KICTAnet
KENYA ICT ACTION NETWORK
Catalysing ICT Reforms

10 YEAR REPORT
2007 - 2016
10 Years of ICT Policy Discourse in Kenya

Foreword

In 2004, the national coordinator for the Catalysing Access to ICTs in Africa (CATIA) project in Kenya convened a meeting to discuss a strategy for an ICT policy framework. This meeting brought together representatives from the private sector, technical community, academia, individuals, international organisations and media. Participants unanimously agreed that there was need to encourage the government to develop a process that would speed up the creation of an ICT policy and regulatory framework in an open, inclusive and participatory manner. Further, the proposal to create a multi-stakeholder network-based on the perceived strength and effectiveness in joint collaborative policy advocacy activities and pooling skills and resources- was discussed and cemented. That multistakeholder network was named the Kenya ICT Action Network (KICTANet). It would bring together these divergent groups of stakeholders with a specific purpose, to address the lack of an ICT policy in Kenya that would encompass all the issues from the various stakeholders. The group laid the groundwork for a participatory approach to ICT policy, regulation and governance. Prior to this, each stakeholder group had been investing resources in areas it considered important with most pulling in different directions.

While Kenya only acknowledged public participation as a national value and a principle in the 2010 Constitution, KICTANet has been facilitating collective decision making in the ICT sector since 2004. The network engaged in network-building activities to develop a collective vision and goals for the divergent stakeholders. These activities included face-to-face meetings with the aim of creating consensus on the identified priority issues as well as a series of strategic planning meetings resulting in a collective national ICT policy advocacy plan.

The first phase of network building included:

- Identifying priority issues, which helped defining the goals and objectives of the network;
- Defining guiding principles and developing network norms;
- Sharing of background information, commissioning research to ensure informed policy advocacy activities;
- Creating communication links and methods (mailing lists, discussion groups);
- Expounding and clarifying roles and responsibilities;
- Capacity development activities such as conflict resolution, policy analysis, among others.

The network made extensive use of mailing lists: the main one KICTANet (and several sub lists based on thematic issues), face-to-face meetings; round table discussions, and working group techniques. These allowed a large number of people get involved, which enhanced transparency and collective decision making. Monthly ICT forums were also held. They provided a useful mechanism for developing new insights and most importantly, activities beneficial to all stakeholders within the network and the constituencies they represented.

KICTANet soon became a respected actor by policy makers, international institutions and the general public for the inclusive collaborative approach it had adopted. As a multi stakeholder network it was instrumental in providing organisations, networks and individuals the social and political legitimacy afforded by the network. Notably, a factor that contributed to KICTANet's success was the existence of a 'high level of like-mindedness as well as a strong sense of shared purpose' particularly in support of the government's

objective of an ICT-enabled economy. Accordingly, it commanded a great deal of respect and legitimacy as a player in policy process and Internet governance at national, regional and global levels.

However, as the ICT sector continues to advance, new issues continue to emerge. And as a result, the the role and responsibilities of the ICT sector players and the multistakeholder approach continue to evolve. The dynamics of the various stakeholders have changed over time. Actors in the sector who used to cooperate and collaborate with the government have developed their own lobbying and advocacy approaches.

Due to this changing environment, the network's goals and approach had to change. For most KICTANet members, the main question now is how to protect the public interest and common good in the various policy processes in the country and beyond. Several incidences, for example the World Conference on International Telecommunications (WCIT) seem to provide a strong argument for redirecting focus and energy towards the consistent practice of organising true and sustained participation in decision making, policy making, and implementation, while using new, emerging communication approaches and agendas, and at the same time making them relevant to local contexts.

This analysis is important as it illustrates the different shades of multistakeholderism. The highs and lows over a 10-year period depicted here provide an important scope into the culture of policy balancing acts and protecting the public interest. It is an invaluable document for anyone interested in the dynamics of people centered participatory development, not only in the ICT sector but beyond. It comes at an opportune time when Kenya is implementing the Constitution and developing modalities for meaningful public participation. I welcome readers to take the historical journey of ICT policy making in Kenya with a pen and paper in hand. There are many lessons to reflect upon.

Alice Munyua, Founding Convenor, KICTANet

Nairobi, 2017

Dedication

To the listers at KICTANet who day in day out contribute to nation building through offering their knowledge, skills and thoughts on how to make Kenya a better place for all.

Acknowledgement

KICTANet is most grateful to all the listers on the mailing list who have over the years given their expertise, thoughts and input on different ICT policy questions in Kenya and beyond. This has contributed into influencing and shaping ICT policy. Further, it is out of these contributions that the list has remained a source of information, and an authoritative source of public participation in the ICT sector. Our sincere gratitude also goes to the founders of KICTANet as well as those who have steered the group over the years.

We wish to thank Grace Mutung'u, KICTANet Associate for overseeing the project and writing this report. Rosemary Koech-Kimwatu was the lead researcher for this project, supported by a team of researchers who pored over hundreds of posts between 2007 and 2016. They are Francis Monyango, Joyce Mutheu, Njoki Mwangi, Umuhany Zuhudi and Denis Karanga. Special mention goes to Washington Odhiambo for curating the list and data analysis.

We also register our appreciation to all our partners who have over the years supported the Network in various ways. The support enabled learning and networking that has sustained discussions at KICTANet. In particular, we are indebted to Access Now for providing support with which this report was developed.

KICTANet is also grateful to Steve Mutuvi who developed infographics from the data and Sermie Wamalwa of Prolific Digital Media for the design and layout of the report.

To Grace Githaiga, KICTANet Co-convener, we remain grateful for the invaluable advice, the editing of this document, as well as strategic support during the development of this work. We are greatly indebted to Alice Munyua, the founding convenor, for always providing support to KICTANet throughout the years and for writing the foreword to this report.

Asanteni from the KICTANet steering team!

About KICTANet

The Kenya ICT Action Network (KICTANet) is a multi-stakeholder network of members from civil society groups, academia, private and public sectors, development partners and media. The network aims to act as a catalyst for reform in the ICT sector in support of the national aim(s) of ICT enabled growth and development. KICTANet's guiding philosophy is encouraging synergies for ICT policy related activities and initiatives. As such, the network provides mechanisms and a framework for continuing cooperation and collaboration in ICT matters among ICT stakeholders.

KICTANet runs a mailing list where listers post and discuss issues related to Kenya's ICT sector. Over the years the list has become a space for public participation, where members give their input on proposed policies and laws. KICTANet also convenes the annual Kenya Internet Governance Forum (KIGF) that brings together stakeholders in the sector to dialogue on emerging ICT issues. The network is also pioneering an annual Kenya School of Internet Governance (KeSIG) which aims to train those interested in ICT policy making, and accordingly bring in new voices into internet governance.

More information about KICTANet can be found here:

https://lists.kictanet.or.ke/mailman/listinfo/kictanet

www.kictanet.or.ke

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Abbreviations and Acronyms

AUC	African Union Commission
BAKE	Bloggers Association of Kenya
BPO	Business Process Outsourcing
ccTLD	Country Code Top Level Domain
CERT	Computer Emergency Response Team
DCA	Dot Connect Africa
DNS	Domain Name System
EAC	East African Community
EASSy	Eastern Africa Submarine Cable System
gTLD	Generic Top-Level Domain
ICANN	Internet Corporation for Assigned Names and Numbers
ICT	Information and Communications Technology
IGF	Internet Governance Forum
IPv6	Internet Protocol Version 6
ISOC	Internet Society
ITRs	International Telecommunication Regulations
ITU	International Telecommunications Union
IXP	Internet Exchange Points
KBC	Kenya Broadcasting Corporation
KEBS	Kenya Bureau of Standards
KENIC	Kenya Network Information Centre
KICTANet	Kenya ICT Action Network
MoICT	Ministry of ICT (Kenya)
NOFBI	National Optic Fibre Backbone
USF	Universal Service Fund
VOIP	Voice over Internet Protocol
WTO	World Trade Organisation

INTRODUCTION

The Kenya ICT Action Network (KICTANet) is a network of people in the ICT policy space in Kenya. KICTANet runs an online ICT policy discussion listserv where stakeholders from all sectors- government, civil society, technical community, academia as well as users exchange views on topical issues. The listserv has a membership of about 1000 individuals with an active following across the East African region, Africa and globally.

Since its formation, KICTANet has a large footprint in the ICT policy and legal framework space having actively participated in framing the key policy and legal instruments in the sector. The Kenyan policy making landscape has been shaped by political events among them:

The coming into place of the National Rainbow Alliance Coalition (NARC) government in 2003 that decentralised policy making functions from the presidency to individual ministries. It is from this experience that non-state actors got a real opportunity to give input on major government plans. During this period, ICT sector players organised themselves into policy advocacy groups, among them, KICTANet.

The post-election violence after Kenya's 2007 General election was a crisis borne out of polarisation of the nation. Media was one of the tools through which polarisation was propagated and as a result, there is more consciousness on effect of mass communication on society. In reforms that followed resolution of the violence, limits to freedom of expression were defined. In addition, controls came in form of hate speech legislation, surveillance, and real person identity policies have been effected.

In 2010, Kenyans promulgated a new Constitution that is lauded for devolving power to two levels of government, and having an elaborate human rights protection mechanism. One of the values that is acknowledged and entrenched in article 10 of the Constitution is public participation where those affected by decisions are consulted before the decisions are made. Other rights relevant to ICT are privacy, freedom of expression, association and assembly, petition, access to information and freedom of the media. While legislation to effect some of the rights is yet to be enacted, Kenyans have already litigated based on the rights with constitutional petitions that have seen some provisions of old laws declared unconstitutional.

In 2007, KICTANet conducted an institutional assessment to gauge its strengths, weaknesses, opportunities for growth and threats. The exercise assisted KICTANet to strategically position itself as an authoritative ICT policy discussion platform that has attracted participation from individuals across stakeholder groups in the country.

After over ten years of existence, KICTANet sought to analyse the discussions on the platform since 2007, hence the genesis of this project. The objective was to identify what issues had been discussed and what sort of policy impact the debates had created. This report contains a highlight of the discussions that give a historical view of the activities of the forum. It is anticipated that lessons from the report will aid in informing KICTANet's strategic direction.

> *After over ten years of existence, KICTANet sought to analyse the discussions that have taken place on the platform since 2007, hence the genesis of this project. The objective was to identify what issues had been discussed, which stakeholders had been active, and what sort of policy impact the debates had created.*

The first part of the report analyses the KICTANet archives to identify issues of interest to the listers. It also gives a snapshot of the network's contributions to particular policy and legal documents during the period. The second part classifies issues into baskets using Diplo's taxonomy for Internet governance issues with modification to fit in to the Kenyan ICT sector experience. The infrastructure and standardisation basket captures discussions on international issues such as ICANN and domain names, as well as local themes including the national addressing system and 4G technology in Kenya. The human rights basket highlights Kenya's media policy and the tension between particular human rights and the role of the state in providing security for all. The legal basket includes intellectual property rights and intermediary liability while the economic basket captures discussions on cost of Internet in Kenya among others. In the development basket, the bulk of the discussions focus on how the government delivers ICT and uses technology to deliver services. The socio-cultural basket contains issues such as content policy, while the security basket discusses critical infrastructure and cybersecurity.

The report also briefly maps actors in the local ICT sector and events that were the subject of discussion on the listserv during the period under review.

> *The community you all have created in KICTAnet is singular-it's truly multi-stakeholder, and it's AMAZING. Thanks for letting us be a part of it; it's such a privilege.*
>
> *Ebele Okobi*

PART ONE: A SNAPSHOT OF THE DISCUSSIONS

The KICTANet platform attracts discussion on ICT policy issues from different stakeholder. Over the years, there have been over 80,000 threads on various topics. The issues range from leadership in the sector institutions, the nexus between ICT sector and national policy such as Kenya's Vision 2030, the Business Process Outsourcing (BPO) subsector, cost of communication in the country, ICT human resource management and ICT infrastructure.

Many of the discussions on the mailing list occur spontaneously. They are driven by topical subjects and from observing the threads, many start from news articles. Every so often moderated debates are organised. Such debates afford the listers an opportunity to interrogate policy or legal proposals keenly and in a structured manner. The report of such discussions is forwarded to the relevant public authority. In addition, the network conducts online discussions prior to the Kenya IGF which KICTANet convenes annually.

Spontaneous discussions

Table 1 gives a summary of the top 15 spontaneous threads:

Subject	No. of email exchanges	Period
Bitange for President?	225	August 2011
Of Vision 2030 and Misplaced Priorities	105	June 2011
Government to Launch Open Data July 8th @ KICC	99	July 2011
BPO Discussions, Govt Subsidies (Day 4 of 10)	87	June 2009
Has the ICT Sector Failed?	79	March 2013
Hate text messages/KICA Section 29	77	October 2012
Laptops for 2014 class 1 entrants	72	April 2016
Digital migration and mass ignorance	72	Jan 2013
KICTANet alive.. kickin, or kicked into KICTANet 2.0	67	April 2012
Kenya communications (amendment) Bill: Is media overacting?	65	Dec 2008
Legislation and Regulation for e-Commerce in Kenya	64	July 2008
The big Kwaheri: reflecting on 10 years of the MJ10yr safari and history	60	September 2013
Yawe for Post Master General	54	November 2010
Affordable computers	53	August 2009
3 Media houses protest Majanja's Digital Directive	51	December 2016

Table 1: Top 15 threads on KICTANet list. Source https://www.kictanet.or.ke/mail-trends/

The most popular discussions were on development, mostly government strategies to deliver ICT services as well as how government uses ICT. Of the top threads listed in Table 1, discussion on Vision 2030, Kenya's Open Data,

the BPO policy, Amendment to the Kenya Information and Communications Act after promulgation of the 2010 Constitution, an E-commerce policy, affordable computers and the Digital Migration are discussed from a development perspective.

Moderated discussions

Table 2 gives a summary of moderated discussions on the network in the period under review

Issue	Key Points Discussed	Period
Business process outsourcing	• Policy framework • Legal and regulatory frameworks • Institutional frameworks • Human resource issues • Government subsidies • Youth and gender issues • Strengths and weaknesses of the sector	Jun-09
Media Council Draft Bill	• Examination of the Bill against the Constitution • Functions and operations of the council • Composition and qualifications of chairperson and members. • Procedure for appointment of members • Disqualification from membership to the council, Requirements for appointment, tenure of office of council members, cessation of membership of council members, Director and his/her functions, staff and common seal • Financial provisions • Complaints and dispute resolution • Code of conduct	Jan 2011
Aligning records management with e-government	• Planning for records management requirements in ICT systems • Electronic records and citizens • Freedom of information and records management	September 2011
Kenya Vision 2030	• Foundations of Vision 2030 Economic (tourism, agriculture, trade, Informed technology enabled services etc.) • Social pillar (education, health, gender and youth, social development etc.) • Political pillar (rule of law, electoral and political processes, transparency and accountability etc) ICT and other sectors combined	July 2013

Road safety in Kenya and ICT	• Standards and quality of roads • Categorisation of roads • Transparency in procurement of road works • Audit of road works • Smart infrastructure • Use of ICT in evaluation of roads and road works. • Role of the highways authority in creating ducts for fibre in new road works	May 2012
Intermediary liability in Kenya	• Defining intermediary liability • Is there a framework for offences on networks and liability?	Sep 2012
Ensuring effective implementation of the laptop project	• What knowledge/skills do we expect standard 1 pupils to acquire? (learning objectives and outcomes), • What educational content would support the knowledge objectives above (examples of educ. content/software used)? • How would content be delivered and assessed? (administrative & institutional infrastructures at primary school levels)? • Maintenance and disposal (issues of support, environmental concerns, etc).	June 2013
dot Africa reserve name policy	• Introduction and overview • RNL categories • AUC governmental Categories 1, 2 and 3 • Offensive names category • Application and registration processes • Application and authentication processes • Application, notification, registration and objections to • registrations processes • Whois and draft RNL for Kenya draft reserve name list for Kenya and wrap up	July 2013

Promoting Internet Freedoms in Africa	• What are the major issues surrounding online freedom of expression in Africa? • Convergence between freedom of expression and privacy? • Balance between freedom of expression and privacy from a freedom of expression–centric point of view. • Actions that governments, civil society, media and the private sector take to balance privacy with freedom of expression online. • Best practices to empower users to stay safe online while protecting their freedom of expression.	
African Union Convention on Cyber Security (AUCC)	• Electronic transactions • Publicity by electronic means • Should net anonymity be legitimised? • Direct marketing • Personal data protection • Promoting cybersecurity and combating cybercrime Harmonisation of laws	Nov 2013
Introducing Facebook Africa public policy team to KICTANet	• Facebook's free basics • Facebook other business interests in Africa	Dec 2015
#First100Days #ICTWishList	• Policy& legal issues • Regulatory issues • Human capital/workforce • ICT infrastructure • ICT information • Infrastructure issues	Jan 2016
Draft Kenya ICT Policy	• How to develop ICT infrastructure • How to develop ICT Info-structure • How to develop skilled human capital • How to enhance universal service and access • How to develop local ICT industry • How to accelerate eGovt services. • Emerging issues • Institutional, legal & regulatory framework	Jun-Jul 2016

Computer and CyberCrimes Bill, 2016	• Offences • Investigation procedures • International corporation • General provisions • Preliminaries	Jul 2016
2016 Kenya ICT in review	• Legal and regulatory issues • Human capital • Information infrastructure issues	Dec 2016

Table 2: Overview of moderated discussions

Several observations from the moderated discussions:

- There was more robust discussion in social cultural issues as compared to technical issues which require expert knowledge. In the expert issue themes such as cybersecurity, IPv6 and intermediary liability, the community benefitted when experts dedicated time to share working knowledge.
- Initially moderated discussions were on policy and regulatory issues and aimed at engaging government decision making processes. Over time, there has been a shift towards discussion with other core actors as was the discussion with Facebook in December 2016.
- Apart from an expansion in stakeholders for moderated discussions, there is a new trend of monitoring and critiquing the ICT landscape. For instance, in January 2016, the network crowd-sourced ideas on what the newly appointed ICT Cabinet Secretary should execute in the first 100 days in office. This was followed by a review of the year in December where listers examined the extent to which their 100 day wishlist had been fulfilled among other ICT issues.

Pre-Kenya IGF discussions

A sample of the online discussions conducted prior to Kenya IGF is presented in Table 3 below:

Period	Topics
July 2010	• Review of 2009 discussions • Infrastructure issues- impact of fibre optic cable, • Infrastructure issues- Impact of unified licensing model, • Critical Internet resources, • E-crime, online privacy and data security.
July 2011	• Impact of mobile Internet in Kenya, • Mobile payment platforms, • Cloud computing, • Cybersecurity and privacy, • Broadband.
July 2012	• International Telecommunications Regulations (ITR's), • Intermediary liability, • Technology and violence against women, • Open data and e-government, • Infrastructure, • Freedom of Information and Data Protection Bills.
July 2013	• Internet and counties.
July 2014	• Policies enabling access/net neutrality • Cyber security • Internet as an engine for growth and development • Internet and human rights • social media and hate speech
July 2015	• Inclusiveness and diversity • Cyber security and trust • Internet economy • Management of critical internet resources, • Openness • Emerging issues

Table 3: Sample of Some KIGF online discussions

There were no online KIGF discussion in 2016 as listers con-
cluded the discussion on the draft ICT policy 2016 which had   similar issues with those of the KIGF 2016.

Discussions on specific policy and legal proposals

KICTANet was constituted as a multistakeholder community to develop an ICT policy for Kenya around 2005. Since then, the network has continued to convene both online and offline discussions on several policy and legal proposals. These are highlighted below:

Kenya ICT Policy 2006

The network participated in the development of the policy as part of a multistakeholder initiative. Highlights of the policy are among others:

The acknowledgment of ICT as an important driver of the economic transformation that Kenya was working towards;

The redefinition and clarification of roles in telecommunication sector development with policy making under the coordination of the Ministry, regulation under Communications Commission (now Communications Authority) and a free market where government would privatise its interests in the sector; and

The policy is the basis for the converged market structure with a unified licensing model.

Draft Kenya ICT Policy 2016

In 2016 the government announced plans to revise the ICT policy to update it with the changes that had taken place since 2006. Cybersecurity was among the focus points in the draft. There was a moderated discussion on the draft policy which was followed by a face to face validation. Issues that came up include:

- The need for the policy review to acknowledge devolution as a governance structure and therefore create relationships and allocate roles within the devolved governments;

- The need for the policy to create an environment that facilitates innovation; and

- The need for the policy to take a human rights approach to use of ICTs.

The policy development process is ongoing.

ICT Masterplan

Although there was no structured discussion on the Kenya ICT Masterplan, individual members of the network critiqued it. Questions have been raised about implementation of the Masterplan given that there are still many Kenyans in underserved areas without basic ICT services. The collaboration between national and county governments in delivery of Internet access has also been cited as an issue that needs to be resolved.

Cybersecurity Strategy

The government prepared a draft cybersecurity strategy in 2014 and invited stakeholders to provide comments, to which KICTANet responded. Some of the issues raised include:

- Listers would have liked the draft to be more specific on issues of cybersecurity including a context (current Internet use, projected Internet use, current legal and policy framework), a clear justification for the strategy, mapping of actors, SMART goals and a rationale as to how the draft in discussion was arrived at.

- Listers wanted a strategy that protects human rights, particularly freedom of expression, media, the right to participation as well as protection of data and privacy. The national values and principles under the Constitution such as rule of law, democracy, public participation and good governance were also cited as important building blocks to a good cyber security strategy.

- Others felt that the role and capacity of the CERTs should be enhanced to improve preparedness and capability to prevent and respond to incidences.

- Cooperation between service providers and the government was proposed. Listers suggested the need for more clarity in the relationship between law enforcement and operators of critical infrastructure and key providers of on-line services, such as e-commerce platforms, Internet payment gateways, social networks, search engines, cloud computing services, app stores.

- Public concerns over censorship and mass surveillance had not been adequately addressed in the strategy. A suggestion was made to resolve the problem through inbuilt transparency and accountability in management

- of the Internet and regular sharing of information with the public.
- There need to improve the reporting and publicity of cyber-security incidents to relevant authorities was underscored. This was linked to the need to include user needs, awareness creation and cooperation in the strategy.
- Listers wanted the strategy to address international cooperation and interface with international instruments such as EAC treaties and the Budapest convention.

- Other recommendations comprised: the requisite to set standards for government bodies; maintain interoperability of the Internet; promote innovation, research and development; promote access to the Internet; improve governance of the Internet; mainstream cybersecurity to the national security agenda and improve coordination of cybersecurity policy and law-making initiatives. Another suggestion was on the import of building the capacity of law enforcement, judicial and technical personnel so that they can promote cybersecurity.

National Broadband Strategy

The national Broadband Strategy spells out the government's plan to ensure Internet access in all areas of Kenya. It was launched in 2013 after public consultation. Some listers raised concern that their input, while acknowledged, had not been considered. The regulator published a report outlining how stakeholders input was analysed and adopted.

Vision 2030

Kenya's Vision 2030 is a "national long-term development blue-print whose purpose is to create a globally competitive and prosperous nation with a high quality of life by 2030. It specifically aims to "transform Kenya into a newly industrializing, middle-income country providing a high quality of life to all its citizens by 2030 in a clean and secure environment[1]." The vision identifies ICT as an enabler to achievement of economic, social, and political development.

In December 2011, KICTANet conducted a moderated discussion where Mugo Kibati, the then Director General Kenya Vision 2030 Delivery Secretariat fielded questions from listers on implementation of the national Masterplan.

- Listers were curious about the benchmarks inbuilt into the system as well as monitoring and evaluation mechanisms through which progress could be assessed. They discussed how ICT could track implementation of the Vision.
- Others noted the reliance of ICT on power. They called upon the government to de-monopolize power distribution in order to catalyse development in other sectors including ICT.
- The discussion noted the tremendous developments in the ICT sector since its liberalisation and recommended the application of some practices from the ICT sector in other areas such as health and education.

Restructuring the Communications Sector

In 1998, the government restructured the Kenya Posts and Telecommunications Corporation into three institutions via the Kenya Communications Act. One of the institutions was the communications sector regulator, then known as Communications Commission of Kenya (CCK). Listers discussed the structuring of the communications sector. After intense consultations, a converged licensing structure was settled on.

After the promulgation of Kenya's 2010 Constitution, the role and functions of the regulator were amended to align with the new dispensation.

Kenya Communications Amendment Bill

The Kenya Communications (Amendment) Bill 2007 was published as an amendment to the Kenya Communications Act 1998 after several false starts. Its object was to provide for a single regulator of the sector.

KICTANet held a face to face forum in July 2007 to discuss and contribute to the Bill. Some of the issues that the network raised included the failure of the Bill to address the issues of cybercrime, e-transactions, data protection and privacy. There was also a question as to whether the Bill should have repealed the existing law and created a new framework addressing all concerns.

The Bill contained provisions for a broadcast programming code which would regulate content on both radio and television stations. Some members deemed this a good starting point for regulating what was termed as "pornographic bias" on the airwaves. Others however were of the view that the design of the code was flawed as the power to determine watershed hours vested solely with the information Minister.

Listers also discussed the implications of a signal distribution monopoly where existing broadcasters would need to channel their transmission through one licensed signal distributor. A contentious issue was how to redistribute already allocated infrastructure and costs of migration for broadcasters and consumers. This later became a subject of litigation during the digital migration process in 2015 where eventually, a consortium of broadcasters obtained a content distribution licence.

An interesting provision in the Bill was section 88 which bestowed unrestricted powers to two ministers (Internal Security and Information) and their regulatory appointees to declare an emergency and raid media houses. Having experienced a one-party state before, listers were concerned that such powers could be abused and were therefore against the public good.

Some of the positives identified in the amendments were the provisions on electronic transactions, signatures, and e-crime. The licensing of all domain managers and registrars by CCK (Regulator) as opposed to the domain administrator KENIC was an issue that listers sought explanation. They viewed the CCK's board as largely government appointed while that of KENIC board was multi-stakeholder selected and driven. The other issue was the liability of ISPs/ASPs or infrastructure managers with regard to pornographic content.

The consensus on the issues included balancing the regulator with a board drawn from diverse stakeholders as well as vetting of the board members. President Mwai Kibaki signed the bill into law in 2009.

There were later amendments in 2011 where several cyber-crimes were created. The 2011 changes also addressed the issue of competition in the telecom sector. In order to determine whether a licensee was a dominant telecommunications service provider, the threshold was amended from 25% of the entire telecommunications market to 50% of the relevant gross market segment. The law also gave the regulator more latitude to determine other relevant considerations.

Independent Communications Commission of Kenya Bill 2010

During negotiations for a new Constitution, the role of freedom of information for a healthy democracy was time and again highlighted. Freedom of the media was therefore entrenched in the Constitution as a right. In addition, article 35 provides that Parliament shall enact a law to provide for an independent regulator for the media sector.

KICTANet debated the required framework to effect article 35, the Independent Communications Commission of Kenya Bill, 2010.

Some of the issues in the debate were:

- Whether CCK was the independent regulator that was contemplated in the Constitution. Some were of the view that all independent commissions were listed in article 248 and therefore article 35 only envisaged strengthening of the Media Council and not the communications regulator. However, most listers desired to see a more independent regulator. Stakeholders came together to agree on the architecture and role of the body contemplated in article 35.
- The objective of the Bill, and whether it was meant to facilitate growth of the communications space or regulate the media whose freedom was already guaranteed in article 35.
- The possibility of having more than one regulator for the communications space (one for ICT generally and another for media).
- Eventually, listers converged around defining independence in terms of structural, functional and financial aspects. It was not lost to listers that the sector had a key role to play in democracy and development of the country. They therefore discussed the commissioners and how their independence could be guaranteed through their recruitment and in their roles.
- Functions of the commission were also discussed. Considering that the commission would be expected to interface with intergovernmental bodies such as the International Telecommunications Union (ITU), listers wondered how would maintain independence while still representing the government.
- Some of the notable ideals noted in the proposed Act included the capping of the number of commissioners, the requirement for consultation, access to information, diversity in the selection committee and clear provisions on terms of office, removal from office, remuneration and conflict of interest. This would serve as a protection from undue interference by external forces.

Eventually, the law establishing the Communications Authority as an independent regulator was passed. A separate law to govern the media-Media Council of Kenya Act was also enacted.

Media Laws

In 2007, there was a proposal for a Media Bill which was resisted by the media. The Bill was informed by a policy direction to eliminate cross ownership of media and therefore spur plurality. Fear however was rife that media would cede independence because of requirements such as revealing of sources. Listers called for withdrawal of the Bill although many supported some regulation of media. While proponents of the law found that there were ethical and content control issues in journalism that needed to be regulated through the

law, the media fraternity favoured self-regulation.

Discussions on the Bill took place in 2008 and early 2009 and after negotiations, a version of the law was enacted.

Following the 2007/2008 post-election violence, proposals were made for the regulation of vernacular FM radio stations. Members supported a code of ethics with stiff penalties for incitement on vernacular radio stations. The Media Council developed the code of ethics.

Cybercrime Bills

There have been several attempts to legislate on cybercrimes, some from within the ICT sector and others from without. In the earlier attempts, some provisions on cybercrimes were introduced in the Kenya Information and Communications Act through the 2009 amendments.

The Office of the Director of Public Prosecutions, created in the 2010 Constitution complained that with the law as it were, they were having a low success rate for prosecution of cybercrimes. They therefore developed the Draft Computer and Cybercrimes Bill in 2014.

The Bill was negatively criticised for having a perspective that would criminalise innovation considering it was developed from the prosecutor's perspective. MoICT put together a multistakeholder task force to review the Draft. This taskforce produced a new version of the Draft Bill in 2016.

In the meantime, the Senate ICT committee also published the Cyber Security and Protection Bill that went through a first reading but later withdrawn in December 2016 in order to allow for further consultations.

Some of the issues arising from cybercrime legislation are:

- There are uncoordinated attempts to regulate

cyberspace through the creation of cybercrimes. Listers called for more inclusive and multi-stakeholder processes in the development of cybercrime frameworks.
- There are several policy documents on cybercrime. These include the African Union Convention on Cyber Security and Personal Data Protection (2014), the National Cyber Security Strategy (2014) and the Kenya ICT Policy that is undergoing revision. There does not seem to be a connection between the proposed cyber laws and the policy documents.
- It is of great concern to KICTANet members that Kenya wants to enact cybercrime laws yet we lack a corresponding framework to protect the right to privacy. The calls for a data protection law persist.
- As to the contents of the Bills, specific concerns include:
    i. The Cybercrime Bill had investigation procedures that were not balanced with human rights, especially the right to privacy. Coupled with this was the view that the law had not acknowledged the challenges associated with modern data storage for instance cloud computing and disaggregated storage that would make traditional search and seizure ineffective.

ii. Further on investigation procedures, listers discussed whether there is need for a special unit of police for cybercrimes that could be more responsive to cyber issues. This was from the experience where police carry out "raids" where equipment such as computers and routers are confiscated only for the prosecutors to find that the equipment is not enough evidence to warrant or sustain a prosecution.

iii. There ought to be finer definition of the relationship between law enforcement agencies and private entities holding data that could be of interest in cybercrime.

iv. There is need for a law that could also assist with trans-border data requests. This should include handling data held by private parties such as cloud service providers.

v. There was discussion on whether cyber squatting should be included in the proposed law as a crime or left to the realm of civil law.

A Highlight of Some Bills

Other issues that have been live on the KICTANet list and the communications sector in general have been to do with the creation of a legal framework in the following areas:

- Freedom of information or access to information;
- Privacy and protection of data;
- Protection of critical ICT infrastructure;
- Cybersecurity.

There have been several draft Bills on these issues but none has gone to its logical conclusion. However, during the term of the 11th Parliament (2013-2017), a Member of Parliament initiated a private Member's Bill to give effect to article 35 of the Constitution. This is the provision that guarantees the freedom of access to information. The Bill was signed into law in 2016.

A highlight of the other Bills is provided below.

Freedom of Information Bill

At independence in 1963, Kenya inherited statutes such as the Official Secrets Act that prohibited government officials from sharing information without authorisation. In the period after independence, the country became a one-party state with tight information controls. With the advent of multi-partyism in the early 1990s, there was advocacy for open government.

The Freedom of Information Draft Bill (2006) was one such initiative. A version of the draft was released for discussion in 2012. It proposed a disclosure of information such as state resources, government spending, and how state projects were distributed. The draft was criticised for focussing on information held by government but not that held by other private persons. It was cited severally on the list but never introduced in Parliament. There were several mentions of it having been discussed and approved by the Cabinet, being sent to Parliament but never published.

During negotiations for the new Constitution, civil society groups successfully advocated for entrenchment of the right of access to information. After the 2013 elections, the Nyeri County Woman Representative, Hon Priscila Nyokabi, who was part of the access to information movement, privately sponsored the Access to Information Bill. Listers followed the proceedings of this Bill and were elated when it was signed into law in August 2016.

Data Protection Bill 2012

In 2012, a Draft Data Protection Bill was released. KICTANet conducted a moderated discussion on the information and data protection bills. Unfortunately, the data protection bill was never published.

Data protection is an ongoing concern that is frequently discussed on the list in particular every time there are announcements of government plans to collect, or update mass data. Examples of such projects include automated population register, e-citizen, biometric registration of civil servants and voters.

Engineers Bill 2009

This Bill was approved by the Cabinet in June 2010. It created a mandatory regulation regime for engineers with annual licensing of practicing engineers, regulation of all engineering consulting firms, establishment of the scale of fees for engineering professional services, and the promotion of ethical practices and good governance in engineering works and services. The Bill was of interest to listers as a good number are telecom engineers and related engineers. It was enacted into law in 2011.

Critical Infrastructure Protection Bill

The idea of this framework was first discussed by KICTANet members in 2010 after several fibre optic cable vandalism incidences. Accordingly, suggestions were made to classify the fibre optic infrastructure as "Critical National Communication Infrastructure" and to make vandalism a capital offence without the option of a fine. Others thought that being a problem of business practices, there was need to encourage sharing of infrastructure to curb incidents of corporate sabotage.

A taskforce under the Ministry of ICT developed a Draft Critical Infrastructure Protection policy and a Bill. The documents were handed over to the then Cabinet Secretary Dr. Fred Matiang'i in 2016. KICTANet Members noted that the draft bill inclined heavily to general physical infrastructure security and did not adequately address security of critical ICT infrastructure. The documents have not been adopted.

Kenya's ICT Practitioners Bill

The introduction of the ICT Practitioners Bill, sponsored by the Leader of Majority National Assembly in June 2016 caught the list by surprise. There have been several threads about organisation of ICT professionals and it was generally agreed that professional bodies in the country should self-regulate their membership. The Bill proposed mandatory registration of all ICT practitioners with annual licensing and regulation under a body sponsored by mostly the ICT Association of Kenya (ICTAK). Some of the concerns raised about the Bill include:

- It violated freedoms of association and labour by requiring mandatory registration of all ICT practitioners before they could earn from ICT related work.
- There was ambiguity on who fell under the regime of the Bill as its definition of ICT practitioner was too broad

and could be interpreted to include anyone using ICT in their profession.

- The Bill pegged licensed requirements to ICT academic requirements, while in practice, there are many self-taught people creatively solving everyday challenges using ICTs.
- The administrative body created under the Bill had an unusually high number of persons from ICTAK, a private members' body.
- Overall, the Bill would stifle innovation by requiring mandatory registration and licensing.
- There were many avenues for ICT practitioners to organise without statutory intervention, for example through existing bodies such as the Computer Society of Kenya, the Information Systems Audit and Control Association (ISACA) Kenya Chapter and the Internet Society (ISOC).

KICTANet drafted a Memorandum to the National Assembly's Energy and ICT Committee opposing the Bill. The government through the Cabinet Secretary Joe Mucheru gave its position –that the Bill was not in line with the draft ICT Policy (2016) then under review. KICTANet engaged with Parliament together with likeminded non-state actors in advocating against the Bill. The Bill did not proceed past Committee Stage during the 11th Parliament which was dissolved in early 2017.

Regulations

Regulations are subsidiary legislation developed by the Cabinet Secretary in consultation with sector players. The network has contributed to numerous regulations under the Kenya Information and Communications Act (KICA) and other laws. Among these are consumer protection, local content and frequency spectrum.

Listers had severally raised concern over the lack of protection of consumers from operators in the sector. The consumer protection regulations were published in 2010. The regulations cover among other issues, privacy, direct marketing and protection of children. After promulgation of Kenya's Constitution, a general consumer protection framework was developed. Under the Consumer Protection Act, the Competition Authority of Kenya was established as a regulator. Listers have severally questioned the conflict of mandate between the Competition Authority of Kenya and the ICT sector regulator, the Communications Authority.

On local content regulations, a contentious issue the definition of "local content". After debate, there was consensus that local content should include local ideas, culture, human resource and places. At the time of discussion in 2011, it was not clear how creating minimum local content thresholds would affect local radio and television production. However, with the migration from analogue to digital television, the benefits of the 40% local content rule are already being experienced. Local stations are broadcasting plenty of locally produced content. It is expected that the quality of local productions will continue to improve as local capacity in production increases.

Discussions on International Instruments

The African Union Convention on Confidence and Security in Cyberspace

In 2013, listers discussed the draft AU Convention on the Confidence and Security in Cyberspace (DAUCCSC/ AUCC). The draft sought to grant discretionary powers to judges for requests for private information and takedowns. Listers feared that without drawing the principles for judicial supervision, governments could abuse discretionary powers and curtail civil liberties. Further, they found the law would unjustifiably burdensome the individual as well as corporations as it created policing duties for content. KICTANet joined other non-state actors to advocate against the draft convention. The draft was quietly withdrawn.

The African Union Convention on Cyber Security and Personal Data Protection

The process of developing this convention was more inclusive and many actors across Africa gave written submissions. KICTANet had a moderated discussion where some of the concerns included the legislation of anonymity, spam, harmonisation of laws, balancing cybersecurity with human rights, data protection and the offences created under the instrument. The report of the discussions was submitted to the African Union Commission, and the network had a face to face meeting with the AU representatives and drafters. The Convention was adopted in June 2014 but is yet to come in force as it has not received the requisite number of ratifications from member states.

The East African Community Electronic Transaction Bill 2014

The East African Legislative Assembly (EALA) debated the Bill in 2015. It sought for seamless electronic transactions among EAC partner states and technology neutrality in electronic transactions. The Bill supported electronic-based transactions in line with the regional policy of moving government regulatory procedures online. Listers learnt of the Bill in its late stages.

Summary

Since 2010, participation of the public in decisions that affect them is required under the Constitution of Kenya. In this nascent stage of public participation, many public bodies fulfil this duty by calling for memoranda from interested persons on proposed policy or legal documents. The ICT sector has practiced multistakeholder consultations in decision making since the development of the ICT policy in 2004. Some of the lessons learnt from sector that can be applied to public participation include: allowing for robust debate and consensus building on contentious issues and timely sharing of drafts by public bodies. As more bodies take up the practice of seeking stakeholder input, there is also need to enhance capacity of the stakeholders to give meaningful input.

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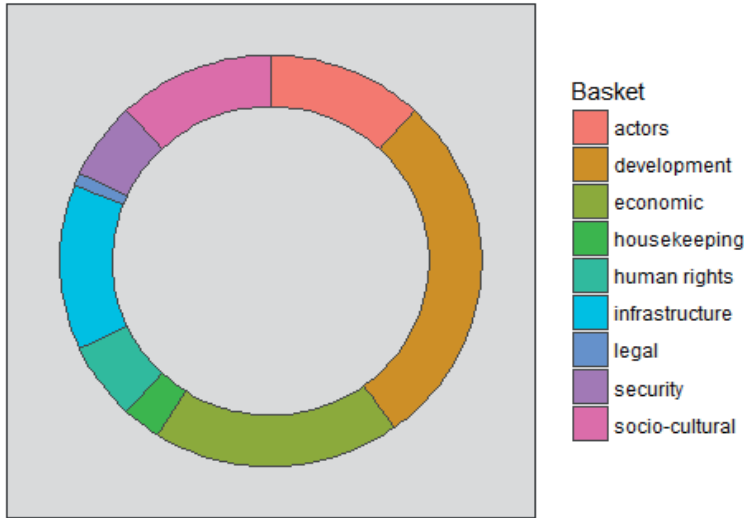
DISTRIBUTION OF THE VARIOUS ISSUES

INFRASTRUCTURE AND STANDARDISATION
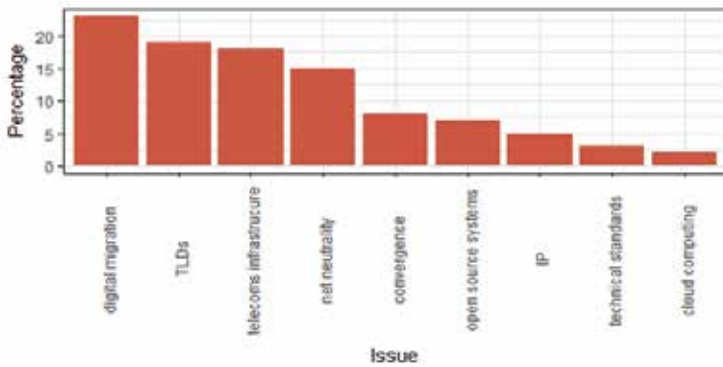
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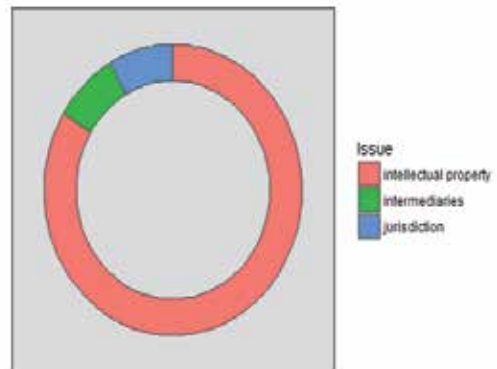
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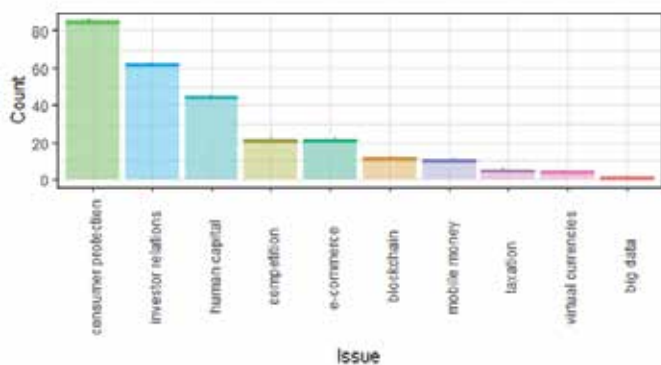
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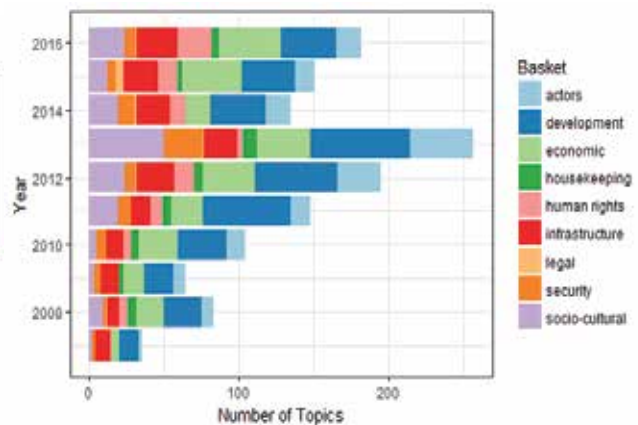
PART TWO: ISSUES IN BASKETS

Overview of Issues

In this part, the issues discussed on the KICTANet list are classified using Diplo's taxonomy of baskets. Taxonomy refers to the organization or arrangement of information, ideas and events in an understandable manner[2]. The Diplo baskets comprise infrastructure, legal, economic, development, human rights, security and socio cultural.

Figure 1 shows the distribution of KICTANet's issues in the baskets. Further, there are two additional themes: local actors and events; as well as housekeeping matters. Housekeeping covers internal announcements celebrating excellence of members or news of demise of members. Other housekeeping issues discussed were the rules of the listserv.

The following sections sample issues in each of the baskets.

INFRASTRUCTURE AND STANDARDISATION BASKET

Infrastructure

- telecoms infrastructure
- cloud computing
- technical standards
- convergence
- digital migration
- open sorce systems
- IP
- net neutrality
- TLDs
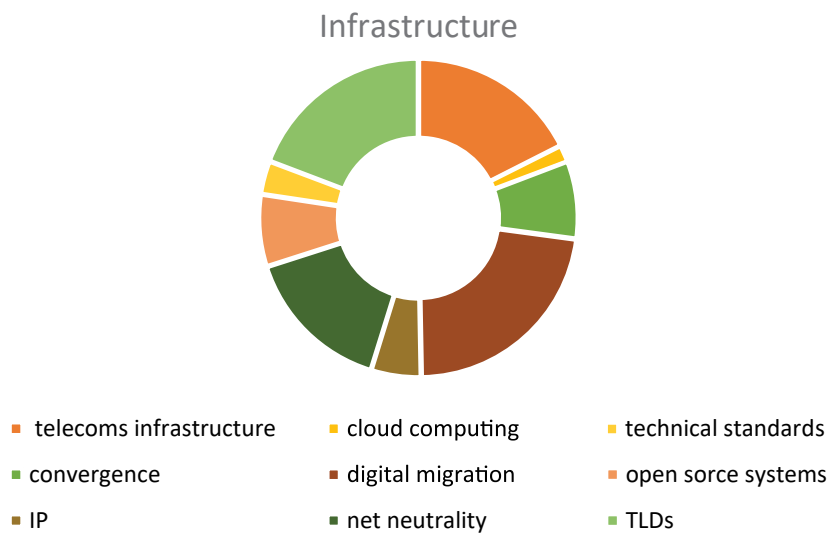
Figure 2: Distribution of issues in the infrastructure and standardization basket

The Infrastructure basket deals with those issues on the running of the Internet. Accordingly, this section highlights discussions on the core ICT and Internet infrastructure. The topics featured include telecommunications infrastructure, the domain names system, net neutrality cloud computing, cybersecurity and the analogue to digital migration.

In the formative years, listers devoted time on deliberations on the lack of Internet access and infrastructure that was necessary to bring down the cost of access.

It makes sense to keep traffic local. It saves a lot of cash. It also improves the speed of transactions because of lower latency. Over and above this, we can't claim to be a global hub of innovation if we can't keep servers running.

Phares Kariuki

This resulted in long threads on alternatives to dial up Internet, especially optic fibre. As Internet penetration increased, the discussions shifted

> *"Maybe we should worry so much about the preparedness of the national infrastructure to "extend" whatever benefits will come with the fibre before we even think about benefiting from the fibre optic cable in Mombasa."*
>
> *Odhiambo Washington -lister*

to factors that could enhance access and improve the user experience for those with access. This included issues such as uptake of IPv6 and enhancement of cybersecurity.

Some of the points noted from infrastructure and standardisation basket include:

Kenyans participated actively in global Internet infrastructure discussions, especially at ICANN from 2004. This is commendable for a developing country. However, such discussions on the list declined with time and by 2013, there were less threads on core infrastructure. This calls for the building of capacity so that new voices can take up the mantle.

Development of infrastructure has come a long way. In early discussions, listers focussed on the laying of submarine cables while in later years, the discourse moved to frequency spectrum, digital television and IPv6 uptake. Every so often there are threads from listers who visit areas outside of main cities decrying the poor quality of service or lack of access in rural, far flung and underserved areas.

In the following sections, some of these discussions are highlighted.

Fibre optic cable

The very initial discussions on the listserv focussed on bringing decent Internet to the country. There was therefore excitement when Kenya became a partner in three submarine fibre optic cable projects that would not only increase availability of bandwidth in the country, but also bring down the cost of Internet significantly. Some highlights of this exciting moment as discussed in the list include:

- The July 2006 announcement by 29 private and state-run entities who agreed to lay and prepare for commercial use a $300 million fibre optic cable dubbed the Eastern Africa Submarine Cable System (EASSy). The cable would provide a last link to encircle Africa with cable network, as the western coast of Africa, from Morocco to South Africa, already had a cable.

Similarly, there was a cable connecting the entire North African coast with the Red Sea. Countries in the Eastern coast were relying on expensive satellites for data and voice services. EASSy undersea cable would run 9,900 kilometres, between Durban in South Africa and Port Sudan in Sudan. Listers celebrated the news with hope that EASSy would significantly bring down the cost of Internet in Kenya.

- In April 2007, Brian Herlihy of Blackstone (Sithe) launched SEACOM, another international fibre cable to connect the East coast of Africa. In the same month, the Kenyan government launched National Optic Fibre Backbone (NOFBI) to lay more than 5,000km of fibre optic cable across the country's 124 districts.

- In June 2007, EASSy concluded interconnection

agreements with three cable systems to carry traffic between Africa, Europe and Asia. It also included Comoros into the planned fibre network.

- By November 2007, there was a debate on whether there was real necessity to invest in so many undersea cables. The government was responsive in explaining the rationale for the choice of fibre:

"I promised to respond to the question as to whether we indeed need Fibre Optic Cables. Yes indeed we need ... In as much as I do not like cables for connectivity I think they are a necessary infrastructure at the moment. The benefits are immense as I look forward to greater linkages with our increasingly important relatives in the Diaspora.

With efficient connectivity there, we create opportunities such as localised news that is accessible to anyone everywhere; we shall enable innovation and more importantly create jobs for our youth. The difference here is that some may see entrepreneurial opportunities that come with this infrastructure and unfortunately some will simply watch as events unfold. ....Our role is to facilitate our people to reach their fullest potential

This is what leadership is all about."

– BitangeNdemo,
Permanent Secretary in the Ministry of ICT

Looking back at the debate, some of the concerns raised by listers at that point were valid predictions of the flipside of fibre. For instance, the community was concerned that the investment in undersea cable was not matched with similar investment for inland connectivity in all parts of the country. Others felt that the government's national fibre optic backbone (NOFBI) project should have taken precedence over further investment in multiple marine fibre projects. Other concerns were the cybersecurity threats that would come with increased bandwidth, and therefore the necessity to have a legal framework to address cybercrime in place.

Currently Kenya is served by four marine fibre optic cables, Lower Indian Ocean Network (LION2), SEACOM, TEAMS and EASSy. Discussion on submarine cables became less frequent from around 2008. Every so often, listers question about the implementation of NOFBI, which is still in progress.

Domain Name System (DNS)

KICTANet has had a number of listers who dedicatedly follow policy making processes at ICANN. Some of the ICANN related discussions include domain names ranging from .africa to the management of the .ke domain.

.africa Domain Name

The journey towards delegation of the .africa domain has been followed by the community over the years. Some listers recall how at an ICANN meeting on the 1 June 16, 2000 in Yokohama, the ICANN board of directors adopted a policy for the introduction of new top-level domains (TLD). When later in August 2000 there was a call for the new generic top level domains (gTLDs), an Irish company, Rathbawn Computers Limited led by Edward Sweeny applied for .africa and 19 other strings. Africans protested against a non-African applying for the domain name.

Other highlights of the .africa developments discussed on the list include:

- The various actions taken by DotConnectAfrica (DCA), in preparation for acquiring .africa. DCA is a not-for-profit company associated with Sophia Bekele, an Ethiopian who was active in ICANN policy making. For example, at ICANN 41 in Singapore in June 2011, DCA participated with the object of consolidating its position and relevance as a prospective applicant for .africa

- However, as can be noted from other discussions, the African Union Commission (AUC) had in November 2010 conducted an African Expert meeting to discuss all relevant issues regarding the .Africa gTLD project where the resolution was for the Commission to pursue the application. In December 2010, the African Union (AU) declared that it would play a key role in selecting the operator for the .africa and .afrique generic Top Level Domains (gTLDs).

- In March 2011, Africa Top Level Domains (AfTLD) organization announced its decision to seek a mandate from the African Union (AU) Commission and to apply to ICANN to manage the .africa registry. This intention was later discarded.

- AUC later gave ZACR, a South African company the blessings to apply for the domain. DCA also made an application and since 2012, this domain name has been contested, with the dispute being heard within ICANN and in US courts. In February 2017 the domain was finally delegated to ZACR.

.eaDomain

A lister first mooted the possibility of a .ea domain in June 2007:

> *"For those in the know, how feasible is introducing a dot [EA] domain? With a lucrative market population of 109 million after adding Rwanda and Burundi into East Africa Community...is it possible to have one website with a [.ea] domain instead of having 5 websites for [.ke],[.ug], [.tz], [.rw] and [.bi]?? And may be soon [.southsudan]?"*

Listers contributed to the idea and in August 2010 a working group was formed to develop strategies to strengthen ccTLDs in the region in light of competition for gTLDs and determine the business case for the .eac domain. In June 2012, members had a follow up discussion on the 2007 discussion on the .eac domain. Due to the prohibitive $180,000 application fee, the regional domain was not applied for.

.xxx Domain

.xxx is a sponsored top-level domain intended as a voluntary option for pornographic sites on the Internet. It is sponsored by the International Foundation for Online Responsibility (IFFOR). As with others around the globe, listers were divided on the .xxx domain. There were those who found it unpalatable to have sexual content online and there were others who argued that having explicit content placed in the domain would protect children as their caregivers could blacklist xxx from the reach of children.

In March 2007, ICANN board rejected the .xxx proposal citing cultural sensitivities and .xxx taking ICANN to the realm of content control among the reasons for the nay vote. The

Digital migration

In 2007, the Communications Authority put together a Digital Migration Task Force the country's switchover from analogue to digital broadcasting. This was in compliance with the ITU agreement of Regional Radiocommunication Conference (RRC-06) in Geneva in June 2006.

The process was expected to be completed by December 2012 but was pushed to May 2013 to allow for flow of information during the country's 2013 general elections, and to also give adequate time for signal distribution across the country. Eventually, the Regulator moved the deadline to June 30,2015 at the request of stakeholders who cited concerns with the preparations for the migration. These included lack of availability and affordability of the set-top box, lack of information and consumer protection mechanisms and disputes- including court cases- regarding signal distribution. Some of the issues discussed on the list regarding the migration include:

- The first license for signal distribution was awarded to a subsidiary of the national public broadcaster. The second one was to a foreign owned firm. This resulted in litigation by local broadcasters who did not want their content in control of a government or foreign entity. Many listers advised on the need for guidelines on foreign shareholding in vital services such as dissemination of information.

- Other litigation which included the date of the migration, and the separation of broadcasting processes where media owners would be content platforms or producers while signal distributors would disseminate the content. Eventually, media owners were granted leeway to form an entity to distribute their content.

- While the policy was to provide free to air content without charge, vendors emphasised packages with monthly charges while selling set-top boxes to the unknowing public. This led to confusion over what was meant by free to air. After petition by the network, the regulator issued direction on consumer protection, requiring all approved set-top boxes to make free-to-air content available even where customers defaulted on monthly charges. They also ran awareness creation campaigns on the migration.

National addressing system

In many discussions on an e-commerce strategy for Kenya, listers noted that the country lacked a comprehensive system through which streets outside of towns of major urban centres could be identified. The addressing system would be an integral part of e-commerce as was essential to delivery of goods and services purchased online. Listers therefore received positively the news that a steering committee to spearhead the national addressing system had been appointed in early 2016.

Root servers

Although discussions of a technical nature such as root servers do not happen much on KICTANet, listers were impressed when ICANN announced that instances or mirrors of some root servers were hosted in Kenya.

4G

Listers have discussed technologies that could enhance the mobile Internet experience such as 4G/LTE. Safaricom was a pioneer in the technology, and rolled out 4G services by 2014. In 2015, the debate centred on Airtel's demand for 4G spectrum similar to Safaricom's after Safaricom was allocated frequencies. Listers debated the grounds for allocation of frequencies and recommended for more transparency in

allocation. The regulator clarified that the frequencies had been allocated as part of a security contract and not in an open tendering system.

The issue of frequency allocation was revisited during the migration to digital television and listers expressed a desire for a structured and principle based method of allocating resources such as frequencies.

Cloud computing

The issue has been discussed from various aspects, the most prominent being a concern by listers on the lack of a data protection framework to define the duties of data by cloud computing providers. It was also noted during debate on a BPO strategy for Kenya that the country was not well positioned to import data for processing as it lacked the necessary personal data protections required for cross border transfer of data. For instance, without the level of

privacy protection required to export personal data from the European Union, it was not possible for Kenyan companies to get data processing jobs.

The aspect of cloud security was also captured in 2015 discussions when a local cloud computing start-up Angani experienced a difficult split-up when founders and investors disagreed. Listers discussed mechanisms that should have been in place to secure customer data during such crises.

IPv6

Internet Protocol (IP) provides an identification and location system for computers on networks and routes traffic across the Internet. IP version 6 (IPv6) was developed by the Internet Engineering Task Force (IETF) to deal with the long-anticipated problem exhaustion of its predecessor-IPv4. As such, IPv6 is intended to replace IPv4.

By September 2007, only two entities in the country, Swift Global and KENIC

...to define policy to facilitate smooth transition for operators and ensure that new comers have minimum IPv6 address space allocation to start up business." – IGF 2008 Panel description

were using IPv6. Listers were concerned about the low uptake of the technology. Several capacity building workshops by different actors on the list such as ISOC and KENIC in conjunction with AfriNIC targeting engineers were held.

The transition from IPv4 to IPv6 was discussed during the third day of KIGF Online discussions in 2008. Listers discussed strategies for increase in IPv6 uptake. Suggestions included targeting organisations with high IP requirements, including government for the migration to IPv6. The Ministry of Information appointed a multistakeholder IPv6 Task Force.

In July 2010, statistics showed that Africa had only used up 36 % of its current IPv4 allocation, and below 1% of its IPv6

addresses. March 2012 statistics showed a low uptake by Kenya and listers registered disappointment with the performance of the IPv6 Task Force.

In July 2015, Kenya was ranked 47th in the world and 1st in Africa in terms of IPv6 adoption and requests made to the backbone provider. The uptake discussion was revisited in 2016 reports that there was a looming shortage of addresses in Africa. Listers recommended more deliberate action towards uptake of IPv6 in Kenya not only to avoid the pitfalls of the address shortage but also to spur innovation through IPv6 applications.

Open source systems

Free and open source systems (FOSS) have featured over the years on KICTANet. During the early years, a powerful FOSS movement which had a network in Kenya as well as Africa, advocated for government to adopt open source systems. They constantly reminded listers of the benefits of open systems. The government did not adopt a free and open source policy but there have been instances of government agencies and departments procuring open systems.

There have been many threads discussing the government's choice of systems. In 2010 the government announced its intention to adopt the

> *The "special software" narrative just sounds rhetorical. What is so special about a software that it can only run on a particular type of laptop?*
>
> *Waudo Siganga*

Microsoft systems based ICDL a standard for computer skills among its workforce. Listers protested the move, arguing instead for open systems.

Convergence

Technology has enabled the seamless merging of traditional platforms such as broadcast and telephony with the Internet. While in the past sectors such as telephony and broadcasting were regulated separately, converged platforms such as voice over IP, Internet tv and video sharing present cross-cutting regulation challenges.

There have been debates on the list about regulation of services such as video sharing over the Internet referred to as over the top content (OTT). In 2016, the Kenya Film Classification Board (KFCB) issued a notice to the popular Internet tv service- Netflix- requiring them to obtain a license for intended Kenya operations. Listers debated the feasibility of classifying the vast amount of content available on the platform. In another case, KFCB wrote to Google to take down a YouTube video depicting gay couples. On both issues, listers had diverse views with most arguing for an approach that best promotes Kenya's film industries interest on the Netflix issue. With the gay video debate, listers were content with Google's decision to flag the video as "potentially racy."

Net neutrality

Net neutrality is the requirement that "the Internet be maintained as an open platform, on which network providers treat all content, applications and services equally, without discrimination." Although the net neutrality debate has always

been alive at KICTANet, the members have not reached consensus on what Kenya's position on the issue should be. Nevertheless, they agree that net neutrality discussion is an important one, especially since Kenya is a net consumer of content and does not own many content platforms.

Some members view net neutrality positively, arguing that it would allow small companies from the developing world to compete in a market that would otherwise have been controlled by a handful of large companies.

After the 2015 global IGF, the network followed developments in the net neutrality discourse in India. This was during the period which Facebook was piloting Free Basics- a platform through which a few Internet sites are provided for free with the intention of providing those who haven't used the Internet before with a starter experience. The idea was received with opposition by policy advocacy groups in India and beyond. The Telecom Regulatory Authority of India (TRAI) ruled against differential data pricing tied to content services from Telcos and others, effectively ending zero-rating platforms in India. According to Net Neutrality activists, zero-rating platforms are in violation of the guiding principle of how the Internet should function.

The India case reminded KICTANet members that net neutrality was no longer a developed world problem.

One of the longest threads on this topic was after ICT Cabinet secretary, Joe Mucheru was quoted stating that getting Africans access to the Internet was a higher priority than defending net neutrality, which he viewed as more of a 'first world' problem. The discussion took divergent views, with some likening the issue to an all-weather road serving as means of transportation where there was no tarmacked road and others taking the indignity of second hand clothes analogy where Africans are handed down previously used personal items. They argued that Africans should get the "full Internet".

Many listers took the view that the quality of the Internet was an important issue which ought to be incorporated in any designs to increase Internet access. After a lot of discussion, it was concluded that Africans had not taken time to define their own perceptions on net neutrality and that the current debates were from a Western point of view. The community expressed a desire to have a net neutrality forum to define the issue from a Kenyan viewpoint.

"One thing I'll concede is that Net Neutrality as defined by the first world is just not workable here. That's why we must define Net Neutrality from an African perspective.

A National Forum is long overdue."

"Let's discuss it fully and come up with our own Net Neutrality version."

Ali Hussein

"It's like saying someone has no food, but if someone brings them bread we are not going to allow them to have the bread because they must have a balanced diet,"

-Joe Mucheru

HUMAN RIGHTS BASKET

Human Rights
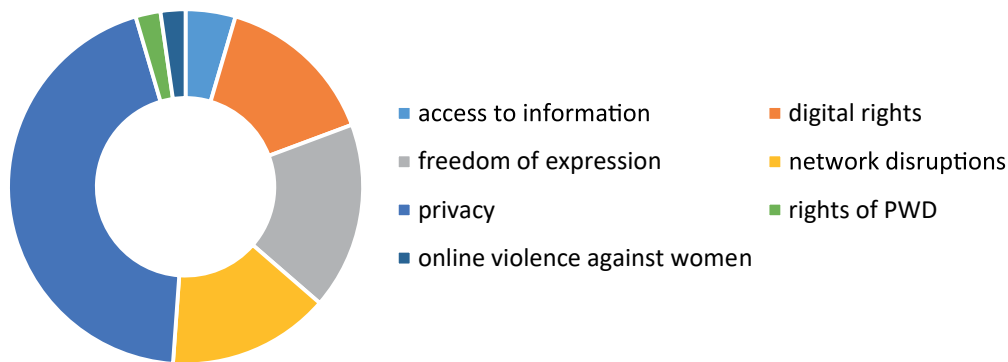
Figure 3: Distribution of issues in the human rights basket

For a long time in Kenya, human rights discourse has been associated with dissent. It is therefore not an easy conversation to have on a multistakeholder platform. There have been several threads on human rights and ICTs. The topic encompasses a variety of rights both cultural, linguistic and those of the minority.

Freedom of expression

Listers pointed out that their concerns were about political speech which had the potential to incite people to violence during the post-election violence of 2007/08 and afterwards. The discussions tried to find a balance between freedom of expression and regulating hate speech. It is generally agreed that the regulatory measure for hate speech – the National Cohesion and Integration Act has deficiencies that have resulted in low use of the framework for prosecution of incitement.

During the 2013 election period, listers noted that communities calling out offending posts was a more effective method of preventing and mitigating hate speech online. Other discussions that have been held under this thread include the Freedom Online Conference which Kenya hosted in 2012 as well as discussions on Internet freedom reports such as the annual Freedom House Reports.

In 2016, the Bloggers Association of Kenya (BAKE) condemned the frequent intimidation of bloggers through arrests, detentions and prosecution under Section 29 of KICA. While some listers expressed their annoyance with bloggers, many registered their solidarity with them stating that freedom of expression should not be limited as was happening.

Section 29 of the Kenya Information and Communications Act (KICA) whose title is "improper use of a system" provided that

"A person who by means of a licensed telecommunication system—

- sends a message or other matter that is grossly offensive or of an indecent, obscene or menacing character; or

- sends a message that he knows to be false for the purpose of causing annoyance, inconvenience or needless anxiety to another person, commits an offence and shall be liable on conviction to a fine not exceeding fifty thousand shillings, or to imprisonment for a term not exceeding three months, or to both."

This provision had been misused to prosecute people for speech. In 2015, the Bloggers Association of Kenya (BAKE) reported that over 60 bloggers were arrested or intimidated in one way or another through operation of state machinery.

In April 2016, this provision was declared unconstitutional by the high court. In her ruling, Justice Mumbi Ngugi found the provision to be vague and not meeting the test for limitation of fundamental rights and freedoms under the Constitution. The news was received positively on the list.

Media freedom

Kenya is among a few countries globally where freedom of the media is a constitutionally entrenched right. article 34 guarantees freedom and independence of electronic, print and all other types of media within the provisions of freedom of expression. It further prohibits the State from interfering with media work and demarcates the role of the State to licensing. A highlight of the discussions on media freedom include:

- Cross-ownership of media: During development of the ICT Policy of 2006, cross ownership of multiple media channels was a contentious issue. On the one hand were media owners who maintained that they could be objective despite the power to control opinion that comes with cross ownership. On the other hand, many listers thought cross ownership did not enhance plurality.

- National Broadcaster: The national broadcaster, Kenya Broadcasting Corporation, lost most of its viewership to newer entrants for several reasons among them a history of being used a government propaganda mouthpiece and KBC's failure to update its programming to suit changing audiences. Listers however strategize on how to rebirth it as a public resource. Some suggestions include expanding KBC's roles as was done with signal distribution during the analogue to digital migration where it acquired a signal distribution licence. A policy shift to make the broadcasted independent has also been recommended.

- Content control during threshold hours: Many listers have complained about the unsuitability of content aired on radio and TV for especially young audiences. In the earlier days, they called for the media to put in place self-regulation mechanisms. While the media did put in place a code, there are many complaints on the list and petitions to the Media Council to implement the code of conduct. In 2012, the Media Council cited one of the radio stations, Classic 105 for airing offensive material during the morning show against the code. Listers desired firmer action from the Council.

- There have also been discussions on implementation of the Programming Code which spells watershed hours for airing of family friendly content. The Code came into

> **"**
>
> *I think the focus should not be on shutting down the Internet, tv or radio stations hence inconveniencing the entire nation and infringing everyone's constitutionally guaranteed rights while at it.*
>
> *Victor Kapiyo*

effect in June 2016.

- The role of media in development: Listers wondered what it would take for the media to initiate and inform debate on issues that affected the public. During election periods, media dedicates more coverage to political personas as opposed to issues. While some defended the media as producing the content that was on demand, many were of the view that more nuanced coverage of issues would benefit Kenya's political and overall development.

- In June 2012, there was a thread critiquing the reporting style of the Star Newspaper. Listers viewed the Star's style of sensationalising news as dangerous and likely to cause unnecessary panic. In one case, the paper published two different photos of an alleged police chopper that had crashed. Unfortunately, the photo had been lifted from the web but reported as being Kenya Police property. It was clear that there was no verification of the story before publishing. The Ministry of ICT filed a complaint with the Media Council against the newspaper. In another case, during a newly elected government's first anniversary in 2014, the paper published a scorecard on the regime's performance. Some listers complained reporting was described as achievements, yet there was not much impact to Kenyans.

Access to information

As pointed out in the legal and policy discussions, access to information has been a long-standing issue. Listers followed the policy development and enactment of an access to information law. There have also been threads where listers demand for information concerning the sector. For instance, the network in the early days called upon MNOs to provide customers with statements of their transactions, especially on mobile money. Safaricom, the largest MNO, introduced a self-service portal where subscribers could track their transactions online. In 2015 the company, began providing monthly statements to customers.

Other requests for information are on covertly developed policies or laws, status of documents where listers have previously given input and clarification for media reports. From the list archives, the Communications Authority has been the most responsive public entity on information requests. Examples of threads where the authority's officers have responded to queries include an update on the status of the universal service fund, queries about the authority's public communications and extension of time for public consultations at the request of stakeholders on the list. The authority has also been lauded on the list for publishing inputfrom stakeholders on consultations it undertakes, enabling the public to track the effectiveness of their contribution.

Surveillance

Surveillance may be defined as "focused, systematic, and routine attention to personal details for purposes of influence, management, protection, or direction". During Kenya's one-party state era in the 1970-80s, state machinery was known to carry out massive surveillance on its people, especially dissidents. While the country is now more open, listers have severally discussed digital surveillance:

- In December 2014, the legislature hurriedly passed the

Security Laws (Amendment) Act. Listers learnt that the law had surveillance supporting provisions such as power to the National Intelligence Service to monitor and interfere with suspected persons communications without judicial oversight. The opposition petitioned the High Court and as a result some of the provisions of the law were nullified. Provisions on surveillance of persons suspected of terrorism were upheld.

- Listers are curious about the extent of surveillance by the state and they suggest reporting by government on its digital surveillance activities. This is particularly after several reports by civil society organisations describing state spending on surveillance equipment and software.

- Data protection has always been a priority in the network, but the legal framework is yet to be enacted. In several threads, listers discuss the lack of transparency among mobile network operators as they do not share data on requests for personal data from law enforcement.

- Acts of intimidation by state agents for example arrests, disappearances, and malicious prosecutions where victims are either very vocal on an issue or is perceived to be in possession of important information. This fear has been raised not only about Kenyans but also other citizens. For example, in 2015 when Mr Nizar Zakka, a person well known to some listers disappeared while in Iran, there was concern on the list.

- During the campaign trail for the 2016 US elections, listers discussed Hillary Clinton's email scandal. Clinton, then a United States presidential candidate had been accused of using her personal email to send government emails during her 4 year tenure at the state department. Listers critiqued the US position towards secrecy in state affairs. They also wondered whether her private email contained encryption or other security features given the sensitivity of her position.

- Facebook's Global Governments Request Report: Facebook revealed that the government of Uganda was among the 74 and 5 African governments that requested for user account information of some of its citizens on social media platform in the first six months of 2013. The requests were made on grounds of national security and criminal investigations by governments. The company however declined to share out the data that they had been requested, citing legal requirements. South Africa was leading with 14 requests; Egypt had 8, Ivory Coast 4, Botswana 3, while Uganda had 1. The US topped the list with over12, 000 requests.

Freedom of assembly and association

Freedom of association is guaranteed by article 36 of Kenya's 2010 Constitution, while that of assembly is provided for in article 37. The Internet has expanded the space for these two freedoms by allowing people to organise events and join causes remotely. Online mobilisation has been discussed on the list. KICTANet has also acted as a platform for online assembly and association in its advocacy work. An example is the response to the ICT Practitioners Bill where listers voiced their opinion on the Bill on the list. Their views were later consolidated and presented to Parliament.

The Ugandan government blocked social media and mobile money during the 2016 elections in February and at the inauguration of the president in May. Listers criticized the shutdown and the growing trend by African governments of shutting down the Internet during political events ostensibly to maintain public order and prevent protests. Many viewed the deliberate disruption of Internet as more likely to lead to

violence due to the mistrust that occurs when people cannot access their sources of information. They were of the view that governments should be using the Internet to disseminate election information as opposed to stifling it. Another incident that elicited debate in 2016 was when Brazilian users were locked out of popular messaging app, Whatsapp, through a court order. This was prompted by WhatsApp's refusal to cooperate with law enforcement agencies who were after some data. Meanwhile, listers discussed the question of regulation of VOIP services such as Whatsapp. In the case of Brazil, it was claimed that Brazilians were no longer making voice calls yet telcos were taxed for the spectrum. Pro regulation lobbyists in Brazil found it unfair that WhatsApp was not being taxed as it was not classified as a telco. However, the benefits of VOIP services to populations in developing countries could not be overstated.

Privacy and data protection

Since the formation of KICTANet, the network has supported rights promoting legislation on access to information as well as privacy and data protection. Instances when privacy was a contextual debate include during the voter registration exercise during the 2013 election season when it was suspected that parties may have obtained data from mobile money agents to register people unknowingly to their political parties.

The issue of data protection also arose when the Independent Electoral and Boundaries Commission intimated that it had disposed of equipment used during the biometric voter registration in 2012. Listers were concerned whether proper data protection procedures were employed before disposal of the machines.

The issues arising about data protection include:

- Lack of a data protection framework: Listers support government initiatives to improve security through technology such as citywide cctv cameras, monitoring crime hotspots and biometric registration of citizens and civil servants among others. However, they have called upon the government to assure Kenyans about the security of their private data by enacting the long-awaited data protection law.

- Listers have also discussed the massive data held by other persons such as mobile network operators. There is a concern that the data may be shared for benevolent causes such as law enforcement and as well as other reasons such as marketing. This also informs the need for a data protection law.

- Tax compliance: KRA in 2016 sought to gain access to users' phone records in order to enforce tax compliance through mobile money records. Listers detested such blanket access to person's mobile money records as an affront to privacy. They advised for a case by case basis for access to mobile money records with judicial oversight.

- National Security: Government has invested in surveillance systems as a counter-terrorism measure. Listers are of the view that there is need to find a balance between national security and privacy. Some of the suggested means of achieving the balance include capacity building on data protection for government staffers, judicial oversight mechanisms

> *My question for FB - how does FB usually ensure that these type of folks use the "publicly available" info they gather for the specific use assigned?*
>
> *Stephanie Muchai*

to check national security requests and publication of transparency reports on government surveillance.

- Transparency reports by tech companies: In a 2013 thread, listers appreciated Google and Facebook's transparency reports that listed requests by governments for user data. They have called for local operators to also publish transparency reports as this would inform the policy framework required for data protection and privacy.

- Cybersecurity and open Internet standards: In discussions on cybersecurity, many listers have made a case for cybercrime laws that will not adversely affect the open nature of the Internet. During debate on the Cybercrime bills for example, listers have advised against criminalising innovation.

Technology and violence against women

In 2010, KICTANet conducted a study on technology and violence against women (techvaw) where different aspects of violence against women through technology were explored. The study was updated in 2013, to include case studies. Challenges identified in tackling techvaw include a culture of disregarding reports on techvaw and laws that could not sustain prosecution of offences such as revenge pornography, stalking, online abuse and human trafficking online.

Prior to the 2012 Kenya IGF, there was a discussion on techvaw where among other issues, it was noted that the vice affected women across many social strata: rural and urban women, students and workers, well-endowed as well as slum dwellers. Some strategies suggested by listers for responding to techvaw included:

- Strengthening participation of women in areas of Internet governance, telecommunications, and cybercrime policy regulation to ensure more responsive policy making.
- Advocating for ISPs and mobile companies to develop policies on online/virtual violence against women.
- Encourage companies to develop corporate user policies and practices in relation to user rights to freedom of expression and privacy, and transparency.
- Interrogate ways in which various stakeholders contribute to remedies, from a technical/social perspective.

Accessibility for persons with disability

Listers acknowledge the potential for ICTs to improve the quality of life for persons with disability. Some of the discussions have featured on how to design ICTs for the needs of persons with disability. For instance, listers urged the government to include persons with disability when developing the digital literacy programme that is discussed elsewhere in this report.

In December 2014, the network celebrated the launch of Ushiriki an app which locates accessible buildings for persons with disability. Ushiriki is Swahili for participation, and the app was commended for showing the state and

> *if you are putting your content out there for public consumption ,can it be for the public across the board (with or without disabilities/challenges). If this can be done starting with the government websites, contents/information,*
>
> *mandatory for all the TV stations to have translators more especially for News Pro grammes etc.*
>
> *Judy Okite*

other actors how ICTs could accelerate equitable social development. In 2016 when Facebook launched an artificial intelligence powered feature to help the blind experience Facebook, listers wondered if there were possibilities of using such ground-breaking technology to assist blind learners in schools and prepare them to take up their roles in society.

Corporate responsibility

Listers have deliberated on corporate responsibility for human rights for ICT companies. For instance, how should a responsible corporate handle a request for user information from the state? Are there instances when corporates should pull down content that violates human rights? How can ICT companies contribute environmental and safety concerns? Some of the topics featured include:

- Attack on Uber drivers: Uber came into the Kenyan market in 2015 where it was quickly embraced because of the competitive prices it was offering. Around January 2016 some taxi drivers attacked Uber drivers in a bid to scare them off the market. This was unequivocally condemned on the list. Listers called upon the government to reign in the criminal taxi drivers. They also discussed the disruption that had been brought about by e-hailing services. The issue was finally resolved when compliance requirements for taxi drivers were also applied to Uber drivers. Listers also advised on creating e-hailing services adopted to the local market. There are now other taxi e-hailing services such as Taxify, Little Cab and Sendy, which uses motor bikes.
- Xenophobia in South Africa: South African multinational countries had to scale back operations especially in the SADC region due to the xenophobic attacks against foreign African citizens in South Africa. Multichoice, a South African satellite television company with operations in many African states, ran ads promoting pan-Africanism and condemning the attacks.
- Travel bans: Before the Africa Internet Summit (AIS), Afrinic, and Afnog meetings in Tunisia, there was a terror attack in Tunisia in March 2016 which left 19 dead after gunmen stormed into a museum. The affected included 17 European tourists, a Tunisian security officer and a cleaner. In response, many countries issued travel bans against Tunisia. Listers were concerned about the travel bans and advisories that would greatly affect the turnout for the meetings. Kenya had suffered the negative effects of travel bans, and listers felt that the organisers of the meetings needed to work with the Tunisian government to allay fears and assure highest security for conference participants. Listers recalled how during ICANN Nairobi meeting in 2010 when similar travel advisories had been issued. With the intervention of the government, the meeting had been successfully held.

LEGAL BASKET
Legal Issues

- ■ intellectual property
- ■ intermediaries
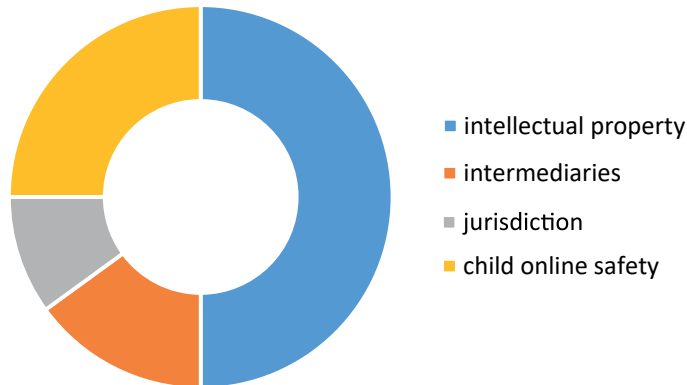- ■ jurisdiction
- ■ child online safety

Figure 4: Distribution of issues in the legal basket

The legal basket deals with questions of a legal nature. For KICTANet discussions, these issues ranged from intellectual property, jurisdiction, child online safety to intermediary liability.

Intellectual property rights

Listers have been divided about the application of intellectual property rights. There are several instances where the rights have been in sharp focus on the list. For instance:

- In 2007, The Copyright Board of Kenya launched a campaign against software piracy in cyber café businesses. The open source movement in Kenya used the occasion to point out the advantages of open source software for small businesses.

- Still on piracy, listers from the music industry update the network on the various challenges faced by creatives because of piracy, which is rampant in the country. Listers have been of the opinion that the creative industry needs to create other models to earn better from their creative work. One of the new ways of selling music was callback tunes where mobile network operators (MNO) sell tunes to their subscribers on behalf of artists. A dispute about one of the schemes when artists complained about not getting their share of the revenue was mentioned on the list in 2015.

- In 2007, it was disclosed that the mobile money transfer service, Mpesa was owned by Vodafone. This led to a long discussion on foreign ownership of local ideas as well as transfer of technology. There was an allegation that MPesa was developed by a Kenyan but the idea was taken and patented by Safaricom/Vodacom. The discussion never came to a conclusion. It again resurfaced when Safaricom was transferring Mpesa servers from Germany to Kenya.

- Beyond the ownership of Mpesa, the issue of opening up the platform to allow developers to create applications based on Mpesa is another issue that has been discussed severally on the list. This, it is hoped, if allowed would spur innovation by expanding the utility of the Mpesa platform.

Intermediary liability

In 2012, KICTANet conducted a study on intermediary liability in Kenya which sought to among other things contextualise the definition of intermediaries, their role and the extent to which they should be liable for content passing through their networks. The issue of liability became lively after the post-election violence of 2008 where they were blamed for allowing inflammatory content to be transmitted or hosted on their services. In the run-up to the subsequent 2013 elections, Safaricom issued guidelines on political bulk SMS messaging through its platforms. This was viewed as a responsible best practice by listers and they urged other operators to follow suit. The Communications Authority enhanced the guidelines and published them to apply to all operators. The guidelines gave mobile network operators the leeway to refuse to transmit messages if the operator was of the view that the message was not in compliance with the guidelines. Other intermediaries such as large newspapers, blogs and media houses developed their own rules on use of their platforms during the electioneering period. Some of these were shared on KICTANet.

Jurisdiction

The issue of jurisdiction came up a lot on the list during discussions on undesirable content, especially harmful speech. After the 2008 post-election violence, it was noted that some incitement messages had been sent from servers abroad and it was therefore difficult for Kenyan law enforcement to follow up.

An interesting case in December 2014 was when Google was sued for publication of a story that was allegedly defamatory to a Kenyan Cabinet Secretary. Google Kenya claimed that the site was hosted by blogspot.com, a company owned by Google US. Listers had different views on the matter as they followed the case. The question was, which law should apply when a multinational company offers services across many countries taking prominence.

Child online safety

Although child safety online has not been captured in legal frameworks, it is an issue that has dominated the listserv over the years. Some of the discussions under this thread:

- The programming code which prescribes how content for broadcasts should be designed and what hours they

> *There is a need to ensure morality but I doubt reacting like a high-handed pariah state will help.*
>
> *Rosemary Koech-Kimwatu*

may be aired is a deliberate effort to protect children from inappropriate content. Listers when contributing to the draft law suggested that controls on content should be based on the hours when children are expected to be awake or asleep.

- Child safety content control is linked to morality. Kenya Film Classification Board (KFCB) for instance in April 2016 banned advertisements and commercials with sexual innuendos, sexually suggestive scenes, alcoholic drinks, and betting and gambling from running during the "watershed period" specifically 5:00am to10pm. Several

listers supported the ban but also raised concern about the policing method where the KFCB unilaterally calls out content it considers inappropriate without stakeholder engagement. They called for guidelines that could allow content producers to assess and classify their content. In addition, they urged KFCB to advice and sensitize on what is appropriate.

Authority has carried out several campaigns to sensitize parents and caregivers on how to protect their children online. Listers, while agreeing on the difficulty of policing Internet content laud the responsible sites that warn about sensitive material. In earlier discussions, they raised concerns about cybercafés had turned into hubs for watching pornography. More recently, cybercafés

ECONOMIC BASKET
Economic Issues

- ■ big data
- ■ blockchain
- ■ competition
- ■ consumer protection
- ■ e-commerce
- ■ human capital
- ■ investor relations
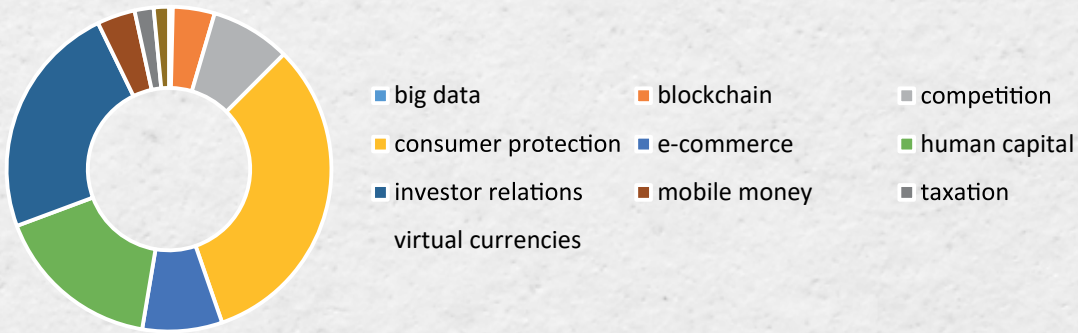- ■ mobile money
- ■ taxation
- virtual currencies

Figure 5: Distribution of issues in the economic basket

The economic aspects affected by use of ICT are dealt with in the economic basket.

The network discussed issues to do with investor relations, mobile money, taxation, virtual currencies among other economic basket issues.

The cost of internet in Kenya

Kenya is among the few countries in Africa with a stable, fast and reliable Internet in most urban centres. This has been due to the concerted effort of many players starting from the efforts to bring fibre optic cable as explained in the infrastructure and standardisation basket.

Listers have however time and again complained about the high cost of connectivity. For example, in 2007, the debates centred on whether an average Kenyan could afford an "e- world" environment containing e-commerce, eLearning, e-Medicine and so on. In the same year, the regulator commissioned a study on dispersion and affordability of the Internet.

As a result of advocacy, there has been more Internet penetration and a reduction in cost. However, there are still threads discussing the lack of alternatives, as most Kenyans depend on mobile Internet for personal and small business browsing. Additionally, individuals and organisations find it difficult and expensive to connect to the Internet in far flung areas that are underserved. This makes the cost of connectivity a topic that is always alive.

E-Commerce

Kenya's e-commerce has picked up slowly due to lack of a facilitative environment. Listers have discussed severally how to increase e-commerce uptake. In earlier discussions, conversations focussed on creating online payment authorization systems. With the advent of the mobile money payment system such as Mpesa, the discussions shifted to making Mpesa more useful for e-commerce. To date, e-commerce is yet to fully pick up as there is still a gap in payment

platforms that are convenient to consumers.

Some of the issues raised on the list about e-commerce include:

- Lack of a clear framework to create consumer trust for e-commerce transactions: The government responded to this by proposing amendments to KICA to address issues such as e-transactions, digital signatures and e-commerce related cybercrime. Listers critiqued the provisions by raising the issue with lack of clarity on cross jurisdiction relations, lack of provisions on prosecution of e-commerce cybercrime, ambiguity in some of the provisions especially as related to admissibility of electronic evidence in court and on commercial

documents that had been excluded from application of the law. Listers also thought that there was need for a separate e-transactions framework to focus more specifically on e-commerce instead of reviewing KICA.

- There has also been discussion about Kenya getting its own payment gateway where locals could easily pay for online transactions and several products were introduced in the market. A 2008 thread debated a proposed NEPAD funded payment gateway in Kenya that would eliminate third parties. However, later debates show that the current products including mobile payment platforms could serve the same purpose. By 2016, debates were shifting towards fintech and cryptocurrencies.

Taxation

Generally, Kenya has adopted a "wait and see" principle to new products and services and starts debates on their taxation once they have stabilised in the market. Examples of taxation debates on the list include:

- In March 2010, the government proposed a new 'radiation tax', which would increase the cost of mobile phones. This created debate on the list on whether the proposed tax was meant for safety or to act as a barrier to access.
- There have been several debates on how to tax e-commerce. The consensus seems to be that government should first create a more facilitative environment for e-commerce before creating a taxation framework.

The Kenya Revenue Authority in 2007 had a dispute with Stanbic Bank Limited over payment of taxes for an online service received from Reuters (UK). The court ruled that the services provided by Reuters were professional consultancy to which normal taxes applied.

- In 2016 listers supported regulation of online sports betting including the introduction of taxes.
- In 2016 listers discussed a Kenya Revenue Authority directive that cab hailing services such as Uber and Little Cabs should pay Value Added Tax (VAT). After discussions, the Authority later clarified that the payment should be made by the car owners and not the cab hailing platform providers.

Mobile tariffs

For a long time, consumers were not aware of the tariffs applicable for their calls, especially after the end of discounted offers. This led to a public outcry on the list. The

regulator commissioned a study on mobile telephone industry's tariffs and taxation levels in 2011. The tariffs were found to be high and the Regulator commenced a plan to lower the

costs of calling.

In May 2012, the mobile termination rates were lowered by 28% translating to an interconnection rate of Ksh1.60. By October 2012 the number of mobile subscribers in Kenya grew by 1.7 percent to 29.7million, thereby highlighting the increased penetration rate of mobile telephony services to

75.4%. Listers debated whether the cost of calling was commensurate with the growth in the sector. Many considered the tariffs to be high for the Kenyan economy.

In discussions from around 2013, listers shifted to the issue of quality of service due to complaints about dropped calls and poor network connection in many areas of Kenya.

Mobile number portability

When mobile number portability was introduced in 2010, listers complained that the porting fee of Ksh 1, 000 per switch was prohibitive. In May 2010, the sector regulator reduced

the number portability fee for mobile user from KSH 1,000 to KSh200 one off fee.

Consumer protection

Consumer complaints have featured prominently on the list over the years. Individual listers have posted on issues ranging from poor quality of calls and dropped calls, poor Internet connections, "disappearing" data bundles, being subscribed to premium services without consent, hidden costs and the high number of fraudulent calls where subscribers have lost money. The network will bring such discussions to the attention of the service provider with a view to having a global resolution to the issue.

KICTANet gave input to the Consumer Protection Bill that was enacted in 2012 as well as Regulations on Consumer Protection under the Kenya Information and Communications Act (KICA). Some of the issues that listers championed included: accuracy of information; misleading advertisements; confidentiality and protection of privacy of communications and consumer data; security of data; guarantee of quality of service; environmental and health safety; access for persons with disability; protection of children and vulnerable groups and coverage across the country.

The 2011 Consumer Regulations required each licensee to establish consumer complaints mechanisms. The MNOs, which serve a substantial number of customers, enhanced their customer support help lines. This was however not enough and many listers complained of the long waiting times before service. During the analogue to digital migration, consumer rights were not carefully observed and there were many cases of misleading advertising and misinformation on digital set-top boxes. Moreover, users on KICTANet complained of lack of choice for set top boxes and questions arose as to whether the market was truly liberalised.

Listers have noted several changes that have enhanced the customer experience such as online self-care portals, USSD support and inbuilt designs to assist in processing and confirmation in mobile money transfers. Still, there is room for improvement and a holistic approach to consumer care among licensees. For instance, listers would still want transparency reports by service providers on government requests.

Blockchain technology

This is a new issue on the list that has generated a lot of discussion. The debate gained traction when a Kenyan start-up company , Bitpesa, offered bitcoin transfer services with integration into the mobile money platform M-Pesa, to cash out. In late 2015, Safaricom, which owns Mpesa, cut ties with Bitpesa and suspended payment of cash out through Mpesa. The dispute culminated in a legal battle and courts ruled that Safaricom had a right to cancel services to Bitpesa if for some reason they felt that the bitcoins traded by Bitpesa would be a threat to the integrity of their systems.

Shortly thereafter, Central Bank of Kenya- the financial sector regulator- gave an advisory against the trading of Bitcoins, citing that they were illegal. Listers opined that the concept of crypto currency had been misunderstood yet the underlying blockchain technology had the potential to improve transparency, security and user experience across various sectors. Listers desired to have more discussion on how the technology could be adopted. During the 2016 Kenya IGF, a session was dedicated to block chain technology and its impact on industries, and thereafter, a KICTANet working group on blockchains was constituted to look into ways of engaging further on the issue.

Discussions about blockchains have centred on the following:

- The financial sector was among the early adapters of the technology and as such there are many applications around financial technology (fintech). Banks were among those investing money into research on the future of blockchains. Kenya has a history of innovation in fintech and lessons from the adoption and regulation of mobile money platforms such as Mpesa could be applied to blockchain.

- Some of the merits of block chains include improved infrastructure, expansion of markets, ease of money remittance and payment across different jurisdictions. Demerits include that it could be used for money laundering and other illegal activities. Listers agree that this is a technology that needs to be supported through a facilitative environment as opposed to being outlawed.

DEVELOPMENT BASKET

The government acknowledges the potential of ICT to transform societies. Accordingly, ICT has been included as a supportive pillar in Kenya's economic blueprint, Vision 2030. Stakeholders acknowledge the gap that exists between those using ICTs and those without access, a gap which continues to widen as technology advances. The issues in the development basket centre around efforts to reduce the digital divide.Some of the interventions that have been put in place to actualise the use of ICT to transform Kenya as discussed on the list include the Universal Service Fund, Digital Villages and Digital Literacy programme.

Development Basket

- ■ access
- ■ capacity development
- ■ digital divide
- ■ e-government
- ■ e-waste
- ■ regulatory/policy
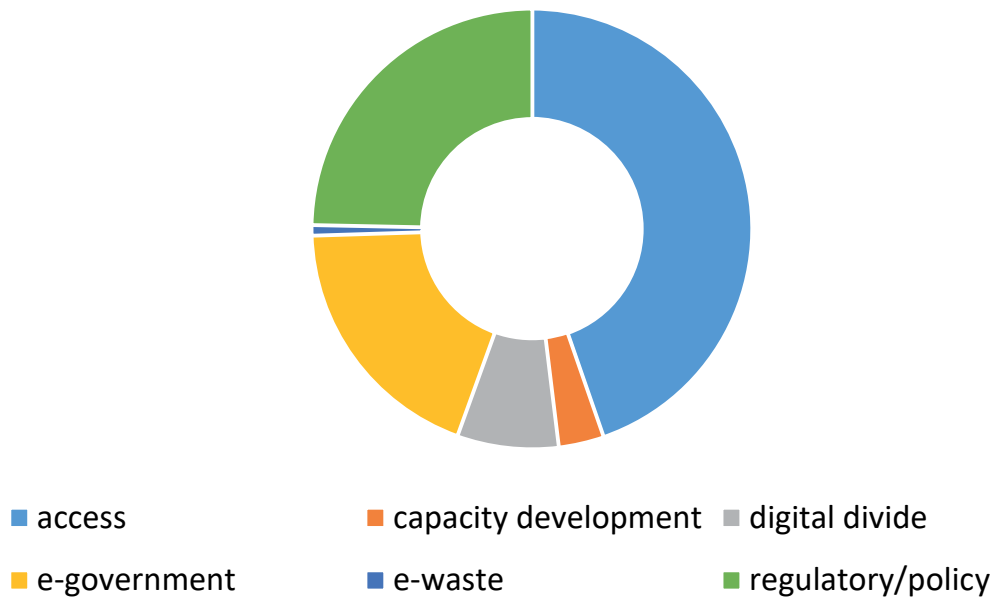
Figure 6: Distribution of issues in the development basket

Liberalisation of the telecommunications sector

Liberalisation and privatisation of the telecom industry took place from early 2000s under the structural adjustment programmes. The giant Kenya Posts and Telecommunications Corporation was split into three entities namely Telkom Kenya which retained fixed line services, the Kenya Postal Corporation, and Communications Commission of Kenya (later changed to Communications Authority of Kenya), the regulator. There were then two mobile network operators namely: Safaricom that was partly owned by the government and Orange, a subsidiary of Telkom Kenya. Later, the government divested part of its Safaricom and Orange shareholding.

Liberalisation involved removing Telkom Kenya's monopoly by licensing other fixed line and international bandwidth operators. A regional carrier, third mobile operator and several new data carriers also entered the market.

Listers discussed the liberalisation and privatisation from several angles:

- The real beneficiaries of the liberalisation: at the initial stages, it seemed to listers that government policies highly favoured big international players that were backed by local elite families. In later transactions, opportunity was opened for the public to participate in shareholding for example when the government was divesting from Safaricom.
- Transparency: listers raised a storm about the shadowy ownership of Mobitelea, a company which at that time, held a significant stake in Safaricom but whose owners were unknown. When it was realised that the company had earned around Ksh. 850,000,000 in 2007, there was a debate about whether in the circumstances the Safaricom IPO should proceed.

> "
>
> *There are many radio stations that the country governments could consider going into partnerships with, and still meet their communication goals*
>
> *Grace Githaiga*

Connectivity

In the early 2000's, Internet connectivity was through dial up and satellite. This made it expensive and inefficient. One of the factors that was blamed for the cost of Internet was high cost of interconnection where traffic from Kenya had to go through Europe before being rerouted to America where most of the web servers were hosted.

The building of fibre optic cable along the East African coast was therefore lauded as a great step towards providing broadband in Kenya. Listers debated severally on broadband and the factors that make Internet in Kenya unaffordable. Some of the scopes of this discussion include:

- Whether fibre was the real solution to getting broadband to all: This debate picked up especially after Kenya connected to three cables at around the same time, starting 2007. While the cables significantly improved experience for Internet users, Kenya is far from achieving universal and affordable access. Listers therefore started discussions on other policy options including use of white spaces, last mile connectivity and subsidising the Internet using the Universal Service Fund.
- During discussions prior to the 2012 World Conference on International Telecommunications (WCIT), the issue of fairer interconnection rates was debated at length. Kenyans viewed WCIT as attempting to take Internet governance from the multistakeholder community to the ITU. Regarding the proposed agreement, listers argued against addition of article 41K that proposed a "fair compensation for carried traffic". This was in view of Kenya's position as a net consumer of the Internet and aspiration to produce more local content. The proposal would make cost of Internet more expensive due to higher costs of accessing content from outside the country.
- In 2010, the Kenyan government put forward a plan to simultaneously promote cost-effective use of the 2.6GHz band and save operators from having to spend money in an auction. KDN launched a new product for small businesses, 1Mbps for Ksh. 4,000/= and a free Internet service called loop net in the central business district and in some city estates. The wholesale prices of Internet bandwidth went down by 80% but retail remained relatively high. Listers noted that Kenya did not have the correct policy framework for provision of Internet for middle to lower class consumers at home. Neighbouring countries such as Uganda and Tanzania

also offered more competitive pricing for small and medium enterprises services such as data centres.

- One of the narratives that have been advanced by service providers is that the cost of Internet in Kenya has significantly come down in the last ten years. By 2015, data packages from mobile service operators cost less, were the cheapest in East Africa and there were better Internet speeds especially around Nairobi. However, during a debate on over the top services, listers put a case that with mobile internet, which is what most people in Kenya subscribe to, it would be out of reach for most Kenyans to access a full video from say Netflix with pre-paid data bundles. KICTANet therefore called for an examination of the factors that make Internet very expensive and why broadband to the home was still unavailable for almost the entire population.

- The government launched the national optic fibre backbone (NOFBI) project in 2007. There has been discussion on the list about the pace of the implementation and the role of county governments in infrastructure development. This is because unless counties are implementing shared policies, they add to the cost of connectivity by charging local fees for licenses and wayleaves for infrastructure. Listers have suggested that counties should take up the role of laying fibre within the counties and then charge operators for use.

- Leveraging on the East African Community, listers have urged the government to expand benefits of the common market to ICT services. For example, listers lobbied for removal of data roaming charges across the states as had been done in the European Union in 2015.

Universal Service Fund (USF)

Achieving universal access for all has been a constant topic on the list. During the 2008 legislative reform, a Universal Access later renamed to Universal Service Fund was established in law. In practice, the Fund's Board was only 2017, the Communications Authority released a communications gap study. The study informed the prioritisation of projects such as improving voice coverage in underserved areas of Kenya and supporting the digital literacy programme.

Some of the issues raised by listers on the Fund include:

- Composition of the Board: This topic was discussed after licensees who were paying into the fund complained of not being represented in the management. It was finally settled through negotiation amongst licensees and the regulator.

- Absorption of the Fund: The fund has been collecting

but not spending monies. In the first years, the lack of absorption was due to the absence of a guidelines for the fund. To date, very few projects have been funded, yet there are areas in Kenya without even access to voice services.

- Listers have compared the fund to similar initiatives in East African countries. Some have suggested that due to the poor performance of USF, licensees should be given the option of funding certain projects instead of paying to the fund.

- USF Board reports are part of the Communications Authority annual reporting. Listers have complained that the few pages given to the Fund is too brief a report for meaningful feedback from stakeholders. It is not clear why the Fund does not have its own communications.

ICT for development

Kenya has shown use of ICT to solve social problems, the most prominent being the mobile money revolution. Other examples discussed in the list includeUshahidi platform that was used to identify hotspots in the 2008 Kenya's post-election violence and Ushiriki that rates the accessibility of buildings.

In the earlier periods of the network's existence, there were many innovation hubs set up to spur youth led innovation through ICT. Many of the applications developed from these hubs involve use of mobile technology to deliver information to groups such as farmers and students.

Listers have questioned government's response to innovation. For example, government does not adapt local products from small and medium enterprises but rather invests in expensive products that may not always respond to user needs. The network noted that innovation needs to be anchored in a policy framework. In the 2016 ICT policy review, many of those who gave input laid emphasis on the need for the policy to support innovation.

Below is a sample of discussions on the list on ICT for development.

Innovation

Listers have had various discussions on how to manage the innovative culture in the country, particularly among the youth. Two of these themes include:

Society's response to innovation where listers have called for more investment in youth and innovation to resolve problems such as youth unemployment. Some of the recommendations from the list are advocacy for innovation supporting provisions in policies and laws; a more facilitative environment for investors; support for hubs and other incubators for innovation and advocacy for human rights that support innovation.

Government's response to innovation: In a 2012 case, a KRA employee developed a tax management system for the revenue collector. He had to litigate for his rights after his employer declined to pay for the system. KRA afterwards procured an expensive system from an Indian firm. In another case, the Central Bank of Kenya issued a circular that outlawed bitcoin, producing a chilling effect in the nascent virtual currencies space. Listers called upon the ICT Ministry to play a more coordinative and capacity building role in getting government to embrace ICT.

Fighting corruption

One of the greatest governance challenges facing Kenya is corruption in its many forms. Mismanagement and misappropriation of public resources has slowed down development and denied a decent quality of life to many. Listers have many a times proposed ways in which ICT could help curb corruption.

For instance, some have argued that getting more government services delivered through ICT could speed up processing time and kill one of the incentives for bribery – to speed up processing of services. However, as listers have noted, technology alone cannot rid the country of corruption. Infact, some ICT systems can be used to divert public

resources as has been the case with the Integrated Financial Management System (IFMIS) through which millions have been paid under shadowy circumstances.

Technology and governance

As Internet penetration increases, there have been several mega scandals in Kenya involving technology. One was Anglo leasing where public funds were lost to fictitious companies. Afterwards, there was public finance sector reform and as a result, the government implemented the Integrated Finance Management System (IFMIS), that includes a centralised payment system for public funds. However, as of 2015, some IFMIS related mega scandals have been uncovered. This led to debate on the list on what is the role of technology in eliminating corruption. Many listers were of the view that technology was exposing existing corruption while others were just shocked by the magnitude of public funds lost. Listers wondered whether IT professionals deliberately created loopholes that aided the corruption scandals but in the same vein appreciated that technology helped to identify the points through which loss of public funds occurred.

On another theme, banks were in the limelight for falsified accounting. This was done by management in collusion with IT professionals. One such bank become liquidated after bloggers reported financial mismanagement, leading to panic withdrawals.

Listers called upon professional associations such as IT auditors to crack the whip on errant members like those who created systems with avenues for corruption. The Information Systems Audit and Control Association (ISACA -Kenya) responded by explaining to listers their code of conduct and disciplinary procedures.

Can technology solve terrorist problems in Kenya?

At the height of the terrorism problem in Kenya, many asked whether and how ICTs could solve the challenges of terrorism. One suggestion was to register all citizens in a digital database in order to weed out those traversing the country with fake documents. Registration of biometrics could also help to weed out ghost workers and rogue staffers in key departments such as lands registration. The government is in the process of a biometric registration of persons among other digitalisation projects. While this has received support from the network, there is concern among listers on the security measures in place for the massive data collected during the projects. As noted earlier, there is no data protection framework.

Hacktivism

Hacktivism, or the combination of hacking with political activism, became an important conversation after the Snowden leakages in 2013. Some of the leakages pointed to cases of mega corruption among Kenyan public officials. In a leakage dubbed "the Panama papers" several Kenyans were alleged to have stored questionably obtained funds in Panama, a tax haven. Locally, some corruption scandals broke out because of leaking of documents used in fictitious procurement.

Listers debated the ethics of hacking for public interest in a 2012 thread and opinion was divided. There were also questions as to the value of hacktivism. While on one hand some listers appreciated that hacktivism brings to fore public interest information, others were sceptical because there

have not been successful action after revelation of such information. They therefore felt that hacktivism resulted in "clicktivism" or online petitions. With the benefit of hindsight, listers acknowledge that activism on the digital space can be effective.

Women in tech

The listserv has had threads or discussions within threads supporting women in ICT and initiatives to increase the number of women in the sector. In 2015, Safaricom undertook a project to migrate the mobile money service Mpesa from Germany to Kenya. This was done to make the system more efficient since most of the transactions are done locally. The work was undertaken by a team of 320 persons headed by a woman, Ms. Emma Gichonge. The list celebrated her leadership and hoped that it would inspire more girls to take up careers in technology.

"The antidote to a bad law is not a good law, but the repeal of the bad law."

Dennis Kioko

ICT and agriculture

Kenya is an agricultural economy. Listers have therefore explored how ICT can help improve agriculture. The discussions featured apps developed to automate processes in farming such as record keeping, marketing and dissemination of information on weather, fertilizers, farm implements and so on. In 2012 when there was an influx of counterfeit eggs to sustain demand, there was a discussion on the role of ICT in certifying the origin of farm produce and in preventing trade in harmful produce.

ICT and roads

In May 2012 KICTANet held a moderated discussion with one of Kenya's road agencies, the Kenya National Highways Authority (KENHA), to exchange ideas on how ICT can be used to improve road safety. Listers appreciated the presence and participation of Engineer Meshack Kidenda, the then Director General KENHA, who interacted with the network and responded to the questions raised by listers.

Listers raised issues related to road safety, the high number of accidents and the state of roads. Some of discussion points included:

- Kenyan roads standards were prepared to international standards. The road design manuals were developed according to international standards and customized to suit the local conditions. KeNHA had put in place proper quality measures to ensure quality and that works done meet the proper specifications. Road safety was therefore primarily not because of the infrastructure.
- Roads were categorized into Class A, B, C, D, E, urban roads, park roads and unclassified roads. Kenya National Highways Authority (KeNHA) managed Class A (International trunk roads), B (national trunk roads) and

C. Class D, E and rural unclassified roads were under Kenya Rural Roads Authority (KeRRA) urban roads under KURA and park roads under KWS. The standard of the road depended on its categorisation. Listers were of the view that ICT could be used to map the roads so that the public could be aware of the agency under which management of every road was.

- On the awarding of contracts, the government awards contracts in accordance to the Public Procurement and Disposal Act. 2005 and Regulations 2006 which include bidding where the lowest bidder is awarded the contract.
- Listers gave various ideas on how ICT can improve safety

on Kenyan roads. It was suggested that technology can help Kenya correct its values since most accidents on the roads are due to human factors. For instance, Kenya could encourage car manufacturers to input safety features such as built in cameras in cars. Other suggestions were use of mobile technology to monitor roads and inform users of their conditions so that they could plan accordingly. There were also thoughts on integration of intelligent transport systems to improve safety. KeNHA intimated that the government was considering employing the use of traffic lights and signage especially on Thika Road to enhance Road Safety.

Cashless payment for public transport sector

The government embarked on a bid to introduce a cashless system for payment of transport for the public sector. Regulations by the transport ministry required the use of an electronic payment system starting July 1, 2014. Equity Bank in collaboration with Google partnered to give the Beba Pay plastic card. Safaricom leveraged on its existing products to provide mobile payment services for public transport.

Listers welcomed the idea and discussed the challenges

brought about by cash payments including low tax compliance and money laundering. However the initiative did not pick up and public transport is still using cash payments. Some listers opined that this was because the cashless system was not a holistic solution that considered all other factors including the private service provision and informality of the sector. They suggested a regulatory framework to address data protection for public transport users, safety and consumer protection among other issues.

BPO Industry

One of the plans by government to leverage on ICT for economic growth in the early years of KICTANet was Business Process Outsourcing (BPO). BPO was seen as a key means of making Kenya a global ICT hub akin to India. BPO was therefore included in Vision 2030, Kenya's economic blueprint.

Listers gave input to BPO initiatives from 2007 and supported the ICT Board's strategy to market outsourcing both locally and internationally. In March 2008 the International Development Research Centre (IDRC) funded a research

on the BPO sub-sector in developed and developing countries. The objective was to provide empirical evidence and a deeper understanding of the factors to better inform Kenya's policy decision and investment choices in

It makes sense to keep traffic local. It saves a lot of cash. It also improves the speed of transactions because of lower latency. Over and above this, we can't claim to be a global hub of innovation if we can't keep servers running.

Lucy Kimani

the BPO industry.

However, BPO did not pick up as expected. In July 2008, member states of the East African Community (EAC) resolved to develop a harmonized Information Communication Technology (ICT) policy to promote effective business investment opportunities. Listers identified the main problem facing the industry as the lack of business which was to be addressed through marketing and building of capacity. Main recommendations to resolve this included the deployment of fibre optics to increase bandwidth and data security policy. Listers had different views on whether it was the responsibility of the private sector or government to market the BPO sector. The reasons for the delayed efforts in

> **"**
>
> *"This biggest concern for this industry is the lack of business not the lack of talent or the high costs. It's the cost of overcoming perceptions, reaching out to new prospects, convincing them that Kenya is a worthwhile outsourcing destination. Marketing! Spreading the word." – Nicholas A. Nesbit.*

BPO marketing were associated with absence of anticipated funding by the World Bank Group.

Lack of data protection was blamed for keeping away potential overseas investors who may have desired to outsource their data processing to Kenyan companies. The companies had no assurance of the security of their data since the legal framework was unclear. In June 2009, the Kenya Bureau of Standards (KEBS) adopted the ISO standards on IT security. As Kenya struggled to catch up with the other industry players, Egypt emerged as the 6th most attractive off shoring destination according to the 2009 AT Kearney Global Services Location Index. The Index analyses and ranks countries for locating outsourcing activities including IT services, contact centres and back office support. This put pressure for Kenya's BPO industry to perform.

In 2010 the Kenyan BPO industry faced major challenges with over 40 start-ups in the BPO industry being shut down and a potential loss of 5000 direct jobs. Listers gradually lost interest in the topic.

e-Government

In 2004, the government set up an e-government directorate to coordinate implementation of its various digital initiatives. In the early stages, the directorate worked on giving the government a digital presence through capacity building, installation of computer systems and websites for all departments. The most celebrated project undertaken under the directorate was the Open Data Portal which aggregated publicly available data into a digital portal. This includes data such as population, demographics and distribution of public resources such as schools and hospitals.

Every so often there is a complaint on the list about how government departments relate with technology. For instance, in September 2013 it was noted with great concern that the

Kenya National Disaster Operations Centre did not have a website where the public could get useful information on disaster responses. Users who called the emergency number were redirected to the nearest emergency centre which would be better placed to handle the emergency.

Listers have engaged with the directorate by giving ideas on how e-government services could be improved for a better user experience. For example, listers have suggested more use of social media to disseminate information and to resolve citizen's complaints. Users have also recommended training of government staffers on security to mitigate cyber-attacks on government systems.

e-Citizen

e-Citizen is a portal providing government services such as passport processing, drivers licences, visa and registration of businesses. The e-Citizen portal first went live in October 2014. In May 2015, the government made e-Citizen the mandatory gateway for passport applications. E-Visa applications were also offered exclusively on the portal from September 2015.

Listers commended the government for the initiative as it is convenient and has greatly reduced processing time for the essential services. Some of the unique issues to Kenya that listers noted were that:

- Since it was mandatory to access government services through e-Citizen, the system required those who lacked digital literacy to access the

services through agents. Cyber cafes readily offered assistance where needed at a fee.

- Listers complained about the extra fees for digital payments as an additional amount labelled "convenience fee". This was from the reasoning that since digital payments save the government time and resources, why should the citizen still pay for the convenience? Further, the question of who exactly owns the e-citizen platform arose as there had been unconfirmed information that it was privately owned.
- Customer care: Listers suggested that there should be a dedicated customer care line to support users of the system.

In September 2015 President Uhuru Kenyatta won an ITU award for Kenya's use of ICT in service delivery.

iTax

iTax is Kenya Revenue Authority's (KRA) online tax administration system. Listers have over the years commended KRA for its effort towards digital service delivery. This is because the Authority was among the first agency to facilitate services remotely.

KRA has been migrating taxpayers to the iTax system. In 2014 the Authority made it mandatory for everyone

to file their returns online. Listers noted that the system was too cumbersome for an ordinary user as it required one to download an excel sheet and run a macro then upload it to the site. KRA then allowed manual returns. In 2016, the returns had to be filed online and many Kenyans overcame the challenge by visiting cybercafés for assistance in filing their returns at a fee.

Digital Villages/Pasha Centres

In 2011, the government through the ICT Board (now ICT Authority) launched the Pasha Centres or digital villages. Under the programme, cybercafé like business centres would be set up in underserved areas of the country to take ICT services closer to the people. The Authority ran the project through entrepreneurs

who are given affordable loans to set up the centres.

Some members of the network led by Dr. Warigia Bowman visited select pasha centres observe implementation of the project and the services on offer. Among the services were tax documentation for the

KRA website, downloading and uploading of tender documents, querying for national examination results in addition to the usual email and browsing services offered by cybercafés.

In 2012 the Authority made a second round of selection of partners to run the centres. Listers were of the view that the project did not achieve its intended mission as the centres were being set up close to urban areas thereby defeating the mission of the Digital Villages Revolving Fund. The fund was intended to

take online services to marginalised areas.

With devolution, County Governments are developing their own initiatives to take Internet to their people. Others, in partnership with the national government agencies are have started free wifi projects in public spaces. As listers noted in the ICT policy review, there is need to align the policy with the new constitutional order. This would include acknowledging the role of county governments in bridging the digital divide.

Postal Services

Kenya is a member of the Universal Postal Union and it guarantees a universal postal service at all times. Even with the disruption brought about by ICT, the service has been very useful in communicating with far flung areas of Kenya. However, it has suffered because of its diminishing relevance with advancements in ICT. After liberalisation of the ICT sector, private courier services have thrived by providing

more flexible and convenient mail and parcel delivery services.

Listers have had several discussions about reviving and sustaining the large postal corporation. Many agree that e-commerce presents a lifeline for the corporation and they are encouraged with policy interventions such as the development of a national addressing system.

Summary

Liberalisation of the ICT sector has already brought development in Kenya. Unfortunately, ICT development is concentrated at urban areas and this has contributed to the digital divide. From the discussions on KICTANet, it is not easy to gauge the success of various initiatives that aim to bridge the digital divide by the government. The sentiments from listers point to a need for better planning and design

of monitoring and evaluation mechanisms in future projects.

It is also apparent that there is need for more proactive information sharing on government projects with stakeholders such as KICTANet. From the experience of visiting the digital villages, listers were able to discern the merits and shortcomings of the project first-hand.

SOCIO-CULTURALBASKET

The Internet has influenced the way people communicate online. This has seen new patterns of social communication as well as many other forms of creative ways of people expressing themselves. Issues on the cultural basket include digital literacy, content policy and local content and its production.
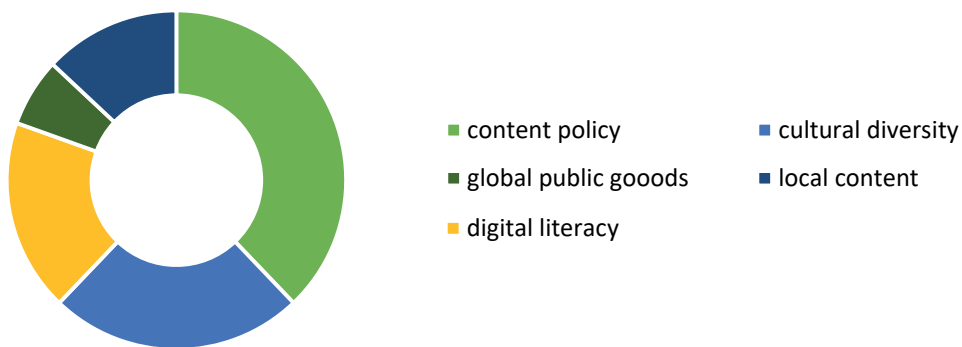
Cultural Issues

Figure 7: Distribution of socio- cultural issues

Content policy

While many Kenyans ascribe to moral values espoused by religions such as Christianity and Islam, the ICT sector has as far as possible desisted from defining a moral code for content. There is however support for classification of content to protect children and other vulnerable groups. KICTANet supported the development of a programming code which would ensure that broadcasts during threshold hours of 5.00am to 10.00pm were suitable for family audiences.

Defining morality

In April 2016 the Kenya Film and Classification Board issued a one-week notice to Google to take down a music video that depicted homosexual behaviour. This brought to the list the age-old question of who defines what is moral and what is not. Other issues raised were on the roles of both government and parents in shaping the moral values of children. Listers in addition debated the arduous task of policing online content where the issue of jurisdiction where content is hosted in another country was explored.

While listers could not find consensus on the question of regulation of morality, from other debates, the network generally agrees on classification of content. To this end, there should be content targeting families and African values that should be aired during hours when families are assumed to be tuning to broadcasts.

Programming code

Before liberalisation of the media, or "the FM revolution" there was never debate on the content aired. With the massive expansion of both radio and TV stations, different media houses employ various models to attract audience and advertisers. Two issues that have been singled out for need for broadcast content regulation are:

- Western TV programmes that are at times considered to propagate cultural values considered against African values such as oversexualisation of the society, and the deterioration of African communal life. Since Western influence is seen more among the younger generation, many listers believe that content meant for children should be controlled.
- Sensational talk on both radio and TV especially on the issues related to sex and politics. Listers, like many Kenyans find sexual talk as inappropriate for families and harmful to children, while sensational political programmes have been blamed for polarising Kenyans along tribal lines.

There have been several debates on the list on how broadcast content should be regulated to increase content that promotes African values as well as family values. The regulator is a proponent of regulation through a programming code while media owners prefer self-regulation where the industry develops mechanisms for airing programmes that meet the standards of African and family values during times when most people tune to broadcasts. Listers welcomed the publication of the Programming Code by the regulator in December 2015, where broadcasters were given a six-month grace period to comply.

> *We are trying to stimulate the market for content creation. Right now, you pay the same if you want to access local content (although the cost for the provider is much lower) like if you access International content.*
>
> *Kai U. Wulff*

Local content

The issue of local content has dominated the list over a long period. This is because listers realise the Internet would be less expensive to access if the content being sought would be hosted locally. Some of the scope of the discussion include:

- Definition of local content: Some opine that location of hosting including even the DNS service is the first test of whether content is local. Other factors include the localised issues that resonate with locals and local production of the content as far as possible. Listers therefore called out the Regulator in 2012 when it was discovered that its website is hosted abroad. Another discussion on local hosting was when the Open Data portal was launched and listers questioned why it was hosted outside the country.
- Alexa Ranking Service 2015 report showed that more than 300 of the top 500 most visited websites in Kenya are hosted internationally. Listers wondered whether this was a question of lack of availability of local content online or an issue of how that content was being promoted. Poor quality of local content was faulted while zero rated Internet sites such as Facebook and Wikipedia were also blamed as they create an unfair playing field. Listers urged for more marketing by content producers as there was some good quality material online that did not receive as much attention as foreign/foreign hosted content.
- The low uptake of .ke domain names has also been discussed. In one thread, some listers thought that Kenya

should attempt to force every organisation to have a .ke name as was the case in Tanzania. However, it was agreed that the domain administrator, KENIC needed to market the value proposition of having a .ke domain name to more people so as to have more persons joining the space.

- In a 2013 discussion on the value of the Kenya Internet Exchange Point (KIXP), it was noted that the point is only as useful as the traffic it carried. If there is not enough traffic being exchanged through the point, then there was little value in the investment.

- With cloud computing, there were more debates on local content versus local hosting. In April 2015, listers celebrated the launch of Angani, the first local cloud service

provider. In October the same year, the company faced serious problems due to disagreements between the founders and investors. Listers called for urgent negotiations to end the stalemate as they counted the company as playing a huge role in keeping local traffic within the country.

- Listers have always urged the government to digitise content that the public is interested in. Some have argued that content such as election results and historical documents could draw traffic to local sites. The government in 2011 made public a lot of data in the open data portal. In 2016, the e-government directorate announced that it was working on a historical photo collection project with pictures dating back to 1936.

Post-election violence and its impact on the ICT community

The reflection on the use of ICTs and their contribution to post-election violence in Kenya in 2007/08 was a sobering one. While listers agreed that the issues that led to the violence were deeper than use of ICTs to spread hate, it was clear that some regulation would be effected.

During the post-election violence period, listers noted that the same technologies could be used to bring Kenyans together for peace.

They also reflected on the use of vernacular FM stations to spread hate messages against other tribes in coded messages. This issue later became core in the post-election violence cases at the International Criminal Court (ICC)

"'In a number of countries and situations, communication technologies have been used to advocate for issues including gender equality among others. Perhaps we could use the same to bring Kenyans together. To advocate for peace, to sell Kenya to Kenyans and to remind ourselves that our country has had one of the highest and best profiles in Africa and we cannot afford to throw that away.'

Alice Munyua

where broadcaster Joshua arap Sang of Kass FM vernacular station was indicted for charges against humanity

Media manipulation

In 2016, there was a debate on the role of new media in shaping political discourse. This was prompted by an article "Are the American Internet Giants Politically Agnostic?" Listers raised the question of how content platforms such as Google and Facebook may not own all the content supporting a

particular side in a political contest, but the algorithms may be tweaked to favour one side against the other.

The issue was further explored during the 2016 Kenya IGF where participants noted the need to watch the relationship

between content platforms and the political establishment.

Peculiar Kenyan habits

"Kenyans have peculiar calling habits" was a statement made by the then Safaricom's Chief Executive Officer, Michael Joseph in 2009. He was referring to a the fact that Kenyans complained of high calling rates yet every Friday evening the Safaricom network would be congested as Kenyans made a lot of calls.

This statement earned him nationwide criticism as it was seen as a mockery of the Kenyan culture.

Education and training

Before colonialization, education in Kenya was offered mainly through group activities and apprenticeship. Colonialism brought with it formal education and after independence, formal education gradually replaced all other forms of education as the means to preparing children for roles in the development of society.

ICTs and the Internet provide opportunities for both formal and informal education in a wide range of topics.

There have been several discussions on ICT, Internet and education. Some of the topics covered include:

- Liberalisation of education: listers have had conversations on whether to liberalise education since the education provided does not always meet market demands anyway. In one debate, the success of informal schools, under a project known as bridge schools was discussed. The schools provide education to children in informal settlements.
- Innovations and initiatives such as the 2008 clip camera that could be used to make educational clips for integration to e-learning courses. Listers discussed online resources that could help children learn more easily. Local examples of repositories that have educational clips and activities for children. It was noted that these resources can only be useful for those with access to the Internet.
- In 2011, some international donors attempted to implement the one laptop per child idea in Kenya. Some informal and hardship area schools got tablets for children. Some challenges faced by the project included lack of electricity and digital content. These challenges had mostly been resolved by 2015 when the government embarked on the digital literacy programme discussed below.
- The notion of self-education through the Internet was discussed during the debate on the ICT Practitioners Bill, 2016. The Bill compels one to have graduated with a degree in an ICT related field while most listers opined that there is a significant number of ICT experts who have excelled without formal education.
- Development of the digital learning curriculum by

"I believe the innuendo going on the issue of the laptops is a blessing in disguise and we need to take advantage of this window of opportunity to make sure what is implemented will be the basis of transformative education as we know it."

– Robert Yawe.

the Kenya Institute of Curriculum Development (KICD) where listers not only gave input to the process on the list but also attended face to face meetings on the same.

- The influence of ICTs on education: In some instances, listers spoke of the transformation brought about by ICTs while in others, they blamed ICTs for declining standards in education. For instance, SMS and Internet have been blamed for declining grammar standards in newspapers and poor performance in languages at national examinations. At the same time, the same technologies have been identified as important in preserving local languages.

- Listers have had debates questioning the credibility of online degrees. There are those who while supporting online education would prefer online education platforms to be linked to physical universities. But there are others who see the Internet as liberalising education.

- Regular Engineering and Telecommunication Engineering Debate: Following efforts by the Institution of Electrical and Electronics Engineers (IEEE), Telecommunication

Engineering was recognized as a distinct education discipline in USA. This allowed for telecommunications programs to be designed and evaluated on their own criteria other than relying on electrical engineering. The events relating to telecommunications training in Kenya have largely followed those in the USA. Until 1994, Bell Systems was the telecommunication training school in the US. In Kenya the Kenya School of Telecommunication Training was the only school offering the course. The school entered into a downward spiral until 2008 when it was converted by the government into a university, now the Multi Media University College of Kenya. However, none of these degree programs have been recognized by the Engineers Board of Kenya largely because the board was using Electrical engineering as a bench mark to accredit these new programs. The effect of this is that, graduating engineers are required to take some courses in electrical engineering so as to be registered as graduate Engineers.

The digital literacy programme

The Jubilee government came into power in 2013 with a promise to provide every child joining primary school with a laptop. During the campaign period, listers interrogated the feasibility of the project. Some of the potential challenges identified included ensuring that the project did not deepen the digital divide between children in urban and those in underserved areas. Listers also questioned whether there was a digital curriculum and how open it was to content developers. There was also the question of building capacity among teachers who would deliver the content and listers expressed a desire to see the project generate jobs and knowledge through local assembly of the hardware.

Implementation of this project was faced with the first hurdle when the procurement process was questioned, leading to
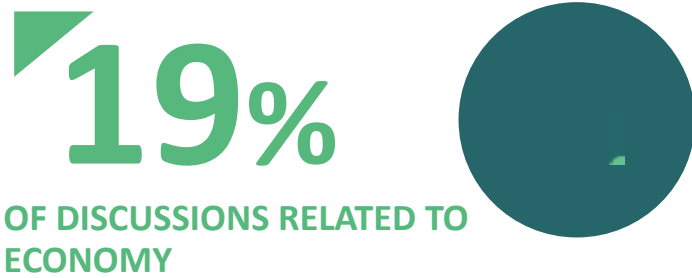
its suspension. It was revived in 2015 where eight local universities were among 25 local institutions that bid for supply and installation of the hardware in the first phase.

The project was eventually launched in 2016 with one of the mobile network operators committing to provide free Internet to schools. The Kenya Institute of Curriculum Development (KICD) has also liberalised the digital curriculum and listers appreciate that more manufacturers are producing children friendly hardware for the Kenyan market.

I have great faith in the DLP project. I hope that by the time DLP children complete KCPE, many will be curious about technology and that those who join youth polytechnics will be able to assemble computers, or whatever we shall be calling them in those days.

Grace Bomu

KEY INSIGHTS

1390
Topical Issues

2013
Recorded the highest no. of topics

Longest Thread
225
Bitange for President? Driving Knowledge

19%
OF DISCUSSIONS RELATED TO ECONOMY

CYBERSECURITY
CONSTITUTED 61% OF THE SECURITY RELATED TOPICS

DID YOU KNOW

83% of the legal issues focused on Intellectual Property
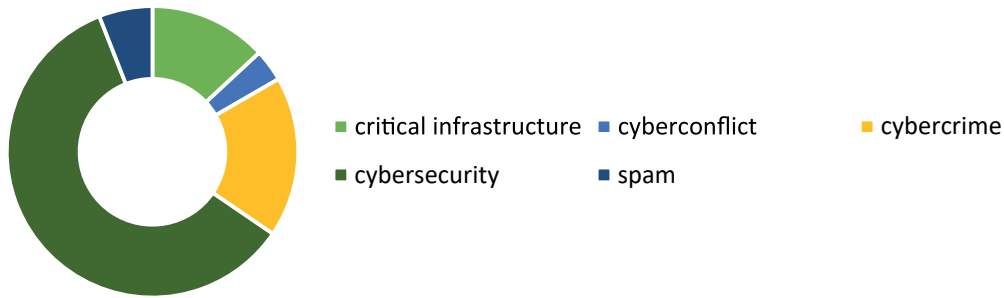
SECURITY BASKET
Security Issues

Figure 8: Distribution of issues in the security basket

The internet has grown in leaps and bounds and continues to gain many users. And with the many users, challenges such as cybercrime, spam, and malicious destruction or interference with critical internet infrastructure is on the increase.

Critical infrastructure

Different aspects of critical infrastructure have been discussed over the years. For instance, in the earlier years, listers raised concern about optical fibre cuts and vandalism of cable. The issue has also been discussed from the point of supply of electricity which in Kenya is done by Kenya Power Company. On several occasions, listers have discussed the inefficiencies of the power supplier as well as the need diversify the functions of the company through broadband over cable. Other aspects of the discussion were on where open government data and other government websites are hosted and how secure the hosting was.

Cyberconflict

This issue has been approached from internationalisation of the Internet as well as the approaches of different countries to issues such as cybersecurity, taxation and jurisdiction. There have also been several threads on geopolitics of the Internet with some listers using the term cyberwarfare to describe potential consequences of cyberconflict.

Cybercrime

Kenya has suffered several cyber-attacks, the most common being government websites. Other attacks include a hijack of Google DNS as well as the ccTLD administrator. Discussions about these attacks as cybercrime are intertwined with cybersecurity. Cybercrime has also been discussed from the perspective of violence against women and mobile money scams.

Listers participated in analysing the policy in 2014. Some also served in the bodies that were set up to implement the policy such as the KE-CERT. They raised questions about the efficacy of the public key infrastructure (PKI) which though set up at great expense but was facing difficulty as the certification authority was the regulator. In addition, there have been debates about encryption in cybersecurity- where some were of the view that encryption could inhibit efforts of law enforcement to bring to justice criminals. Many however were of the opinion that encryption was a privacy enhancing tool. Other aspects where cybersecurity has been discussed vis a vis human rights include a thread on mandatory SIM registration in 2015. The regulator required all SIM cards in use in the country to be registered and this came into effect with the publication of SIM-Card Regulations in 2015.

From the discussions on cybercrime, especially on the various legislative proposals, one can infer a great concern for human rights. Many listers express a desire to have human rights respecting cybercrime regulations. Another concern with cybercrime is a balance between creation of offences and innovation. Discussions reflect a futuristic view of innovation and therefore a concern among listers to have offences that target criminals and not innovators.

Spam

Spam has been discussed from different aspects. One was where listers viewed opt-out unwanted promotional messages from MNOs as spamming their phones. Another was when local actors were brainstorming on practical ways of controlling spam.

The 2010 Consumer Protection Regulations included a provision requiring that marketing messages be based on the opt-in principle where the consumer had to agree to the message subscription service. This has been implemented with SMS. In addition, the regulator published guidelines on bulk political messaging prior to the 2013 elections. The regulations prohibit unsolicited messages with a sanction being suspension of interoperability between the content service provider that carries the message and the mobile network operator.

ICT ACTORS AND PROCESSES

The following diagram illustrates the distribution of the 'other basket' with such issues as institutions and forums which are elaborated on.

Figure 2: Other issues

The ICT sector has had many stakeholders playing their various roles in its development. In the public sector, the main players include:

- Ministry of Information and Communications (MoICT)
- Communications Authority of Kenya (CA)
- ICT Authority of Kenya (ICTA)
- National Communications Secretariat (NCS)
- Media Council of Kenya (MCK)
- Kenya Revenue Authority (KRA)
- National Cohesion Integration Commission (NCIC)
- Kenya Film Classifications Board (KFCB)
- Konza Technopolis Development Authority (KoTDA)
- Independent Electoral and Boundaries Commission (IEBC)
- Parliament of Kenya
- East African Communications Organisation (EAC)
- African Union Commission (AUC)

Other bodies that are either multistakeholder or non-state actors that have played key roles in KICTANet discussions include:

- The Kenya Network Information Centre (KENIC);
- Internet Corporation for Assigned Names and Numbers (ICANN) Nairobi Office;
- Technology Association of Kenya (TESPOK);
- Bloggers Association of Kenya (BAKE);
- Article 19 Eastern Africa;
- Centre for Intellectual Property and Information Technology Law (CIPIT);
- Kenya Human Rights Commission (KHRC);
- UNESCO Regional Communications Office for Eastern Africa;
- Consumer Federation of Kenya (COFEK);
- Domain-Name Registrar Association of Kenya (DRAKE)
- Information Technology Security and Assurance (ISACA) Kenya Chapter;
- Collaboration on International ICT Policy in East and Southern Africa (CIPESA);
- Association for Progressive Communications(APC);
- HIVOS East Africa.

There have also been companies such as mobile network operators and Internet service providers that have provided useful insights to debates. They include:

- Safaricom Limited
- Airtel Kenya
- Liquid Telecom
- Nation Media Group
- Royal Media Services
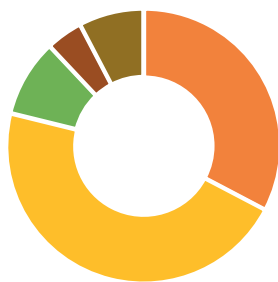- Facebook Africa Policy Office
- Google Kenya Office

This following section highlights some of the policy aspects that have been influenced by the institutions.

Overlapping mandates

ICT was carved from the ministry of transport and communications. One of the first uses of ICT in government was in the processing of the payroll for government employees. This was done by a supercomputer hosted by the Government

Other Discussions

- forums - institutions - celebrating excellence - demise - internal

Information Technology Services (GITS) at Treasury.

After liberalization of the ICT Sector, the executive created or retained several bodies under the ICT docket. These included the National Communications Secretariat (NCS), e-Government Secretariat and the ICT Board of Kenya in addition to GITS. These bodies reported to different heads but their mandates overlapped.

Over the years, KICTANet questioned the efficiency of having so many bodies for one sector. During a 2014 state exercise of rationalisation of state corporations, the ICT Board, e-Government Directorate and GITs were merged to form the ICT Authority.

Kenya Network Information Centre (KENIC)

KENIC was formed in 2003as Kenyans sought redelegation of the .ke domain name to a corporate entity. Before then, the domain name had been delegated to two individuals who administered it as volunteers. As more Kenyans got into Internet governance, it was agreed that a multistakeholder model would be best for this national resource.

In the early years, there were many debates about the management as well as the mandate of KENIC. Afterwards, discussions shifted to dispute resolution and consumer complaint procedures. Highlights of the discussions below:

- Kenya was lauded for adopting a multistakeholder model in the administration of the country code Top Level Domain (ccTLD). While at times discussions exhibit the tension between different stakeholder groups, other aspects of multistakeholderism such as participation by all, consensus building and representation of different points of view were always evident. Before 2011, KENIC AGMs were public and open to participation by

all stakeholders.
- Listers were concerned when KENIC experienced high staff turnover and management challenges in 2011 and 2012. However, the Board managed to contain the challenges and at present, the organisation is operating well.
- During the 2008 discussions on the amendments to the Kenya Information and Communication Act, concerns were raised over proposed amendments which required KENIC to obtain a license from the regulator. This was viewed as weakening KENIC. Listers also questioned the potential conflict of interest if the regulator still sat on the Board of KENIC. The amendment passed and KENIC was registered as a special purpose vehicle that would apply for registration from the Regulator.
- Most of the discussion on the list are on when the .ke service experiences a downtime or there is latency. Listers have called upon the management to be proactive in informing the public when there is a downtime.
- There was also a complaint when a domain considered

politically sensitive was pulled down. isuhuruinkenya. co.ke, was a parody website that tracked President Uhuru Kenyatta's absence from the country as he took

numerous diplomatic tours. It made fun of him as "the visiting President of Kenya".

Kenya Film Classification Board

The Kenya Film Classification Board (KFCB) is a parastatal mandated to classify films. It was previously known as the Film Censorship Board. Accordingly, the name change indicated a policy shift from censorship to classification of films. Under the broadcast content policy and the free to air programming code, the Board is also mandated to classify content to be aired on television.

In 2015, the Board appointed a new CEO who has been vocal in promoting moral standards according to his personal beliefs. This has caused tensions within the sector. Some of the questions that have emerged about the role of the KFCB include:

- Tensions about content control: while listers agree that there is content that is obviously harmful to children, there is no consensus on how to regulate content on issues such as kissing and sexuality.
- Listers have also discussed the role of the Board in the Internet age. The Board argues that it is a bastion for child online protection while some listers are of the view that KFCB could do more to promote local content as opposed to making it more difficult for the local film industry to thrive. While the Board may be able to regulate films for free to air broadcasts, it may not have the

capacity to regulate online content. KFCB developed a draft Bill to review its parent law, the Films and Stage Plays Act that was negatively received as it among others proposed intermediary liability for content passing through ISPs. The draft Bill was withdrawn to allow for development of a film policy.

- Regulation of Over the Top content (OTTs): over the top services (OTTs) provide content such as films over the Internet without the need for subscription to a broadcaster or carrier. An example is Youtube which provides free videos uploaded by users, and Netflix that is a subscription based service for TV series. There was a long discussion in 2016 on the list after KFCB attempted to regulate Netflix in Kenya. The Board wanted to subject Netflix content to its classification while listers argued that Netflix, being an OTT was not subject to KFCB jurisdiction. KFCB and Netflix Another instance was when the Board wrote to Google to take down a Youtube video depicting gay couples. Google eventually flagged the video as "potentially racy." On both issues, listers had diverse views but a golden thread was for KFCB to adopt an approach that best promoted Kenya's struggling film industry.

ICT Board/ ICT Authority

After enactment of the first ICT Act in 1998, the ICT Board was established with the mandate of ICT policy implementation. During a reform of parastatals program in 2013, the ICT Board was merged with the e-government directorate and GITS to become the ICT Authority, with the same mandate of policy implementation. The Authority is tasked with streamlining the management of all Government of Kenya ICT functions.

There have been a number of threads interrogating different issues in this parastatal. Some focused on the new mandate of the authority, while one in 2016 debated a statement issued by the authority to the effect that the government would register and regulate ICT practitioners. Like other public bodies, the Authority has also been subject of litigation. Listers discussed the different court cases involving the authority with the one on appointment of board members attracting most interest.

Konza City

Konza city was conceived as a world class technology city where Kenya could provide Business Process Outsourcing (BPO) and other IT enabled services. It was among the first Vision 2030 projects and its development was planned in phases starting in 2008.

Implementation of the plan has faced many challenges. For starters, the plan started behind schedule with the ground-breaking ceremony only taking place in 2012. By

then, some listers questioned the concept of smart cities, with some observing that even if big tech companies came to Kenya, there would be little transfer of technology for citizens. There were also court cases in 2012, and in one, the former Permanent Secretary Bitange Ndemo was accused of flouting procurement rules when purchasing the Konza land. The charges were later dropped in 2016. Listers have taken a wait and see attitude as development of the city slowly picks up.

Postal Corporation of Kenya

Listers have on several threads offered suggestions on how to revive the Postal Corporation of Kenya. Many were concerned that the corporation was unable to keep up with the changing times due to electronic communication which is faster and more convenient.

One of the top threads on the list was "Yawe for Post Master General", where listers acknowledged the important role

played by a universal postal service and suggested change of leadership to revive the institution. Some of the ideas explored by listers include deployment of virtual mailboxes, diversification of Post offices to include other businesses-related to mail delivery, and implementation of the National Addressing System to which Posta could leverage in supporting e-commerce.

Events

Kenya Internet Governance Forum (KIGF)

KICTANet has been organising the Kenya IGF since 2008. The annual event brings together stakeholders from the sector to a face to face discussion on emerging issues of interest to listers. It has become practice for the meeting to be preceded by online discussions on selection of key topics, and some initial thoughts, which then feed into the face to face meeting.

Kenya IGF has been a good forum for listers to not only meet and share experiences on policy issues facing the country, but also a venue for government to articulate its policy positions to stakeholders. The national IGF has positioned debates of importance as well as introduced new topics of interest, helping articulate issues of concern like human rights online. The deliberations from the IGF are presented in higher meetings such as the East Africa, Africa and global IGFs.

The themes or main issues discussed at the Kenya IGF include:

2008	Opening the Internet governance debate in Kenya: thinking globally; acting locally
2009	Addressing legal, infrastructure, access, content and security issues in local Internet governance.
2010	Advancing the Internet governance debate in Kenya: strengthening East Africa's critical internet resources.
2011	Reflecting on innovations: cloud computing, mobile Internet, and broadband for development.
2012	Reflecting on local and global Internet governance issues including ITRs and new gTLDs.
2013	Vision 2030: Harnessing the power of the Internet
2014	Connecting counties for enhanced multistakeholder Internet governance
2015	Evolution of Internet governance: empowering sustainable development
2016	Enabling inclusive and sustainable growth

ICANN Nairobi

In 2010, Kenya hosted the 37th meeting of the Internet Corporation for Assigned Names and Numbers (ICANN 37). This meeting was successfully held in Nairobi despite safety concerns due to Al-Shabaab terror threats. The government was lauded on the list for allaying fears and assuring security of the visitors to Nairobi. Listers found it an honour for the meeting to be hosted in the city centre and many testified that they had for the first time been able to attend a face

to face ICANN meeting. It was during this meeting that the Board approved the controversial .xxx domain and this was also discussed on the list.

IGF Nairobi

Kenya hosted the global IGF in 2011 and many listers were able to not only attend but also host workshops on different topics. Listers shared updates from the various streams they were following and it was acknowledged that the meeting provided an opportunity to any person with an interest in a topic to discuss it in detail.

Freedom Online Coalition

The country hosted the 2nd Freedom Online Coalition meeting in Nairobi in 2012. The first one took place at the Hague in 2011. Members of the network participated in the meeting where the issue of intermediary liability was a key highlight. Listers have continued to keep track of the meetings as they believe that the recommendations from this forum are an important guide to how Kenya promotes freedom online.

WCIT12

In December 2012, the International Telecommunications Union (ITU) convened the World Conference on International Telecommunications (WCIT) in Dubai. The conference was to consider a revision to the , which functions as a global treaty on how countries facilitate communications among themselves. KICTANet organized several online and face to face stakeholder engagement forums to develop Kenya's position on the proposed revisions. Among the major issues was that the regulations could redefine interconnection frameworks either to the benefit or detriment of developing countries like Kenya. The discussions were contentious and eventually, Kenya did not sign the treaty in 2012.

East Africa IGF

Kenya hosted the East Africa IGF in 2008, 2009 and 2012 and KICTANet convened the meetings. In the 2009 forum, there was a session with East African parliamentarians that focused on areas of concern that required legal frameworks. These included cyber security, universal access to broadband, critical Internet resources and making East Africa an e-commerce center.

In the 2012 EAIGF, participants discussed at length the proposals contained in the ITRs for WCIT 2012.

Africa IGF 2012

The second edition of the Africa IGF in 2012 was held in Nairobi. Listers were invited to the event where some of the

discussion topics included: the Internet Governance princi- ple of enhanced cooperation; multi-stakeholder cooperation in the African IGF; infrastructure development, knowledge management and African content; spam, hacking and cyber- crime; and lessons learned, experience sharing from regional and national IGFs.

KENIC Annual General Meetings (AGMs)

When ICANN started delegating country code top level domains, various models were adopted in different countries. Kenya took a multistakeholder approach where government, private sector, civil society and academia were represented in the board of the ccTLD administrator. Kenya was lauded for this model and this was discussed on the list severally. At inception, the Kenya Network Information Centre (KENIC) held public AGMs that were also discussed on the list. For example, the 7th and 9th AGM were posted and discussed on the list.

After the 2009 change of regulatory framework, the business of the ccTLD administrator became less public. However, list- ers still discuss KENIC whenever there are issues of interest.

Connected Kenya summits

The Connected Kenya summit is an annual meeting hosted by the ICT Authority. The summit "aims at establishing a platform for collaboration, capacity building and knowledge sharing between government and the ICT sector with a view of linking and hastening implementation of government IT projects to world-class standards." Different themes are addressed every year. Listers have debated the design of the summit which is a meeting of government and private sector. This exclusion of other sectors may be blamed for the slow pace in addressing issues in the ICT sector such as the governance issues with the national finance management system (IFMIS), and slow digitisation of important agencies for instance the police. Some listers therefore have opined that the summits have little value to national development.

CONCLUSION

The Kenya ICT Action Network (KICTANet) started as a lose network of individuals and institutions interested in ICT policy making in 2005. During that time, the network gave input to the development of Kenya's ICT Policy of 2006. Once the policy was passed, the listserv remained a space for thoughts on various legal and policy changes in Kenya and beyond. KICTANet has now matured into a public participation organisation and is often called upon to contribute views to national, regional and global documents.

If one were to view the network through the lenses of the discussions over the ten-year period, some of striking things include:

- The value of the network lies in having different stakeholders who hold different points of view. For instance, a lister could raise a complaint as a user, to which other listers will respond and sometimes even add more complaints. The moment a service provider or regulator gives a position on the complaint, one will normally observe a shift from merely complaining to offering solutions to not only the particular complaint but to the issue in general.

- There is overlap of discussion of issues that are always topical. For example, the issue of net neutrality has mutated over the years from conversations on technology neutrality in the early years to preferential treatment of some traffic, to walled gardens in the later years. While listers did not reach consensus on the issue, the discussions provide a resource for anyone interested in understanding or knowing more about the issue as well as what are the local perspectives on the matter.

- The network is quite open with listers having a space for honest exchanges between various stakeholder groups. In the earlier years, some discussions became very heated necessitating the development rules of engagement for the list. In later years, the group norms are well established and followed, and language is more diplomatic. However, there are incidents where people have spoken strongly about an issue as was with the case of the ICT Practitioners Bill, which listers felt was introduced without public participation. Another example was during a discussion on content control where listers were divided on the legality of homosexuality in Kenya.

- Of the over 1,000 hundred listers, only close to a hundred are active in writing on the list. It has however been noticed that when there is a controversial debate or a very important issue under discussion, there are silent listers who come out as a voice of reason or to give pertinent information. Participation is therefore in both reading the list and in writing.

- The quality of discussions has improved progressively over the years. This may be attributed to the learning process where at the beginning, many of the listers may have been new to the issues but have slowly acquired knowledge. While this is a positive state of things, it could also be a threat to the sustainability of the network as newcomers may be intimidated by the high talk, or sometimes what they have termed 'too technical' discourses.

- Some of the discussions on the list have resulted to policy action while some have not been acted upon by the intended actor. For instance, listers raised the issue of access to information such as statements from mobile money providers in the early days of KICTANet. This was eventually implemented by Safaricom in 2015. In another example, listers actively engaged the Regulator before WCIT 2012 to oppose the ITRs as they were. Kenya did not accept the ITRs at that point and stakeholders after

engaging with the regulator, agreed to send proposals including suggested text on contentious articles. For the time being, some of the issues that have drawn no attention include the Central Bank of Kenya declining to give policy direction on cryptocurrency trading. At the same time, advocacy against the ICT Practitioners Bill has not yielded any results. The highs and lows of policy advocacy point to the fact that advocacy is not a one-off event but a process that requires professional dedication, time, patience, progressive thoughts and building of relationships.

KICTANet as an open platform is an experiment in holistic policy making that demonstrates the work that a well-executed multistakeholder model can achieve. The report concludes by once again acknowledging the hundreds of volunteers that have selflessly contributed their thoughts to different issues raised on the list, and therefore kept it alive! It is this sustained engagement that will continue to affirm KICTANet's guiding philosophy of encouraging synergies for ICT policy related activities and initiatives and therefore continue to catalyze ICT reform. We applaud you!

KICTAnet

KENYA ICT ACTION NETWORK

Catalysing ICT Reforms

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