REPORT ON

GHANA INTERNET GOVERNANCE FORUM (IGF) 2020

THEME: "BUILDING A RESILENT, INCLUSIVE AND SAFER INTERNET IN GHANA DURING PANDEMICS."

ACCRA, GHANA.
15TH to 17TH JULY, 2020

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EXECUTIVE SUMMARY

The Ghana Domain Name Registry (GDNR) together with the Internet Society Ghana Chapter under the auspices of the Ministry of Communications convened the 2020 Ghana Internet Governance Forum (IGF) themed "Building a Resilient, Inclusive and Safer Internet in Ghana during pandemics". This year's edition was completely virtual and for the first time the program was a three-day event which commenced with the Ghana School of Internet Governance, the Youth IGF and the main IGF respectively.

The multi-stakeholder approach was applied in the organization of the forum which involved all the stakeholders in the Internet ecosystem such as the Government, Public and Private sector, Technical community and the Academia as well.

A community call was first made to create awareness and also educate the community on how to participate in virtual meetings, since a lot of people were not familiar with virtual meetings.

The maiden edition of the School of Internet Governance saw great interest and participation as participants entreated that this should be carried out for more days as issues pertaining to the Internet should be deliberated on more.

The second edition of the Youth IGF saw massive participation online as the youth were very much interested in the topics that was relevant to them in this digital era.

The themes selected for this year suited the current situation of the country and as such generated interest from the public. It was gathered that the youth should be involved in the development of access to Internet in the rural areas.

The fifth edition of the national IGF which was the highlight of the event produced insightful discussions on government taxation on Internet access which should be addressed going forward.

In all, the 2020 virtual Ghana IGF was successful despite the covid-19 pandemic had a significant number of participants who contributed immensely on the panel discussions. A communique will be submitted to the Ministry for possible adoption.

LIST OF ACRONYMS

- 4G – 4th Generation
- A4AI – Alliance 4 Affordable Internet
- AC – Address Council
- AFNOG – Africa Network Operators Group
- AFRINIC – Africa Network Information Centre
- AFRISPA – Africa Internet Service Providers Association
- AFTLD – Africa Top Level Domain
- ALAC – At-Large Advisory Committee
- AU – Africa Union
- CCNSO – Country Code Names Supporting Organisation
- CCTLD – Country Code Top Level Domain
- CERT – Computer Emergency Response Team
- CRTC – Canadian Radio Television Commission
- CSOs – Civil Service Organizations
- CST – Communication Service Tax
- CST* - Counseil Superieur de la Telematique
- EU – European Union
- FCC – Federal Communication Commission
- GAC – Government Advisory Committee
- GDNR – Ghana Domain Name Registry
- GIFEC – Ghana Investment Fund for Electronic Communication
- GNSOs – Generic Name Supporting Organisation
- GTLD – Generic Top-Level Domain
- IANA – Internet Assigned Numbers Authority
- IAPs – Internet Access Providers
- ICANN – International Corporation for Assigned Names and Numbers
- ICPs – Internet Content Providers
- ICT – Information Communication Technology

- IDN – Internationalised Domain Name
- IGF – Internet Governance Forum
- IGFSA – Internet Governance Forum Support Association
- IOT – Internet of Things
- ISOC – Internet Society
- ISPs – Internet Service Providers
- ISPs – Internet Service Providers
- ITU – International Telecommunications Union
- MAG – Multi-stakeholder Advisory Group
- MNO – Mobile Network Operator
- NAP – Network Access Point
- NCA – National Communication Authority
- NCSC – National Cyber Security Centre
- NRIs – National Regional Initiatives
- PRIDA – Policy and Regulatory Initiative for Digital Africa
- RSSAC – Root Server System Advisory Committee
- SEO – Search Engine Optimization
- SIG – Special Interest Group
- SIIO – State Internet Information Office
- SOs – Supporting Organisations
- SSAC – Security and Stability Advisory Committee
- TLD – Top Level Domain
- UN – United Nations
- UNICEF – United Nations International Children's Fund
- WSIS – World Summit on the Information Society

BACKGROUND

In 2003 and 2005, the United Nations organized the World Summit on the Information Society (WSIS). One of the most critical outcomes from this landmark summit was the creation of the Internet Governance Forum, or the "IGF".

IGFs happen around the world throughout the year and once a year, participants gather for the global IGF.

Prior to the global gathering, countries, regions and other continents also gather to discuss issues regarding their Internet needs.

All these gatherings offer a unique space for an amazing range of people to share information and develop solutions.

IGF was not designed as a decision-making body, but the communique that is developed from the meeting, however plays an essential role in the decisions made by policy makers.

The 2020 Ghana IGF saw a three (3) day virtual meeting. The first day was dedicated for the School of Internet Governance, the second day for Youth IGF and the final day for the national IGF.

COMMUNITY CALL

The 2020 Ghana Internet Governance Steering Committee on the 25th June, 2020 hosted a pre-event call for the Local Internet Community. The purpose of the call was to create awareness and also educate the community on how to participate in virtual meetings, since a lot of people were not familiar with virtual meetings.

Eighty-Two (82) participants joined the call which lasted for an hour and half. The meeting was successful with amazing resource persons, interactive and engaging. The feedback gathered after the virtual meeting was great.

OBJECTIVES OF THE IGF

- Inform and educate the public on Internet governance issues such data privacy and cyber security.
- Procedures to building a robust and resilient Internet accessible by all in pandemics
- Gather Knowledge from the Forum and panel discussions, to promote Internet
- Governance in Ghana and beyond.
- Develop a communique that will be presented to the government for review and possible adoption

STEERING COMMITTEE

The 2020 Ghana Internet Governance Forum Steering Committee was made up of some GDNR staff and volunteers from the various stakeholder groups. Find list below;

1. Nana Kofi Asafu-Aidoo   ---   Chairman (Executive Director, GDNR)
2. Francis Acquah Amaning --- Vice Chair/ ISOC/GDNR
3. Eric Akumaih --- Member/ ISOC
4. Marcus Adomey --- Member/Internet Society Ghana Chapter
5. Vanessa Andaratu Issah   --- Member/GDNR
6. Kweku Antwi   --- Member/ Microsoft
7. Wisdom Donkor --- Member/ Open Data & Internet Research Foundation
8. Vivian Affoah --- Member/ Media Foundation for West Africa
9. Felicia Anthonio --- Member/ RightsCon
10. Ivy Hoetu --- Member/ National Communication Authority
11. Linda Asamoah --- Secretary GDNR
12. Lily Botsyoe --- Member/Youth IGF Rep
13. Derek Laryea --- Member/ Telecom Chamber
14. Afia Darko Asante --- Member/ National Cyber Security Centre

SPONSORSHIP

The 2020 Ghana Internet Governance Forum received financial assistance from the National Communication Authority (NCA), Ghana Investment Fund for Electronic Communications (GIFEC), MainOne and IGF Support Association (IGFSA).

The forum also received data sponsorship from Ecoband and NITA.

TECHNICAL PREPARATORY MEETING

The 2020 Ghana IGF Steering Committee had various sub-committees who helped in organizing the forum. One of such committees was the Logistics Committee which was chaired by a staff of GDNR. The committee was responsible for planning and handling the technical aspect of the forum. The logistics committee organized a series of preparatory meetings to test the audio visuals, the virtual meeting platform, video streaming platform, language translation, moderation of various sessions, presentations and sharing of roles for host and cohost.

The committee held the first second and final preparatory meetings on 11th, 13th and 14th July, 2020 respectively.

DATA PACKAGE

Ghana held its maiden virtual School of Internet Governance this year. The purpose of organizing the school IG was to introduce people to the Internet Governance discussions and what Internet Governance is all about.

To achieve this goal and also encourage participant to stay online throughout the school Internet Governance session, Mobile data was given to all participants of the School of Internet Governance.

MAIDEN GHANA SCHOOL OF INTERNET GOVERNANCE (SCHOOL OF IG) 2020

DAY ONE - THEME: "EMERGING ISSUES IN INTERNET GOVERNANCE AND A LOOK BACK AT THE HISTORY OF THE INTERNET IN AFRICA TO HELP US SHAPE A POSITIVE FUTURE."

Venue: Zoom Platform

Date: Wednesday, July 15, 2020

INTRODUCTION

On July 15, 2020, the Ghana Domain Name Registry (GDNR) and the Internet Society (ISOC) convened the 2020 edition of the Ghana School of Internet Governance webinar under the auspices of the Ministry of Communications, with support from some sponsors and partners. The 2020 three-day Forum was held remotely via Zoom application due to the Corona virus pandemic. The discussions on the first day held the view that, a multi-stakeholder approach is crucial in tackling Internet issues since the Internet consists of different technologies. The event was chaired by Nana Kofi Asafu-Aidoo, Chair Ghana IGF.

CHAIRMAN's OPENING REMARKS

Nana Kofi Asafu-Aidoo recounted briefly the history of the IGF, which he accordingly noted was established in 2006 by the United Nations (UN) to bring diverse voices to the discussions surrounding the development of the Internet, that is the ability to communicate freely, access information easily on the Internet and solve problems that may arise out of Internet governance. He said the Internet has taken a far bigger role than expected especially during the COVID-19 pandemic, making it critical for the Internet to be made accessible, affordable and useful for everyone.

Issues discussed at the webinar included:

- Developing the Internet in Africa
- Connectivity, cost and digital inclusion,
- Internet governance and regulation
- Cybersecurity and digital rights
- Safety on the Internet, stability and resilience of the ecosystem
- The Internet during pandemics

Some of the questions that came up for discussion included the following:

- Who regulates the Internet?
- What regulatory model should the regulator consider?
- How do we make the Internet more accessible and affordable for all?
- How do we protect our privacy in the digital space, while expressing ourselves freely on the Internet?
- How can we make good use of the Internet during pandemics?
- What are the implications of increased Internet usage during the pandemic?

The answers to the above questions include having multi-stakeholder model of regulation with legal aspects, policies, basic structures and sanctions, to control malicious acts on the Internet.

The citizenry should be sensitized about their digital rights, and there should be training, advocacy, capacity building, Internet accessibility and affordability.

SESSION ONE: Emerging issues in Internet Governance and a look back at the history of the Internet in Africa to help us shape a positive future

FIRST SPEAKER – ERIC AKUMIAH: CONSULTANT, E-TRANSFORM, MOC

Topic: Emerging issues in Internet Governance and a look back at the history of the Internet in Africa to help us shape a positive future.

Below are highlights of his contributions to the various sub topics:

History of the Internet in Africa

1. Ghana was the first country in the West African Region to get Internet connectivity in August 1995 but Tunisia was the first country in Africa to have full access to Internet connectivity in 1991.

2. In the 1990s when connectivity was established, the only means to connect to the backbone of the Internet was through satellite connections and they were in fact expensive connections.

3. By 2001, SAT3 fiber connections were initiated and because it was a monopoly, it remained expensive to access until other avenues such as Seacom, TEAMs, MainOne, GLO-1 EASSy and many more were introduced.

4. Ghana currently has SAT3, MainOne, GLO-1, WACS and ACE. These five (5) different types of connectivity have brought enough capacity to run the Internet smoothly.

African Institutions and Internet Governance

1. To guarantee the evolution of the Internet, there was the need to have African institutions that would govern and manage its growth and one of the first institutions established was the African Networking Symposium, which was led by Prof. Nii Narku Quaynor. This initiative put together different institutions to handle each aspect of the Internet. This was followed by the African Internet Growth. The entity encompassed individuals who had gone to Internet Society workshops aimed at helping develop technical capacity to roll out the Internet.

2. Until 2000, ISOC was the only African Chapter which existed before AFNOG, and was also introduced as a capacity building/training institution to train network engineers across Africa. By 2013, AFTLD, a top-level domain name organization, was established. Other institutions subsequently established include AFRISPA, AFRINIC and many more in recent years.

Internet Users Growth in Africa

Because of the lack of Internet connectivity, Africa's penetration levels were initially low, less than two percent. As fiber was subsequently introduced, Africa began to see exponential growth in Internet usage. As at 2000, Africa had less than 20,000,000 Internet users but as at 2012, the figure had risen to about 140,000,000.

E-Government Trends in Africa

1. The sharp innovation that came with the Internet is the ability of governments in Africa to provide services online. Statistically, by 2012, Northern and Southern Africa made more gains compared to their West, Middle and East African counterparts. In fact, West Africa made the least gains in the deployment of e-governance.

2. As at 2010, Seychelles was leading in Africa but was ranked 104th globally. The implication being that overall, Africa was not doing much/enough in the area of e-governance.

3. Ghana was out of the top 10 in Africa by 2010 however, as at 2018, the country was ranked 5th in Africa in terms of e-governance deployment because of the E-Transform and E-Projects initiated. No one owns the Internet, hence the need for governance.

1. Several stakeholders are involved in developing the Internet.

2. There is the need to adopt a multi-stakeholder approach to agree on how the Internet has to be managed.

3. All stakeholders namely, users, engineers, rights advocates, lawyers, civil society/governments and more, must participate to make the Internet more secure and beneficial.

Key Issues in Internet Governance

They are categorized into three main areas as noted below:

1. Content Layer

- Pollution Control
- Cybercrime
- Intellectual Property Rights

2. Logical Layer

   - Standards

   - Domain Name System

   - IP Allocation and Numbering

3. Infrastructure Layer

   - Interconnection

   - Universal Access

   - Next-Generation Pathways

Internet Ecosystem

1. Some of the key mechanisms that make the Internet work are the naming and addressing which are being handled by ICANN, IANA, CCTLD, GTLD and more.

2. There is also the local, national, regional and global policy development to serve the people of specific geographic areas.

3. There are two main broad Internet users; individual and organisational users. They both have different requirements in terms of security, bandwidth and more. An organisation may need to protect its intellectual property and trade secrets but an individual may have to protect only their digital image.

Future of the Internet

1. The Internet of things

   - Driverless cars and other innovations

2. Artificial Intelligence

3. 5G Technologies

4. COVID-19 and Internet challenges

Issues Africa Must Focus On

1. Internet Capacity and Infrastructure

2. E-governance and Sustainability

3. Online Security and Freedom

SECOND SPEAKER – YAOVI ATOHOUN: ICANN – AFRICA

Topic: ICANN and the Multi-stakeholder Model

The Speaker touched on these three main points listed below which are subsequently elaborated:

1. ICANN in brief
2. Multi-Stakeholder Community
3. How to get Involved

ICANN in Brief

1. ICANN coordinates with partners, other organisations to help make the Internet work.
2. ICANN performs the following and more functions to make the Internet work.
   - The first function includes numbers, that are; the IP addresses and autonomous system numbers.
   - Domain names – ICANN works at the top level. This is also categorized into two parts, the first being top level names related to countries and the generic top-level domain names. Currently, there are more than 1,200 generic domain names worldwide.
3. ICANN has several regional, engagement offices and partnership centered across the globe currently but is head-quartered at Los Angeles, U.S.A.
4. ICANN has delegated the management of '.cv' to IANA WHOIS. The IANA WHOIS service is provided using the WHOIS protocol on port 43.
5. ICANN has the '3R' model which includes the registries; organisations who receive delegation from ICANN to manage top level domains. Registrars are other organisations that have agreement with the registries. Registrars perform domain

name registrations. The registrants are the organisations doing the registration; registrants go to registrars to register domain names.

Multi-stakeholder Model

1. ICANN follows a bottom-up, multi-stakeholder model in which individuals, non-commercial organisations, industry and governments play important roles in its community-based, consensus-driven, policy-making approach.

2. The ICANN multi-stakeholder community performs two main roles;

   - **Making policy:** Three supporting organisations (SOs) are responsible for developing policy recommendations in the areas they represent – IP addresses, generic top-level domains (gTLDs) and country code top-level domains (ccTLDs). The SOs include ASO Address Council, ccNSO Council and GNSO council.

   - **Providing advice**: Four advisory committees (ACs) give advice and make recommendations on ICANN topics. The ACs are made up of representatives from governments and international treaty organisations, root server operators, Internet security experts and Internet end users. The ACs are the ALAC, GAC, RSSAC and SSAC.

How to Get Involved and Informed

1. Attend an ICANN Public meeting which is held three times a year and is free and open to the public in different regions around the world. It is held virtually due to the pandemic.

2. Visit go.icann.org/journey to learn how you can attend an ICANN Public Meeting as part of the NextGen@ICANN or ICANN Fellowship programs.

3. Take a free online course at learn.icann.org

4. Find and participate in ICANN Community Group by visiting iccan.org/community and sign up for ICANN news alerts and regional newsletters.

THIRD SPEAKER – DR. HILLAR ADDO: LUCAS COLLEGE

Topic: Regulating the Internet for an Open and Robust Broadband Internet for Ghana

The presentation was centered on the following key areas:
- Policy and Regulatory Initiative for Digital Africa (PRIDA)
- The dilemmas of regulating the Internet
- Some realities of the Internet, now and into the future
- Who regulates what is regulated on the Internet: experiences of the trail blazers?
- Stakeholders model
- Internet regulatory framework

Policy and Regulatory Initiative for Digital Africa (PRIDA)
- PRIDA is an African Union (AU) initiative funded by the AU and the European Union (EU).
- To achieve its vision, PRIDA streamlines national, regional and continental IG processes for a common progressive African positive supported by capacity building and coaching services.
- Capacity needs to be built because the world is globalizing and because of globalisation, there is the need for coherence.

Who Regulates the Internet? The Dilemmas
- The Internet is a globally distributed network comprising mainly of voluntarily interconnected autonomous networks.
- It operates without a governing body with each constituent network setting and enforcing its own policies.
- No one person, company or government runs the Internet, hence cannot regulate it alone.

- Regulating the Internet can therefore only be a collective responsibility especially when it has become a globalized e-commerce platform.
- Policy coherence is driving Internet regulatory framework for the achievement of the global village.
- Internet regulatory policy should aim at supporting citizens rather than enforcement as it is in Africa.

Reality Now and Into the Future of the Internet

- The future is happening much faster with – IoT, artificial intelligence, big data, cloud/edge computing, blockchain, facial recognition, robotics and more.
- Technology is the great leveler, unifier, creator of new and destroyer of the old.
- Through the Internet, the world is witnessing an unprecedented shift that is redefining the future – the greatest shift since the dawn of mankind; the Fourth Revolution.

Content Regulation

- Content regulation is the main issue of public debate in the regulation of the Internet and one of the main issues that both government and net users are concerned about.
- The European Union (EU) believes that illegal and harmful content on the Internet probably best sums up the fears of governments.
- Internet Regulatory Concerns of the European Union (trail blazer)
    1. National Security
    2. Protection of Minors
    3. Protection of |Human Dignity
    4. Economic Security
    5. Information Security
    6. Protection of Privacy
    7. Protection of Reputation
    8. Intellectual Property
- The USA (trail blazer) – All electronic communication in the USA is regulated by the Federal Communications Commission (FCC).

1. The FCC is an independent U.S. government agency overseen by Congress and the federal agency responsible for implementing and enforcing communications law and regulations.
2. The FCC regulates pornography, consumer protection, transparency of content and necessary regulations to promote broadband investment.

- The Internet is regulated by the CST in France.
    1. Filtering is a serious issue and it should be at source.
    2. ISPs were a part of the regulatory commission to regulate their members.
    3. It recommended international cooperation in policing the net for regulation and international filtering.
    4. The French language was a priority on the net in France.
    5. Family and consumer organisations were protected.
    6. Obscene, pedophile and neo-Nazi content were abhorrent from their servers.
- The Singapore Broadcasting Authority regulates Internet content.
    1. ISPs and ICPs in Singapore are regulated by the Broadcasting (Class License) Notification.
    2. Certain classes of content are deemed to be automatically licensed, providing a code of practice is abide by.
    3. Censorship is after, not before publication.
    4. Masters of race, religion and politics are given special attention and of concern on the Internet.
- The State Internet Information Office (SIIO) is formally authorised to regulate and supervise all Internet content in China.
    1. The Chinese have relaxed censorship recently. China had hitherto provided access through filters and even then, using a handful of government-controlled access provider. Besides pornography, politics and linguistic matters are censored.
    2. The laws that apply to the Internet are a subset of laws that apply to electronic media.

- The Broadcasting Regulation Committee, the Korea Media Rating Board and the Korea Internet Safety Commission Regulates the Internet in Korea.
    1. The offices have power to censor.
    2. Under the law, the Minister of Communication can order an information provider to delete or restrict material.
- The Federal Data Protection Agency and sixteen state data protection agencies often act in concert to regulate the Internet in Germany.
    1. Germany recently drafted "multimedia" law to among other things, censor pornography and anti-Semitic propaganda.
    2. Acts already prohibited in Germany – such as denying the Holocaust, distributing hard-core pornography to minors and conducting fraudulent business will also be illegal in electronic form.
    3. Germany bans websites that lead to sites mirrored by illegal sites.
    4. The new law therefore has the function of clarifying the legal liabilities of IAPs when illegal material passes through them.
- Canada's federal regulator says it may regulate content on the Internet to provide more Canadian content. This is similar to the French idea of having more Franco space.
    1. The Canadian Radio Television Commission (CRTC) regulates the Internet in Canada.

Stakeholder Model - What Regulatory Model Should the Regulator Consider?

1. The Internet is treated as a postal service because it has e-mail.

2. Need for Internet expertise because of new telecommunication services.

3. Need for electronic media personnel because of Internet newspaper print medium.

4. Need for radio broadcasters because the Internet now has Zoom, Skype and more and has become television stations to make it a broadcast medium.

5. Need to consider the use of computing systems and related devices as model for regulation.

6. Need to bring on board ISPs for pre-post content screening strategies and models.

7. Need to engage net neutrality as an advertising model where advertisements are often screened before they are placed in the media.

8. Need to engage in and price controls.

9. Need to incorporate 5G as the Network Access Point (NAP)

Regulatory Framework

Below is a proposed framework by the presenter:

Regulator	Substantive Rules	Sanctions	Mechanism
1. The actor him/herself	Personal ethics	Self-sanction	Self
2. Second party controllers (i.e. the person acted upon)	Contractual provisions	Various self-help mechanisms	PICS, RSACI, filter software
3. Non-hierarchically organized social forces	Social norms	Social sanctions	Code of conduct
4. Hierarchically organised non-governmental organisations	Organisation rules	Organisation sanctions	Industry self-regulation
5. Governments	Law	State enforcement, coercive sanctions	Law

Recommendations

- There is the need for an entity to regulate the Internet and policy direction in Ghana into the future.
- Need for broad consultation towards policy consensus to determine an Internet regulatory entity.
- Regulation of the Internet should be an Internet multi-stakeholder responsibility.
- Internet stakeholders should have in-house regulatory units.
- Representatives of in-house stakeholder regulatory units should be nominated to the Ghana Internet Regulatory Authority. The national stakeholders recommended should be:
    a. Government
    b. The Media; Print and Electronic
    c. Broadcasting
    d. Telecommunication
    e. ISPs
    f. Representation from users of the Internet and civil society
    g. Business
    h. Representation from Internet Network Access Point (NAP) service providers
    i. The Representatives above should be from the Ghana Regulatory Authority

FOURTH SPEAKER – FELICIA ANTONIO: ACCESS NOW

The Speaker indicated that, Access Now is an international organisation that defends and extends digital rights of users at risk. It spearheads the Keep It On campaign which is a global campaign against Internet shutdowns. It is currently made up of over 200 organisations including some Ghanaian member civil society organisations.

- They monitor and record Internet shutdowns globally and also provide digital security support. Access Now has a digital support help line to support in this regard.

- Internet shutdown is when a government or state authority or a known state actor intentionally disrupt Internet or electricity communication rendering them inaccessible for users. It is normally done targeting a specific population or location.

- The reasons mostly given for Internet shutdowns are to exert control over the flow of information as well as stifle unrest.

- There is a trend of shutdowns happening before and during elections and national examinations such as WASSCE.

- One key tool that has been useful in advocating against Internet shutdowns is litigation. The most recent case has been in Togo where the ECOWAS Court ruled that the 2017 Internet shutdown that happened during protests in the country was illegal and a violation to the fundamental human rights of its citizens. A similar ruling was also given in Indonesia where government shutdown the Internet in some regions of the country.

- According to the 2019 Keep It On report on shutdowns, 213 cases were recorded across the year in 33 countries.

- Access Now engages with the United Nations (UN) to discuss the impact of Internet shutdowns.

- There is a Shutdown Story Project as well through which individuals can share their shutdown experiences. Through this project, a researcher from India described his experience with an Internet shutdown which occurred in August 2019 by saying, "The shutdown has affected my mental health, my work and made my life follow a theme of waking up and sleeping with no plans."

- In 2016, the United Nations declared that digital rights are a human right and as well condemned intentional disruption of access to the Internet by governments across the globe.

- Uganda has passed a social media law where users are supposed to pay to use social media platforms and it has affected the digital divide in the country. It therefore calls for the need for citizens to get involved in drawing and shaping such policies so that it reflects the human rights bit of the equation.

- Africa is gradually becoming the next perpetrator of Internet shutdowns after Asia; it is therefore imperative to widen the conversation to curtail shutdowns.

QUESTIONS, ANSWER AND COMMENTS SESSION

- The Internet must be secure to avoid Internet pollutions like malware, phishing and other unethical issues.
- What are the challenges that African representatives face in getting their concerns heard in international forums?
  Because we are still considered to be not really substantively engaged in making critical decisions, for example, in cybersecurity, even though we have so many professionals as we can see today, I know you have been talking about capacity building but what can we do? Because there is more to it than just the knowledge. How we can apply the skills also matters.

For Africans to be more active and visible in international discussions, there should be consensus, sense of sharing and solidarity among Africans

- For the Internet to be more accessible and affordable especially in deprived communities during this pandemic, governments should provide the necessary support to ease the financial cost regarding the use of Internet
- The issue of access and affordability has always been on IGF since 2011; some progress have been made through the GIFEC fund from government. Every year, the Telcos provide a percentage of their profit into that fund. In the last few months, the Ministry of Communication commissioned a number of rural Internet projects which were rolled out by GIFEC to enhance accessibility in many communities
- With regards to affordability, there is the Alliance for Affordable Internet which has been looking at the key issues that affect the price of the Internet and over the years the discussions they have had, has impacted the cost of the Internet.

However, we have had issues where for instances, the CST has been increased from 6 to 9% for the 3% to be used for cybersecurity. This initiative to secure the Internet, unfortunately, brings some kind of burden to users

- The IGF is very interested in youth engagement in the Internet space and that was the reason for organizing the 2019 maiden youth IGF
- No government has been able to prove that a shutdown has been able to restore national security. Internet shutdown is a violation of people's fundamental human rights. It is in fact the responsibility of every government to ensure that the rights of its citizens are protected. People will by all means misuse the Internet and that does not mean the several millions of people who make good use of it should be denied access. It has been proven without doubt that the benefits of the Internet far outweigh the negatives. The Internet is the backbone of all activities during this pandemic.

Dr. Kester Quist-Aphetsi spoke the following:

- There is the need to take advantage of the significance of the Internet
- Currently, through a partnership with a university in France, some farmers in Ghana are able to hold satellite communication with farmers in France to share details about how crops are performing.
- Developing different kinds of content, creating businesses and providing solutions on the Internet offers a lot of opportunities for everybody. The government has to take advantage of the Internet now to ensure that within the West African Region, Ghana leads in terms of Internet activities, innovations, understanding and promoting Internet governance.
- It is also important we get involved in ICANN activities to ensure that we lead in the sub-region.

LESSONS LEARNT

- Internet Governance should be fused in the ICT programs in our schools.
- The number of days for the Ghana School of Internet Governance should be extended.
- The incentive given to participants of the Ghana School of Internet Governance should go beyond the data but other learning materials and resources the students would need.

GHANA YOUTH INTERNET GOVERNANCE FORUM (YOUTH IGF) 2020

DAY TWO - THEME: "ADVANCING YOUTH ACCESS TO INTERNET AND DIGITAL TOOLS IN PANDEMICS."

Venue: Zoom Platform

Date: Thursday, July 16, 2020

INTRODUCTION

Issues discussed at the 2020 Ghana Youth IGF Webinar included the following:

- Freedom of expression online,

- Connectivity, cost and digital inclusion,

- Equipping the youth with digital skills for the job market,

- Youth participation in IGFs,

- Access to Internet and other digital tools,

- Digital tools and resources for e-learning,

- Safety on the Internet,

- Data protection.

Some of the questions that came up for discussion included the following:

- How can the youth be equipped with digital skills for the job market?

- What are the challenges of the youth during the pandemic?

- What are the implications of data protection/spyware for Ghana since we do not produce devices?

- What are the digital skills required for the jobs we have in this current economy?

- What are the challenges encountered about access especially during this pandemic?

OPENING REMARKS – CHAIRMAN, NANA KOFI ASAFU-AIDOO, GDNR/IGF

He noted the following in his address:

- One of the biggest goals of the IGF and GDNR is to ensure that the local Internet in Ghana thrives and grows and gets to a point where they are truly involved in creating solutions to problems within the country.
- Skills and tools are important to the youths even more so in times of a pandemic because the Internet has received a surge in usage due to the fact that a lot of things that have to be done physically have been moved to the virtual world.
- The need for software and network engineers, user interface designers, marketers and many other necessary skills needed online has grown vastly. Unfortunately, the number of such people in Ghana is not enough; it is therefore up to the youths to take up the mantle to fill the gap.
- Institutional support – government should do all it can to enable education and training institutions to put their courses online to make it accessible to the general public, especially the youth at a rate which is affordable. Another role government can play is being realized through GIFEC, that is going to the last mile and ensuring that Internet reaches all parts of Ghana.
- The local Internet should be developed, that is the '.gh' domain name, so that the domain name space in Ghana will grow. If this happens, many companies will be able to host data within the country which will provide jobs surrounding data services.
- Youth participation in the IGF is crucial because it will help them to listen and learn as well as make their voices heard.
- Instead of the youth spending much time on the Internet surfing social media platforms, it will be more beneficial if they access free online courses, webinars, reading materials and more to develop themselves and in turn contribute to improving the Internet.

SOLIDARITY MESSAGE – MARY UDUMA, WAIGF/AFIGF

Madam Uduma expressed pleasure for her participation in the Forum and showed enthusiasm regarding the topics chosen and crop of speakers invited whom she referred to as great minds to share their views on the theme of the day. She further pledged her continued support to the Youth IGF and noted that as the youth continue to engage, that will empower them to play critical roles at all levels of engagement. She finally urged the youth to boldly speak up and share their ideas regarding how to advance youth access to the Internet and digital tools during pandemics.

KEYNOTE ADDRESS – ANJA GENGO, UN IGF / NRIS

She firstly commended Ghana Youth IGF's multi-stakeholder organising committee for their energy and commitment towards organising the event, which is aimed at improving digital policies in the country and in Africa.

She further noted that nothing has proven to the world the importance of access to the Internet and the utilisation of other technologies than the COVID-19 pandemic. Through the Internet, many people across the globe have been able to access medical tips from medical and health experts on daily basis to protect themselves. Governments have also been able to communicate with citizens in these times, through the use of digital technologies.

Unfortunately, not all people have access to the Internet to reap its enormous benefits in such hard times. Moreover, those connected faced massive inaccurate content on the outbreak on the Internet. The virus, she said. has simply exacerbated the info-dermic; a phenomenon where misinformation and disinformation are spread over the Internet that can cause harm to people. This raises the criticality level of Internet governance especially during such a period.

She finally etched her support for the Forum's focus on inclusion, which is one of IGF's highest principles. She noted that there is the need to make all processes available to all people especially, the vulnerable groups in society such as women, girls, people with disabilities, youth, the elderly population, and people from rural and remote areas

SESSION ONE: Advancing Youth Access to Internet and Digital Tools in Pandemics

OPENING PLENARY

Theme: Advancing Youth Access to Internet and Digital Tools in Pandemics
Moderator: Edinam Lily Botsyoe
Speakers:

1. Dorothy Gordon, Technology activist and development specialist
2. Salanieta Tamanikaiwaimaro, UK (Former MAG member)
3. Sampson Adotey
4. Fadila Ahmad Abdulrazaq

Discussions and Recommendations

The following recommendations were made:

- We are totally dependent on foreign technology, that makes our digital economy vulnerable due to the concerns regarding data protection
- Many people are frustrated during the pandemic because they could not utilise the internet effectively because of issues of reliability of the internet, and the cost of bandwidth.
- There is the need to think about how to create community networks, create more jobs and make it possible for more people to work and study online. People have used social media to learn how to market and in fact built on that to start businesses.
- People are not bothered about data security in Ghana; there should be awareness to whip their interest

- The youth are the future leaders so must start preparing now. They must ask themselves about what they are going to do in 10 years from now.
- This is the time for young people to take advantage of the situations around and be the solution, a season for young people to create and innovate.
- Through the Internet, one can take an innovation from a village in Ghana and sell it on the global market just as anyone from the US or UK.
- The beautiful thing about ICT is there is space for everyone and the pandemic has created avenues where global opportunities are brought to your doorstep.
- There is the need for the education sector in Africa to take digital transformation seriously.
- In the education sector, there is the need to gradually shift to a blended learning approach.
- Community hub networks is one of the ways to ensure access to education in the country.
- Proposed five pillars of the digital economy framework:
    1. Basic infrastructure
    2. Digital infrastructure
    3. Enabling environment
    4. Enabling technologies
    5. Human capital development
- One of the major shifts we have experienced recently in this pandemic is the acceleration of the future of work. There are team collaborations on videos calls, employees are working from home, even performing tasks which were initially perceived to be impossible to do away from the work premises.
- Companies through the pandemic have been able to reevaluate the activities to determine which ones are essential or sustainable work practices.
- The ability to focus on productivity rather than presence is one of the greatest revelations of the pandemic. The ability of companies to begin to trust their employees more, and be able to allow a higher level of flexibility and freedom in catering for the different groups of people that exist within the workforce, such as pregnant women

and nursing mothers who do not necessarily have to be present at the work premises and who were previously forced to go to work, likely because they were afraid they will lose their jobs, and people with disabilities.

- Individuals should bear the responsibility of sharing digital tools, resources and knowledge for the benefit of all
- One of the key things for addressing the issue of accessibility, is putting up infrastructure, from government or the private sector, establish ICT centres, do massive online teaching and learning, establish centres in rural communities and to re-equip already existing facilities
- More women should be trained to manage ICT centres in rural communities for sustainability.
- GIFEC has been doing a tremendous amount of work in terms of reaching the last mile. GIFEC has taken over from where the MNOs left off to bridge the digital divide in those areas known as Rural Telephoning Project.

SESSION TWO: **Resources and Tools for Promoting E-learning in Ghana**

Theme: Resources and Tools for Promoting E-learning in Ghana
Moderator: Theorose Elikplim Dzineku
Speakers:
1. Maud Adjeley Ashong Elliot, IT Lecturer, UPSA
2. Florence Toffah
3. Wendel Laryea

The following issues emerged during this session:
- The University of Professional Studies, Accra (UPSA) prior to the pandemic was already doing a blended learning. They were encouraged to use the module and at

the same time, make use of the classrooms. This made it quite easy to swiftly move totally to the online platform.

- When dealing with resources and tools for online learning, there are tools for personal learning, workplace learning and tools for the education sector. The education sector is fortunate to have several free online courses.

- We should prioritise all ages of people, what is known as 'netiquettes,' that is etiquettes on the Internet.

- It is recommended that while teaching online or using digital technologies to teach, the population of classes should still remain as small as possible to make room for some student-teacher interactions.

- The issue of access can never be over emphasised. That is why some learning tools/resources available online provide students with the opportunity to save learning materials such as videos. So, a student without Internet access in his or her village can move to a neighboring community that has access to the Internet, save the materials to later use them at home.

- It is important that people build Learning Management Systems to include transcription tools because not all students may be able to afford data or have enough speed to stream.

- Another strategy is to have recorded sessions where students can have a library of all the lessons, they have had so they can always go back to them at their own convenience or when they have stable Internet connection to revisit them.

- Access to digital devices that will be used to access E-learning is still a major challenge especially during the pandemic.

- Educational institutions should attempt to have discussions with manufacturers of digital devices so that they can purchase them in bulk at a reduced price with better payment plans.

SESSION THREE: Equipping the Youth with Digital Skills for the Job Market

Theme: Equipping the Youth with Digital Skills for the Job Market

Moderator: Sarata Omane

Speakers:

1. Jemila Abdulai

2. Joshua Joshua

3. Deric Kweku Degbedui, Ethical AI Club

Some of the questions posed during this session include:

1. What are the digital skills required for the jobs we have in this current economy?

2. How are organisations engaging the youth such that the experiences gained from the academia are practicalised?

3. How can the youths be equipped well so that they can survive and grow in the entrepreneurial sector?

The following were the issues that emerged in this session:

- One of the key skills required today is research skills. This is a skill that helps people find relevant information online. There is a lot of information on the Internet, it is therefore key to know where or how to find the right information you need to apply to the work you do. Also, we are moving into an era where intellectual property is becoming extra important and so it is key to learn other skills that comes with research such as referencing.

- Another important skill is understanding how to use social networking tools so that they can be used effectively for business. Because of the virus, a lot of businesses have had to shift their marketing to social media and it becomes a challenge for some on how to reach their customers online.

- Most young people seem to be more academic than practical when it comes to the job sector so organisations now have in-house training and mentoring sessions to facilitate them.

- ISOC, during the pandemic, has been doing a lot by training individuals and organisations who in turn help their communities as part of the efforts to equip people with digital skills. Google is doing well with equipping young people with some digital skills in areas such as social media advertisement and digital marketing.
- The digital element in business becomes an additional measure for making businesses more accessible, marketable, and collaborative
- To create something, no one should just replicate, but rather use the available skill sets to utilise, and to have the necessary value addition needed to the situation at hand.
- Pay attention to industry trends to determine viable ventures to engage in
- Curiosity is a requirement for learning anything online or offline so, stay curious to consistently upgrade your skills.

SESSION FOUR: Internet Access During COVID-19 - Challenges and Opportunities

Theme: Internet Access During COVID-19 - Challenges and Opportunities
Moderator: Lily Edinam Botsyoe
Speakers:
1. Kwaku Antwi
2. Jorge Appiah
3. Adama Jallow
4. Eleanor Sarpong, A4AI

The following were the issues that emerged in this session:
- A4AI has been working with the Ghana coalition to collaborate with government and some private sector players to drive down the cost of broadband through policy and regulatory reform.

- Ghana still has not reached the affordability threshold, which is, a user should not spend more than two percent of his or her average income on one gigabit of data. Currently, people are spending on average, close to four percent of their average monthly income. This is in fact higher depending on how much each individual earns.

- Because of the virus, individuals who used to have access to good connections at their offices and other public places were cut off and had to connect from home and they realised that it was far more expensive.

- Accessibility should be done in a way to guarantee quality connection, ability to use the Internet in a meaningful way and being able to connect with devices that have 4G type connectivity. A4AI therefore came up with the Meaningful Connectivity Standards which hopefully all countries will sign up to. It suggests that in order to have a meaningful connection, one should have a 4G type speed, a smartphone device or better, and to have connectivity at all times and places and it should be unlimited.

- Ghana Tech Hub initiated a program during the pandemic known as the Lockdown Training Program which had over 4,000 registrants in the space of one week. Unfortunately, before the program begun, majority complained they had no access to the Internet, cannot afford Internet data and some lack access to laptops. This gives a broader view of the conversation around access and affordability in Ghana.

- The pandemic has shown us the essence and urgency of having Internet access in all sectors. The Internet in these times has proven to be an essential tool we can use to forge on in our lives when most things in the real world have come to a sudden halt.

- There is Internet access in many parts of Africa but a major problem is cost of data. The cost of data is so high that individuals who are not working, such as students, find it difficult to afford.

- Governments therefore, must work with all stakeholders, private and public, corporate and academia, CSOs and more to make it affordable for all. The Internet has proven to be helpful universally to all, whether young or old and as such it must be accessible and affordable for all.

- The Internet should not be a privilege for some but a basic human right for all.

LESSONS LEARNT

- Government should provide incentives for the youth by collaborating with Internet Service Providers (ISP) in the country.
- Government should facilitate access to Internet and increase nationwide Internet bandwidth.
- Capacity and skills should be built to assist teachers, students and others to make effective use of the e-Learning platform during the pandemic.
- There should be inclusion of rural youth in the access to the Internet.

5TH GHANA INTERNET GOVERNANCE FORUM (GHANA IGF) 2020

DAY THREE - THEME: "BUILDING A RESILIENT, INCLUSIVE AND SAFER INTERNET IN GHANA DURING PANDEMICS."

OVERALL THEME: "BUILDING A RESILIENT, INCLUSIVE AND SAFER INTERNET IN GHANA DURING PANDEMICS."
Venue: Zoom Platform
Date: July 17, 2020

Introduction

This year's Forum was hosted on the Zoom Meeting platform because of the Corona virus pandemic. The webinar was chaired by Nana Kofi Asafu-Aidoo, Chair, GH IGF.

Issues discussed at the 2020 forum includes:
- Developing the Internet in Africa
- Digital content Development
- Connectivity, Affordability and Digital Inclusion
- Localisation of Internet Content in Ghana
- Safety on the Internet/Cybersecurity, Stability and Resilience of the Ecosystem

WELCOME ADDRESS – NANA KOFI ASAFU-AIDOO, GNDR/IGF – CHAIRMAN

Nana Aidoo expressed gratitude to a few stakeholders and stated the reason behind this year's theme, which he noted is as a result of the COVID-19 pandemic which has in fact caused a spike in Internet usage across the globe and has swiftly shifted almost all human activities including this year's forum online. Therefore, the need to build a resilient/robust, inclusive and safe Internet for all.

The Chairman further indicated that the NCA so far has done a good job in managing the spectrums and other resources to ensure that the Internet in Ghana is resilient enough. NITA on the other hand is putting up solid infrastructure across the country to also boost the Internet. But then Internet resilience exceeds hardware and infrastructure, it has to do with a solid domain name system, good policy implementation, strong network technology and more. With regards to inclusion, GIFEC has done commendably well over the years to reach the remotest parts of the country to bridge the digital divide.

Nana Aidoo urged policy makers to get involved in discussions regarding cryptocurrencies, Search Engine Optimization (SEO), deep fakes amongst others and also stressed on the need to localise Internet content as opposed to channeling content from abroad to the country which contributes to the surge in the cost of the Internet.

Some other points noted include:
- One of the focuses of GNDR is to grow the '.gh' domain name to support the development of local content and foster an
- environment where the '.gh' domain registrars can drive in Ghana.
- Developing DNS supporting industries such as web hosting, data storage and related industries is vital to the overall wellbeing of the Internet in Ghana.

Issues discussed at the Webinar included the following and more:
- Connectivity, cost and digital inclusion,
- Internet governance and regulation
- Cybersecurity and digital rights
- Safety on the Internet, stability and resilience of the ecosystem
- The Internet during pandemics

Below are some questions addressed at the forum:
- Is the Internet robust enough to accommodate the increased usage during a pandemic when lockdowns are initiated for a long period?
- Is the Internet facility in Ghana capable of reaching the far end of the country?

- How safe is our Internet with regards to data and protection of rights?
- Are our networks secure enough to survive increasing cyberattacks?
- Do we have the capacity to provide Internet access for everyone if there is a lockdown over a long period?
- How secure are our networks in the wake of increasing spate of cybercrime?
- Are government services adequately online to ensure citizens transact business with ease?

WELCOME REMARKS – FRANCIS AMANING, PRESIDENT, ISOC GHANA

The following points were highlighted:

- The Internet society (ISOC) is a global organisation with 131 national chapters and Special Interest Groups (SIG) globally.
- With the vision, "the Internet is for every one" and a mission, "to support and promote the development of the Internet, ISOC is a global technical infrastructure, a resource to enrich people's lives, and a force for good in society", the Internet Society has supported the development of the Internet, especially in developing countries.
- The Internet society capacity building program in the early 1990's created Internet engineering capacity for the early engineers who have subsequently trained several engineers through the African Network of Engineers (AFNOG) annual meetings which Internet Society continues to support.
- The Internet Society has also contributed significantly to interconnection of networks across Africa, which has improved the efficiency of network and drastically reduced costs on bandwidth to network operators.
- In Ghana, the Internet Society convened the first multi-stakeholder Internet governance forum in collaboration with the Ministry of Communications in 2011 and has since been a strategic partner to all national IGFs in Ghana. The Society has also contributed to training Internet engineers through the Ghana Network Operators group's annual workshops.

- The Covid-19 pandemic has brought in its wake disruptions that have resulted in social distancing with minimal contact, prompting the use of virtual meetings in different sectors of the economy.
- During the three weeks of lockdown, the Internet was heavily challenged and was virtually impossible for certain operations to be performed online. The Minister of Communications was therefore prompted to provide additional spectrum to a few leading Internet service providers to improve performance of the Internet.
- The Ministry of Communications has established a National Cybersecurity Centre (soon to become an authority) to secure Ghana's cyberspace.

SESSION ONE: Keynote Address

FIRST SPEAKER – PROFESSOR NII NARKU QUAYNOR

Key points raised by the Speaker:
- Being able to hold a meeting virtually is a testament of the value of the Internet and its benefit to society. The Internet pioneers in Africa knew this and embarked on a technology liberation struggle to ensure Africa did not miss out on these benefits.
- Africa wanted access to technical know-how because of the fear that the absence of it could result in the capture of the continent's economy and erode some of its freedoms.
- Africa relied on the openness of the engineering community to get involved by initiating action on the ground in Africa.
- Many cities on the continent did not have capital city Internet connectivity when Ghana attained capital city connection within 1993 to 1994.
- Ghana felt the sense of urgency, and activists were helping each other to meander their way in education, policy, business and social impact at the time. There was

openness, community-oriented approach and a yearning for capacity, infrastructure and access. Ghana seems to have lost some of this determination and appear to have become somewhat complacent. The pandemic has re-emerged some of these issues with the Internet and has permanently changed the way we live to include more Internet and there is therefore the need to plan for it.

- We must move from the euphoria of the Internet to understanding the meaning of network of networks (inter-networks) and develop real local networks before joining international networks. This will boost local services on the Internet.

- An e-government infrastructure is an Internet service for government agencies and citizens' communications, the sustainability and effectiveness of this type of network is yet be understood in Ghana.

- The economy we have, as a result of the pandemic, is reliant on the Internet. The gains in e-commerce are obvious but there have been gains in health, education, science, research, entertainment and many other sectors.

- The Internet fills the gap for us in implementing social and physical distancing with remote work enabled.

- Managing the pandemic itself is also reliant on the robustness and stability of the Internet.

- Since the Internet saved the global economy, we might learn how the Internet was able to mobilize networks during this pandemic.

- The bottom-up multi-stakeholder approach used by the Internet keep communities together and ready to respond globally.

- As the Internet has proven to be good in these times, it should be accessible to all and must be made affordable.

- Instead of taxing Internet, we should be investing in affordable Internet.

- Interestingly, Africa which is noted for shutdowns did not witness significant Internet disruptions during the pandemic, this is simply because we all needed the Internet.

- Internet shutdowns are bad and cripple economies.

- In an attempt to track COVID-19 patients, governments have breached the privacy of some Internet users.

- What makes the Internet work so well is the open participation of engineers, CSOs and governments.
- A free and open communication is an insurance for continued participation of emerging Internet economies. We therefore need the Internet open so that we the late comers can join uninhibited.

SECOND SPEAKER – MADAM ANRIETE ESTERHUYSEN, CHAIR, UN IGF

Below are issues she raised and recommendations made:

The second speaker, Madam Anriete Esterhuysen, expressed her support of the theme for the forum which focuses on Internet resilience and inclusion. She noted that during the pandemic we have in fact seen the positive impact of the Internet and as well the effect of the digital divide. The more dependent we are on technology, the more striking it is for those who have no access to the Internet to be marginalized. So, during the pandemic, some children have been able to continue learning, interact with teachers and colleagues using some digital tools but those who do not have access lack the ability to learn. This has created a paradox called the digital inequality paradox. As more people use advanced tools and technology, overall, inequality actually tends to increase rather than decrease particularly in countries that have high levels of inequality. Africa of course being the most unequal continent in the world.

She further indicated that the investment in more advanced technology all though important, will not achieve the desired effect if we refuse to invest in basic digital inequality because so many people are rather extremely excluded.

Madam Esterhuysen recommends that we must have digital development planning and policy that is realistic and multi-disciplinary, that looks at the transversal impact of ICT on all sectors.

Madam Anriete Esterhuysen **prioritised these areas:**

- Enabling universal affordable access.
- Developing institutional and human capacity to address challenges as they emerge.
- Assuring freedom of expression and association – having shutdowns is not effective for curbing misinformation.
- Environmental sustainability – minimising the harm of technology on the environment for resilience.

KEYNOTE ADDRESS – HON. GEORGE ANDAH, DEP. MINISTER OF COMMUNICATIONS

In his keynote address, the Deputy Minister of Communications, Hon. George Andah, deputising for the Minister of Communications, Hon. Ursula Owusu, indicated that the theme of the event, aimed at harmonising the exploration of ideas, policies and practices to build and maintain Internet in Ghana which can withstand tough times, include everyone and be safe to do business. He briefly recounted the history of the Internet as it started about a quarter of a century ago as a military setup, to its evolution into one of the most essential resources known to mankind on which key services run. The Internet, he said has largely transformed the world and has been extremely useful during this pandemic even for people under isolation. Some of such uses he highlighted are mobile banking, learning, working from home and even attending or hosting events or conferences at the comfort of our homes.

Ghanaians currently have access to key government services like mobile money, inter-operability, e-passport, e-procurement and many more as part of the agenda to make Ghana a digitally smart country in the sub-region. To ensure the rapid and progressive growth of the Internet, the UN and the International Telecommunications Union (ITU) in 2003 outlined action points for the Internet and set up an open and inclusive multi-stakeholder dialogue called the Internet Governance Forum.

The Deputy Minister indicated that the President, Nana Addo Dankwa Akufo-Addo has in recent times prioritised especially during this pandemic, Internet governance and further expressed the government's effort to make Ghana's Internet much more robust, accessible and affordable to all. He said although the '.gh' domain name space has posed some challenges they are putting in effort to rectify them. Facilities are being developed in the shores of Ghana to make sure the '.gh' domain remains fast, glitch free and affordable. This he believes will lead to the growth of local services in Ghana within the domain name space such as locally contextual application development, web hosting, data storage and other proxy services, promoting job creation and leading to a better local Internet overall. This will also reduce the cost of sending data packets to servers located overseas for domain name resolution.

The Deputy Minister also recounted the use of the Internet for learning in times like this when schools are closed. He cited GIFEC's efforts in building and resourcing existing ICT centres geared towards getting young boys and especially girls a lot more interested in technology through some specialised activities such as training in ICT skills.

The Eastern corridor fiber optic backbone project being undertaken by NITA, he said is aimed at connecting the eastern part of the country that lacks communications infrastructure but fails to attract investment due to the low socio-economic levels in the area. He mentioned the establishment of the National Cybersecurity Centre under the Ministry of Communications to facilitate adequate and efficient security of Ghana's cyberspace. The centre focuses on four main areas – children, government, public and business. This has been achieved through awareness creation and the establishment of emergency response teams such as the National Computer Emergency Response Team, the National Communications Authority Computer Emergency Response Team and the Bank of Ghana Security Operations Centre. Work is underway for the National Communications Security Centre to set up an incident reporting portal for the public to forward all incidents that are encountered.

SESSION TWO: Internet and e-Government Solutions during Pandemics

Facilitator – Odelia Ntiamoah, Head, Business Programming, Multimedia Group
Panelists:
Sam Nartey George, Member of Parliament
Madam Dorothy Gordon
Eric Akumiah, Deputy Executive Director, ACDRO
Richard Okyere Fosu, Ag. Director, NITA

The discussion was centered around the following questions:

1. In terms of strategy, what is NITA doing to ensure that rural folks have access to the Internet during this pandemic?
2. Which three areas regarding connectivity would you like to hear from the Minister of Finance as he reads the budget?
3. What are the existing gaps that make it difficult for women and the poor to use technology which has been aggravated due to the pandemic?
4. What sort of infrastructure strategy are we considering as a country to address some of the challenges highlighted?

Discussions and Recommendations
- Smart workplace solution has been initiated to allow public workers to collaborate through emails, video conferencing and other services.
- Access to free or reduced data cost for government agencies during the pandemic.
- GIFEC is working on ensuring that Internet and telecommunication services are accessed in rural areas.
- Government is in the process of development of 'gh.gov' with which citizens can access government services such as payment of tax, passport acquisition and DVLA registration.
- Development of the COVID-19 tracker.
- Ensuring connectivity is up and running for MMDAs during this period.

- Ensuring that government consolidate patches of fiber assets from government agencies.
- Existing problems that make it difficult for women and the poor to access the Internet have been aggravated due to the pandemic.
- It is good that we are thinking about how we can have more audio and local language-based content on the Internet to boost usage amongst especially illiterates.
- It is disappointing that a lot of the technology especially data used by Ghanaian government agencies is outsourced.
- Individuals prefer or trust face-to-face transactions more than they do virtual transactions.
- The Minister of Finance should announce government's decision to reduce the cost of data in Ghana.
- Government should suspend the Communication Service Tax (CST) on especially data, which is pegged at 9% to reduce data charges.
- Government should through NITA, acquire additional bandwidth for the country and also improve last mile connectivity especially now that students are learning online. Each student in all parts of the country must access the Internet to be able to study.
- Ghana must deepen the e-transform project to a point where parliament and courts can hold virtual sessions especially in times like this.
- Government must be able to connect every citizen, even those in the urban areas, to the resources being made available. Serious sensitization must be done regarding the resources available so that they can be utilized. For, the COVID-19 application has worked extremely well in some countries but has been evidently under-utilised in Ghana.
- There is the need to provide a stronger cybersecurity sector because citizens are being exposed to a whole new world where there are several vulnerabilities. Cybersecurity funding is critical.
- Telecom operators or organizations only have interest in areas which are commercially viable so government had to step in to bridge the gap. For instance, the Eastern corridor project.

- Ensuring that a backbone is connected and is connected to all government agencies in all districts in the country.
- Part of the consolidation agenda should be coupled with the issue of fiber cuts; it should be a national security agenda because a single fiber has enormous rippling implications.
- We can have all the cybersecurity but if we do not promote digital literacy programs in local languages, making sure that everyone understands what they need to do to protect themselves online, we will continue to have issues.
- Transparency is key; we need to know how much is being spent on the solutions, who is implementing the solutions and who is using these solutions.

SESSION THREE: Combating Cybercrimes in the Wake of the COVID-19 Pandemic in Ghana

Theme: Combating Cybercrimes in the Wake of the COVID-19 Pandemic in Ghana

FIRST SPEAKER – KEN ADU-AMANFOH, EXECUTIVE DIRECTOR, ACDRO

Points highlighted include:
- Cybercrimes/attacks have been in existence for many years but the Corona Virus pandemic has caused a spike in its occurrence and changed the entire cybersecurity landscape in Ghana and Africa.
- Cyberspace remains borderless so you cannot just secure Ghana's cyberspace and leave out other countries making it critical to foster collaborative work to implement strategies to deepen the cyberspace.
- The pandemic has sparked a hunger for information related to the virus and has therefore made the area vulnerable to malicious attacks.

- Cybercriminals through this high demand for information, have been able to attack systems using malwares attached to links supposedly offering information about the virus.

- Threat patterns during the pandemic have changed; there are misleading health and safety tips trending on the Internet, net bots are being installed in emergency systems as well as ransomware attacks on several health institutions.

- Of course, the already existing forms of cyberattacks are still ongoing but new ones are being added, surrounding the needs that have arisen due to the virus.

- If enough financial investment is not made in the cybersecurity sector/systems, even government will crumble alongside the financial, health and educational sector.

- A cybersecurity strategy must be implemented and financed duly.

- Countries in the continent should not only rely on country specific funding by international bodies such as the EU, AU and UN should design policies to allocate funding to support especially countries that are not able to develop and finance their national cybersecurity strategies.

- There is the need to rigorously educate citizens on cyberattacks because the virus has caused a situation where kids as young as four years are learning online whiles they as well as their parents have little or no idea about cybersecurity.

- There is the need for a multi-stakeholder approach to build robust systems against cyberattacks.

- You can establish all the necessary infrastructure, put up resilient security controls and policies but when the users/consumers do not have the basic understanding or knowledge to even detect possible attacks and threats then you are somewhat vulnerable.

There was an online intruder who hacked into the Forum during Mr. Amanfoh's presentation. The hacker used offensive and racist words. It was quite dramatic because the attack took place when the topic for discussion at the time was on cybersecurity and cyber-attacks. The situation confirmed the reality of cyberattacks and the need to use collaborative efforts to combat this menace.

SECOND SPEAKER – SALANIETA TAMANIKAIWAIMARO FORMER MAG-CHAIR

Highlights:

- COVID-19 has killed half a million people and has increased poverty and food insecurity.
- The virus has slowed economic growth, increased unemployment and raised poverty and hunger.
- Many people's lives have shifted online.
- Major level of traffic growth on the Internet and increased use of various video streamers and Zoom.
- Many forms of physical social contact are now mediated by social media.
- There is an increase in fake news, social engineering and other cyberattacks and the vulnerability level of Internet users to cyberattacks has increased.
- Compared to other jurisdictions, Ghana has comprehensive cybercrime laws. They include the following:
  1. 2008 Electronic Transactions Act (Act 772)
  2. Criminal Code Act 20/60 Section 131
  3. 2008 National Information Technology Agency Act (Act 771)
  4. 2012 Data Protection Act (Act 843)
- There is the need for capacity building within law enforcement for an effective implementation and enforcement of such laws in Ghana.
- The motivation for cybercrime is primarily to secure financial gains.

Development in International Law

- Budapest Convention – there are windfalls and lessons to be learnt from those that have been implemented.
- UN Council of Human Rights endorsed the implementation of Guidelines of the UN Committee on Rights of the Child on the ban of child pornography.

Suggestions for the way forward:

- Convert threats to viable and lawful economic opportunities.

- Create awareness about safety online for the public and work with local groups who promote public interest.
- Encourage capacity building within law.
- Encourage creation of local content.
- Innovation hubs, where businesses can be incubated, and individuals with different skillset can fuse their strengths to create business and economic opportunities, must be created.

THIRD SPEAKER – QUIST-APHETSI KESTER, PHD -GTUC

- One of the key challenges we face in this domain in terms of combating cybercrime is more related to technical expertise.
- Currently, in terms of global attacks, one of the key areas that is vulnerable is data from research on vaccines for the Corona Virus. There are a lot of countries that want to collect information and know what other countries are doing and how far they have gone.
- In the cyberspace, these attacks are not new because in terms of military technologies there have always been attacks from other nations.
- Cyber resilience and data resilience are key for preventing cyberattacks.
- More people are being lured into fake investment schemes on the Internet because of the financial constraints imposed by the virus on economies and individuals.
- Businesses and security agencies need to establish cybersecurity offices and coordinate, share information, monitor key activities towards effectively combating coordinated cyberattacks.
- Individuals must be trained in cybersecurity to intercept attacks.
- Communication and data protections systems as well must be upgraded to minimize security breaches.

FOURTH SPEAKER – AUDREY, NCSC

- Increase in Internet usage in Ghana; reports suggest about one million new users from 2019 to 2020, therefore, they must be secured.
- Ghana needs a cybersecurity legislation. This will help in establishing a cybersecurity authority which will regulate the cybersecurity space.
- The COVID-19 pandemic has changed our environment – a lot of young people are on the Internet without any control or governance. There is therefore, a need for a framework. The National Cybersecurity Centre is currently working on a child protection framework with help of partners including UNICEF which will be outdoored soon.
- The National Cybersecurity Centre has revised the National Cybersecurity Policy and Strategy to reflect the current cybersecurity development and trends.
- A cybersecurity bill has been drafted and is currently in cabinet for approval.
- Last year, all regions were visited in the country and about 40,000 students and teachers were educated on how to stay safe online.
- About 600 cybersecurity incidents have been reported since February through the 'Search Gh' initiative. The incidents include fraud, ransomware and many other notable attacks within the cyberspace.
- The National Cybersecurity Centre has engaged both domestic and international stakeholders in its awareness creation efforts particularly during the annual cybersecurity awareness month held in October 2019.
- A cybercrime incident reporting portal has been launched since October 2019 on six platforms through which reports can be made. Some are WhatsApp, SMS and voice call (292).

SESSION FOUR: Community Network and Digital Inclusion

Moderator: Ivy Tuffour Hoetu

Theme: Community Network and Digital Inclusion

The following points were noted during the session:

- The NCA has done a lot in ensuring digital inclusion in Ghana through the issuance of licenses for the deployment of a robust and secure digital telecommunications, infrastructure and network.
- The NCA has also ensured the effective and efficient management of scarce spectrum resource.
- To build citizens' confidence in the use of digital systems, the NCA has instituted innovative policies and regulatory tools to enable digital inclusion in Ghana.
- MNOs have been granted access to UMTS900 for the deployment of 3G over 2G technology in under-severed and unserved communities.
- The NCA also collaborates with GIFEC and Telcos to deploy rural telephoning projects using the UMTS900. To harden the security of the digital ecosystem, the authority is spearheading a collaborative effort to share intelligence to block malicious IP addresses within the telecom space.
- NCA has also put in place some regulatory tools to ensure effective regulation and guide its activities – the establishment of the NCA CERT, the NCA Conformance and Type Approval Testing Labs that test to ensure that all electronic communications devices conform to international standards as well as certifies their safety and use for citizens in Ghana. There is the Broadcasting Monitoring Centre to monitor FM and Radio broadcasting and a common platform for the monitoring of government's revenue in the telecom sector.
- To bridge the digital divide in Ghana and Africa, ISOC embarks on several capacity building projects often in partnership with AFNOC annually to train people on network infrastructure and networking as well.
- ISOC offers free annual online courses on its website on network fundamentals and wireless networks.
- ISOC has further engaged the Digital Spectrum Alliance who are pushing for the deployment of TV white spaces in Ghana and Africa.

- GIFEC has opened nine zonal offices across the country and intends to add six more to further improve connectivity, ICT education and universal access to services in every part of Ghana.

- GIFEC also has projects such as the Cyber Labs Program where community ICT centres that provide business services, including provision of Internet and computer equipment to communities. Citizens can use these facilities to learn, attend trainings and have business transactions.

Points for Building a Community Movement Checklist

1. Use the convening power of the city, town or country to bring together stakeholder groups for conversation, information sharing and brainstorming.
2. Consider the anchor institutions, community groups and local businesses that could help involve residents in a discussion about broadband.
3. Identify individuals who are trusted members of their community (faith-based leaders, activists, nonprofit staff, etc.). Seek their advice and keep them well informed of the process and progress.
4. Brainstorm methods of communication that make sense for your municipality and community (for example; community wi-fi, community intranet, etc.).
5. Create a communications plan that is consistent, transparent and inclusive.

Digital Inclusion Checklist

1. Consider who in your community is unconnected and why.
2. Make a list of organizations and anchor institutions that work with unconnected populations. How might they be able to help?
3. Convene a group of leaders – community members, business, faith-based, schools, library, nonprofit, housing authorities and other interested parties – to brainstorm collaborative solutions.
4. Create a digital inclusion master plan that includes action steps and goals.
5. Learn about options for low cost access in your community.

6. Work with trusted community anchor institutions, advocacy groups and nonprofits to alert low income residents about options for low cost access.

FINAL SESSION: LECTURE 1

Theme: Multi Stakeholder Approaches to Internet Governance in Theory and Practice
Speaker: Prof. Nii Narku Quaynor

These key points and recommendations were made:

- There is the need for a multi-stakeholder approach to build robust systems against cyberattacks.
- We need a bottom-up approach for Internet practices.
- The bottom-up approach has been successful in holding the Internet together in a pandemic, therefore, the method can lead to better policies and can hold a community, region, country or the world together.
- There is the need to have the bottom-up approach to decision making in communities/locally.
- The topic, 'multi-stakeholder approaches to Internet governance in theory and practice is old,' all though the concept and topic is well known and documented.
- Communities must address their issues together and make rules, standards, decisions or policies in the bottom-up way.
- For the whole Internet to work as one, each network must surrender and work together with agreed community standards and policies which must be created together.
- An e-government network is made up of networks of departments, agencies of government so it will behave in the same way as the 'N-Ring'
- Multi-stakeholder bottom-up process enables access to skills and expertise across the whole community.

- Each actor/stakeholder needs clear responsibilities to stick to in order to produce quality results.
- The involvement of engineers in policy discussions is crucial.
- The community or group in question must have a scope of work so that moderators can call contributions out of scope readily and prevent digression.
- For any discussion, there is the need for a proposal detailing a clear problem statement defining what to fix and the proposed solution in a document that is openly accessible to the group.
- Meetings should be guided by neutral moderators who are known community members with track records determined by merit and experience.
- The reason for rejecting a proposal is more important than the reason for accepting it.
- It is more important to reach a consensus than to vote.
- Africa needs to favor meritocracy over democracy or autocracy in other to adopt and benefit from the bottom-up approach.
- There is the need to cease seeing things from a personal interest perspective and rather from a group interest.

LECTURE 2

Theme: Africa Domain Name System, the role of the ccTLD in developing the Internet (IDN, new gTLDs, etc.)
Speaker: Yaovi Atohoun, ICANN Stakeholder Engagement & Operations Manager – Africa

Highlights:
- A DNS is distributed database primarily used to obtain the numeric IP address that is associated with a user-friendly name.
- DNS is needed because it is difficult to remember decimal and hexadecimal numbers.

- DNS is a public directory service through which organizations and individuals publish the names and locations of their online presence.
- Registries manage top-level domain (TLD) databases and generate zone files.
- gTLD operators' contract with ICANN and must comply with ICANN (consensus) policy.
- ccTLD operators do not have contracts with ICANN.
- Registrars are business entities that process domain name registrations.
- The African continent top-level DNS address space consist of top-level country code domains (ccTLDs).
- From the new generic top-level domain (gTLD), there are three city domains Cape town, Durban and. Joburg. ICANN recently delegated Africa to ZA Central Registry (ZACR).
- Findings from the 2016 African DNS Market Study indicate the following:
    1. Africans register approximately one percent of the domain names in gTLDs.
    2. For the registrant market, the review identified over five million African domain names in ccTLDs and gTLDs. This total equates to 4.4 domains per 1,000 people.
    3. Domain name registrations by Africans in gTLDs in total is approximately 1.4 million, the bulk of which are approximately 1.2 million domain names in .com.
    4. Lower demand for domain names is as a result of high access cost, lack of infrastructure and the fact that in Africa, Internet access is primarily through mobile devices.
    5. Domain name registrations by African entities occur mainly in countries where the local hosting industry and web development sector have developed sufficiently.
    6. Other issues identified include poor dependability of Internet connections and unclear or restrictive policy and regulatory environments.
- ccTLDs should participate in ICANN and AFTLD activities.
- There must be involvement in DNS business activities.
- There is the need to participate in national and regional DNS related events.

- There is the need to also contribute to the readiness for universal acceptance of Email addresses and domain names and IDN activities.

The **Speaker of Ghana's Parliament, Honorable Professor Aaron Mike Oquaye** finally addressed participants in a short video. He commended the organizers, and all the stakeholders of the event and expressed his gratitude. He reiterated government and some of its agencies' efforts to enhance the Internet here in Ghana especially since the coronavirus pandemic has made it inevitable.

LESSONS LEARNT

- The steering committee must engage more stakeholders to participate in the forum.
- In accessing the Internet, safety on the Internet should be key, to avoid interruptions.
- Fewer topics should be discussed during the forum, to make time for in-depth discussions.

RECOMMENDATIONS/WAY FORWARD

- Government should look at taxation on Internet to allow more people to access the Internet.
- Young people should be given the platform to develop their ideas for the development of the Internet in the country.
- The Ghana IGF steering committee should engage a much broader stakeholder in the discussions.
- The Ghana IGF secretariat must hold regional IGFs before the nation's forum.
- Government should adopt communique generated from National IGFs in its policy development.

CONCLUSION

The 2020 School, Youth and National Internet Governance virtual forum was a successful event as it saw more participation during the covid-19 pandemic. Ghana was the second African country to host the National IGF virtual after Benin who held theirs online on the 4th of July 2020 in this new normal.

The Ghana IGF has seen much progress from previous events and immense participation by the youth in the country as they are the majority of the population.

The organisers of the IGF are grateful to the Ministry of Communications and all stakeholders for their support and contribution to the success of the forum, thank sponsors for making it possible to hold this year's forum as well.

The tireless efforts of the steering committee and all the subcommittee members is very much appreciated.

A final recognition goes to the Ghana Domain Name Registry and the Ghana Internet Society who convened the 2020 Ghana Internet Governance Forum.

A communique was generated during the forum and has been attached to this document.