills to lean about underlying technologies and concepts associated with 5G. The participants were also required to discover the key differences between 5G technology and the previous generations of mobile technology as well as to understand how government and regulators would help accelerate the development of 5G technology and services in their respective countries.
- 7 The meeting was planned for three days and different areas were covered on each given day. On the first day of the regional week the session focused on the technical and potential roles of 5G networks and IoT. The facilitators also looked at the development potentials in the regions which were aimed at supporting digital economy. The second session was to highlight the key issues and responses for regulators and policy-makers to consider for formulating plan, policies and strategies to stimulate investment in 5G and IoT networks. The last session was the wrap up of the meeting and participants were awarded with certificates after attending the training session.

3.0 SUMMARY OF THE DELIBERATIONS

(i) Evolution of the 5G ERA

- 8 In introducing the 5G technology participants were various industry segments where 5G technology was going to be used which areas included inter-ali- the automotive industry, logistics, health and wellness, government, media and entertainment, financial sector, smart cities, telematics and medicine. The fact that the 4G era played an integral part of the 5G era was also brought out, where the greatest opportunity was said to lie in vertical industries rather than the traditional mass market business models. The main aim was to grow core business by adding new connections and monetization of new capabilities with current uses. It was noted that the 4G evolution would continue to enhance and embellish with new features and capabilities which shall see forth the unlocking of commercial opportunities from 4G to the 5G ERA.
- 9 It was also stated in the training that future growth required 5G evolution which entailed the moving from mobile to cellular IoT connections. It was obvious that 5G clearly provided superior capabilities over the 4G, however the components of LTE networks which are core network and radio access networks should be integrated into 5G network to deliver 5G requirements efficiently

(ii) 5G global status forecast

- 10 In this session, the participants were informed that there had been current advancements of the industry on the road to 5g evolution. So far it was noted that eighty-six operators had announced plans to launch 5g services across fifty-six countries. It operators were already commercially lie across eleven countries. It was also noted that to date one

hundred and sixty-four operators across eighty-one markets had conducted a total of three hundred and eighty-one 5G trials.

- 11 South Korea KT, LGU and SKT had launched commercial service in 2019, Japan's NTT DOCOMO had stated that it would launch commercial services in 2010. China mobile launched plans to deploy ten thousand base stations by 2010.
- 12 It was also stated that the United States of America operators had been testing and developing fixed wireless solutions technologies. In July 2016 IN Europe, the major operators published a 5G manifesto with a target of launching 5G in at least one city in each member state by 2020.
- 13 The middle east was also not left behind as Etisalat network had indicated that it would launch a nationwide 5G network in time for the expo that was to be held in 2020 in the United Arab Emirates.
- 14 It was noted that globally it was only in 2018 that 4G connections overtook the 2G connections, however 5G connections growth was set to be faster than 4G connection growth.

(iii) Fixed Wireless Access in 5G

- 15 The participants were also taken through the role of fixed wireless access in the 5G era revolution, where it was stated that the 5G radio evolution was designed to also operate an mm Wave length where large bandwidths were available. Fixed wireless access combined with 5G radio technology was a relevant fiber substitutes. Fixed wireless access was said to fall into consumer focused category but also had an enterprise application. However, the participants learned that there were some limitations of the fixed wireless access which included that it addressed broadband use for family cases only rather than providing a full mobile broadband experience. The quality of services was more susceptible to disruption and it required some careful spectrum considerations which would make it operations to be costly.

(iv) Expected benefits of the 5G era

- 16 The participants were also taken through the expected benefits of 5G network which includes High Speed, where the speed to download anything on the internet would reduce considerably with the 5G Network.
- 17 There was also bound to be reduces latency, which was said to be even more important than speed. 5G was anticipated to solve the problem of latency which was said to be the delay between commands and responses between the server. 5g was expected to also be fifty times faster than 4G and this was particularly important not in smart phones but in connected machinery and self-driving car. It was also going to be very important in the health field, where doctors were going to be able to perform real-time surgery.
- 18 Participants were also informed that through the 5G evolution, there was going to be efficient and uniform platform as 5g was going to bring together all devices and it will be much easier to support and provide services.
- 19 Finally, another benefit of the 5G evolution was the emergence of concentrated networks and personalized internet due to increased internet capacity as there will be a massive flux of people using the internet. With 5G, organizers will be able to pay for increased bandwidths, thereby improving the people's online experience.

4.0 OBSERVATIONS

Following the deliberations, the Committee made the following observations;

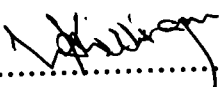
THAT; -

1. Global System for Mobile Associations (GSMA) represents the interests of mobile operators worldwide and was transforming lives through various mobile innovations. GSMA'S role in 5G was to influence standards, define the business model, support network transformation, moderate advocacy and messaging and guide the process through policy making.
2. Some of the goals that GSMA had set for itself in the 5G era included boundless connectivity for all, innovation and network transformation in economies, transformation of vertical industries and well as the revolutionisation of the Mobile Broadband experience.
3. According to the GSMA, unique mobile subscriber penetration in Sub-Saharan Africa stood at 44% at the end of 2017, which is well below the global average of 66%. Despite this ranking, the region has witnessed continued affronts to digital rights including network disruptions, data privacy and protection challenges, gaps in ICT policy and regulations, continued suppression of legitimate online freedom of expression for media, critical voices and civil society, the introduction of financial restrictions to internet access and generally shrinking spaces for the enjoyment of digital rights
4. There was need for Africa to join the either countries like South Korea and Japan that had already institutionalised 5G era in their countries or at least to form part of the countries that made plans to launch 5G in their respective countries.
5. Misinformation has become a common part of our digital media environments and it is compromising the ability of our societies to form informed opinions. It generates misperceptions, which have affected the decision making processes in many domains, including economy, health, environment, and elections, among others.
6. That most developing countries were not ready to transition to the 5G evolution owing to the fact that even the 3G, and 4G networks were not in existence in many of the developing countries in Africa and across the globe
7. A proper roadmap for developing countries that entails affordable 4G devices is necessary as well as the dynamic spectrum sharing between 2G and 4G in those countries should be put into consideration.

5.0 RECOMMENDATIONS

The Committee recommends that; -

1. Governments should adopt a national code for new mobile sites and modification of existing sites implemented by local entities.
2. The proper legal and operational framework should be put in place to rationalise the benefits of 2G/3G/4G rationalisation and leverage on better spectral efficiency operational benefits.
3. The Ministry of Information, Communication and Technology to prioritise telecommunications infrastructure provision in underserved populations and geographic locations to help bridge national and local inequities in digital resources and opportunities.
4. The telecommunication operators and the Internet Service Providers (ISP) to start thinking and putting in place infrastructure that will be useful in transitioning to 5G network in the country.
5. The telecommunication operators should consider sharing infrastructure via a national legacy network infrastructure for setting up of the 5G technology.

SIGNED..........DATE...03/03/2020.....

HON. WILLIAM KISANG, M.P. - CHAIRPERSON

DEPARTMENTAL COMMITTEE ON COMMUNICATION, INFORMATION AND
INNOVATION

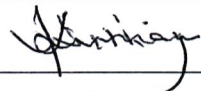
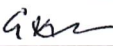
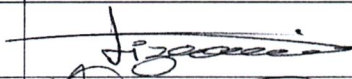
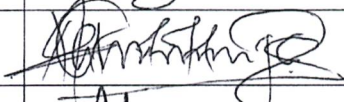
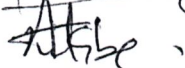
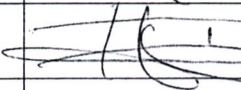


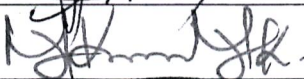
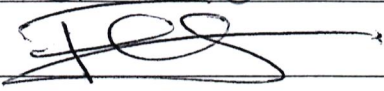
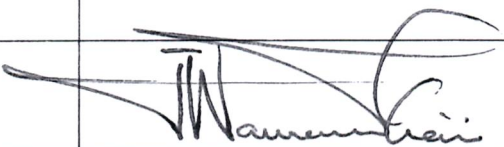
THE DEPARTMENTAL COMMITTEE ON COMMUNICATION, INFORMATION AND INNOVATION

ADOPTION LIST




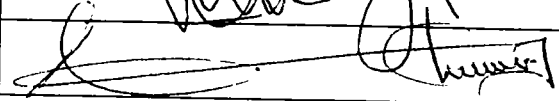
Adoption of the reports on:-

- i.) Sixth Forum on Internet Freedom in Africa, 2019 held in Addis Ababa, Ethiopia from 23rd to 26th September, 2019
- ii.) 2019 Shenzhen Smart City Forum with International Friendship Cities on 14th to 15th May, 2019 in the Republic of China
- iii.) ITU Regional Week on Emerging Technologies for Sustainable Development and Digital Transformation 26th to 30th August, 2019 in Dubai United Arab Emirates
- iv.) Internet Forum (IGF), 2019 held in Berlin, Germany from 25th to 29th November, 2019

DATE 3/3/2020.....TIME 11.30am.....VENUE 11th Floor Protection House.

| NO. | NAME | SIGNATURE |
|-----|---|--|
| 1. | Hon. Kisang, William Kipkemoi, M.P - Chairperson |  |
| | Hon.George, Macharia Kariuki, M.P - Vice – Chairperson |  |
| 3. | Hon.Liza, Chelule Chepkorir, M.P. |  |
| 4. | Hon.Alfah, O. Miruka, M.P. |  |
| 5. | Hon. Annie Wanjiku Kibeh, M.P. |  |
| 6. | Hon. Joshua Kimilu, Kivinda, M.P. |  |
| 7. | Hon.Marwa Kitayama Maisori, M.P. |  |
| 8. | Hon.Mwambu Mabongah, M.P. |  |
| 9. | Hon.Maritim Sylvanus, M.P. |  |
| 10. | Hon.Mwangaza Kawira, M.P. |  |
| 11. | Hon. Jonah Mburu, M.P. | |
| 12. | Hon. Gertrude Mbeyu Mwanyanje, M.P | |
| 13. | Hon.Wamuchomba, Gathoni, M.P. | |
| 14. | Hon.(Eng).Mark Nyamita Ogola, M.P | |
| 15. | Hon. John Kiarie Waweru, M.P. |  |

**THE DEPARTMENTAL COMMITTEE ON COMMUNICATION, INFORMATION
AND INNOVATION**

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|-----|------------------------------------|---|
| 16. | Hon. Erastus Nzioka Kivasu, M.P. |  |
| 17. | Hon. Godfrey Osotsi, Atieno, M.P. |  |
| 18. | Hon. Innocent Momanyi, Obiri, M.P. |  |
| 19. | Hon. Anthony, Tom Oluoch, M.P. |  |