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GENDER INCLUSIVITY WITHIN KENYA'S DIGITAL ECONOMY

POLICY RECOMMENDATIONS

CRAWN TRUST
Community Advocacy and Awareness Trust

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Acronyms

BETA – the Bottom-up Economic Transformation Agenda

CAK – Communications Authority of Kenya

CEDAW – Convention on the Elimination of all forms of Discrimination Against Women

CoP – Community of Practice

FGM – Female Genital Mutilation

GBV – Gender Based Violence

GDP – Gross Domestic Product

GoK – Government of Kenya

ICT – Information, Communication and Technology

IGAD – Intergovernmental Authority on Development

iSTEAM – Innovation, Science, Technology, Engineering, Art and Mathematics

IT – Information Technology

IWL – International Women's Day

LNOB – Leave No One Behind

MSME – Micro, Small and Medium Enterprise

NBS – National Broadband Strategy

OECD - Organisation for Economic Co-operation and Development

PWD – Persons with Disabilities

STEM – Science, Technology, Engineering, and Mathematics

TVET – Technical and Vocational Education and Training

UN SDGs – United Nations Sustainable Development Goals

USF – Universal Service Fund

VAS – Value Added Services

About Us

The Community Advocacy and Awareness Trust (CRAWN Trust) is a non-state organisation registered as a Trust Corporation. CRAWN Trust was established with the aim of promoting citizen's rights from a gender perspective in leadership, governance, socio-economic, and development processes. CRAWN Trust recognizes that gender inequalities are a cause and consequence of exclusion and poverty in Kenya. CRAWN Trust works as a change catalyst to equip women, girls and communities at large with the skills, tools and platforms to address these inequalities. CRAWN Trust envisions a society where men and women have equal opportunities in leadership and socio-economic spheres which will encourage shared space for both genders in development processes.

CRAWN Trust's work focuses on five thematic areas which are interconnected to achieve the organisation's objectives and goals. They are leadership and governance, networking and alliance building, information education and communication, social economic empowerment and institutional competence and sustainability.

Acknowledgement

This submission draws on the expertise of CRAWN Trust.

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Executive Summary

Information, Communication and Technology (ICT) is an integral part of the digital economy and is attributed as a main driver of economic growth both in Kenya and worldwide. Kenya is recognized as a leader in East Africa for its ICT and digital presence. Women and girls experience unique challenges when interacting with ICT which is often omitted, overlooked or neglected in national development programmes.

This document will analyse the ICT policies, frameworks and budgets within Kenya to understand the challenges and barriers women face when engaging in the digital economy. ICT objectives are demonstrated through the ICT Policy 2019; the Digital Economy Blueprint; the Digital Masterplan 2022 – 2032; National Broadband Strategy 2018 – 2023; national development plans such as Kenya Vision 2030, and BETA; international development plans such as the Digital Transformation Strategy for Africa 2020 – 2030 and the UN Sustainable Development Goals; and lastly, programmes identified in the Budget 2023/24 Financial Year and in the Universal Service Fund (USF). Thereafter, this report will recommend appropriate measures to include women and girls in ICT and improve overall economic development in Kenya.

Introduction

The Organisation for Economic Co-operation and Development (OECD) defines the digital economy as an environment which "incorporates all economic activity reliant on, or enhanced by, the use of digital inputs, including digital technologies, infrastructure, services and data"[1]. It refers to all producers and consumers, including government, which utilize digital inputs in their economic activities. The digital economy "creates new opportunities for growth and well-being"[2], including efforts to facilitate investment and simplify procedures.

Information, Communication and Technology (ICT) is a vital component of the digital economy attributable to driving productivity, growth and optimising economic structures. ICT can be understood as the infrastructure and components which enable modern computing through various technologies, tools and systems to improve methods of creation, processing and data sharing. ICT is essential for driving productivity, growth, and optimizing economic structures. For instance, according to the World Bank (2016), ICT accounts for 17 per cent of GDP growth in developing countries[3].

Digital skills are an essential part of ICT, economic development and urbanisation. Digital skills can be defined as the ability to find, evaluate, use, share and create content using digital devices such as computers and smartphones. Digital skills are essential to be able to:

- use devices like a computer, tablet or mobile phone for simple, personal and work tasks;
- find and use information on the internet; understand how to be safe and responsible online;
- communicate socially and professionally using email, messaging and social media;
- among others.

Majority of today's contemporary or professional opportunities require some degree of digital skill.

Africa has experienced rapid urbanisation and social transformation in recent years, though struggles to ascend to a complete digital transformation. A significant barrier to digitisation is due to the digital divide between African countries. The digital divide can be understood as "the gap between people who have access to modern [ICT] and those who don't[4]". African countries lack fair and equal access to advanced technologies. For example, the continent's internet penetration averaged 39.6 per cent in 2019 compared to the 62.7 per cent globally[5]. Inaccess to the digital economy is understood as data deserts, which result from limited internet infrastructure, hindering access to education, healthcare, economic opportunities and social connections.

These data deserts result from limited internet infrastructure, hindering access to education, healthcare, economic opportunities and social connections. This divide is notably pronounced within marginalised communities, compounding their ability to harness benefits of digitisation such as economic opportunities, educational enrichment, and access to essential services. For women and girls, the digital gender divide has equated to decreased access to technology and the internet as compared to boys and men. Moreover, women and girls have less overall education rates, and have lower educational enrolment in disciplines which would enable them to participate in a digital world (e.g. Science, Technology, Engineering, Mathematics [STEM] and ICTs)[6].

In urban slums and rural areas, otherwise understood as unserved or underserved, limited access to the digital economy prohibits access to online job platforms, remote work opportunities, financial services and further entrenches economic inequality. Healthcare is also deeply affected by the digital divide, which includes telemedicine and online health resources, which marginalised communities are also excluded from.

In Kenya, women and girls have been largely excluded from ICT integration efforts. As of 2022, Kenya's female population amounted to 27.25 million, whereas the male population amounted to 26.78 million inhabitants. Thereby, overlooking women and girls from the ICT sector results in over half of Kenya's population being unable to participate in the market economy, due to the failure of targeted ICT programmes for women and girls and impedes national and international development.

This document will contribute to providing a women-centric lens on ICT frameworks in Kenya, national development goals, international development goals, and budget allocations, known throughout this document as ICT framework, to demonstrate the need for further consideration and integration of the specific challenges women and girls face when interacting with ICT. CRAWN Trust recognises its duty as a civil society organisation to advance the rights of women and girls in all sectors within Kenya, especially as it pertains to socio-economic inclusion. ICT is an integral part of civil society development, and CRAWN Trust recognizes the need to advocate for women's inclusion.

Background

Kenya is considered the regional ICT hub of East Africa as it is a leader in broadband connectivity, general ICT infrastructure, value added services (VAS), mobile money, mobile banking, and fintech services[7]. Out of the 54 countries in Africa, Kenya was one of the 11 African countries which scored above the world average for online services in 2018[8], and in 2019 Kenya's average for the ability to access internet connectivity was 89.8 per cent[9]. The country's ICT sector accounts for up to 7 per cent of overall GDP through its IT-enabled services, which continues to spur economic growth. ICT has been an essential enabler to achieve Kenya's Vision 2030 and has played a critical role in supporting the country's development agenda across other sectors such as education, health IT, cybersecurity, post COVID-19 pandemic IT solutions, government institutions, among others[10].

Women and girls represent over half of Kenya's overall population[11] and are essential stakeholders to achieving the national and international ambitions of ICT frameworks in Kenya. According to UN Women, women's economic empowerment increases *inter alia*, productivity, economic diversification, and income equality[12] Conversely, by maintaining the gender gap, it costs a country an estimated 15 percent of its overall GDP[13].

The Global System for Mobile Communications (2022) revealed there is unequal use of technology amongst men and women in Kenya. For instance, 88 per cent of Kenyan women own mobile phones compared to 94 per cent of men, where 36 per cent use mobile internet as compared to 54 per cent of men[14]. The digital gender gap is attributed to barriers in access, affordability, lack of education and inherent biases and socio-cultural norms that pertain to women's economic empowerment[15].

Additional contributors are extreme gender and poverty inequalities such as lack of affordability of digital devices, internet connection, digital skills, safety, and security online. Other gendered inequalities include heightened exposure to cyberbullying, cyberstalking, doxing, hate speech and gendered disinformation[16]. Collectively, these factors exclude women and girls from the digital economy and prevent them from forming networks, movements and connections in accessing information.

According to the Federation of Kenya Employers (2023) ICT skills are required by 28.4 per cent of Kenyan employers[17]. These fields require an undergraduate degree where women represent 43.8 per cent, and technical and vocational education and training (TVET) with women at 34.9 per cent. Although the number of women entering post-secondary education has risen in recent years, an unequal number of boys in rural Kenya complete secondary school as compared to girls, where even fewer proceed beyond secondary into tertiary education[18]. This is due to several socio-economic factors such as teenage pregnancies, early marriages, poverty and lack of mentorship[19]. In rural Kenya, only 18 per cent of Kenyan women aged 25 or above have completed secondary education, where 49 per cent of female youth (15 – 24) are considered illiterate.

Addressing the issue of gender disparity and inequality in ICT will be critical for Kenya's overall economic growth, and to achieve the ambitions as outlined in Kenya's ICT frameworks, national and international development goals, and development programmes. For Kenya to achieve global recognition for its ICT infrastructure, opportunities and innovative measures[20], the involvement of women and girls will be a necessity.

ICT Frameworks in Kenya

To determine ICT interventions for women and girls in Kenya, this section will analyse ICT frameworks such as the National Information, Communications and Technology (ICT) Policy, 2019; The Digital Economy Blueprint; the Digital Masterplan; and the National Broadband Strategy. It will also analyse national development goals such as Kenya Vision 2030, the Bottom-up Economic Transformation Agenda (BETA), as well as international development goals such as the Digital Transformation Strategy for Africa 2020 – 2030 and the UN Sustainable Development Goals (SDG). Lastly, it will analyse two financial frameworks such as the Budget 2023/24 Financial Year and the Universal Service Fund (USF).

This analysis will undertake a women-centric lens where CRAWN Trust will be highlighting the gaps in these frameworks and budgets which exclude women and girls. Hereinafter, the term "unique challenges" will be used to reference factors which prohibit or exclude women and girls from the digital economy such as barriers in accessing technology and connectivity, affordability, lack of education, inherent biases and socio-cultural norms which pertain women, lower rates of digital skills, and safety online.

National Information, Communications and Technology (ICT) Policy, 2019

In November 2019 the Ministry of Information, Communications and Technology, Kenya released the National Information, Communications and Technology (ICT) Policy. The policy was designed "to realise the potential of the digital economy by creating an enabling environment for all citizens and stakeholders"[21]. Its main objectives are to:

1. Provide infrastructure, conditions and frameworks to enable continuous high speed, wireless internet across the country and for future innovative measures;
2. Grow the contribution of the ICT to the economy;
3. Leverage regional and international cooperation and engagements to ensure Kenya can harness global opportunities;
4. Enhance the skills of the general public for future development; and
5. Gain recognition for innovation, efficiency and quality in public service delivery.

It's four key areas are:

1. Mobile First

- The Government of Kenya (GoK) has pledged to support Kenya's digital transformation through initiating a mobile first approach, ensuring that every Kenyan has reasonable access to the internet by focusing on mobile and wireless infrastructure. The GoK will provide the network; storage and processing infrastructure and guidelines.

2. Market

The GoK is cognisant that ICT will be an essential component to integrating into regional and international markets, and to

leverage global ascension. This section of the policy outlines how businesses will be scaled beyond national borders; establishes rules for a secure, open and transparent digital environment; and intentions to enhance fintech opportunities.

3. Skills and Innovation

- The GoK has committed to fund investment in select new technologies. This is to encourage the private sector to focus on the identified research and investment priority areas and to create skills in those technologies through funding scholarships, grants, challenges and innovation awards. This is in pursuit of enabling citizens to gain meaningful work opportunities, and for the country to be a leader in the fourth industrial revolution.

4. Public Service Delivery

- This ICT policy emphasizes the need for all government services to be available online and that government services are delivered in a quick, secure and efficient manner. This policy focuses on the delivery of services, data storage, and collaboration between National and County level to ensure all citizens can access digital services, and related.

Key Issues

Although the ICT policy suggested an enabling environment for all citizens and stakeholders of Kenya, it neglected to address the unique challenges women and girls encounter in accessing or interacting with ICT. Within the policy, women were addressed once under 6.3.4 (12) "Create opportunities and providing assistance for the disadvantaged; people with special needs, women and the youth to acquire ICT skills through e-inclusion and e-accessibility activities and programmes"[22].

Gender was discussed once under the Mobile First initiative, such as 4.1 (8) "Providing an all-inclusive ICT environment by encouraging gender equality and accessibility to persons with disabilities".

Though women and gender were mentioned, both were done so alongside other marginalised groups, which assumes their challenges with ICT are similar or equal to other groups. In Kenya, women and girls lack increased access to ICT as compared to men, including mobile phones, computers, or related technologies, as well as internet connectivity. Targeted interventions for women and girls should be considered, discussed and addressed within the ICT policy to ensure women are being included in Kenya's digital revolution.

The Digital Economy Blueprint

The Digital Economy Blueprint is a proposed framework to develop digital economies in Kenya. This proposed framework highlights the importance of investing in a digital economy, demonstrates the value of global investments in mobile service systems within financial markets, e-commerce platforms, among others. Kenya is a world leader in driving digital financial solutions such as M-PESA, Mula, PesaLink and Pesapal. For instance, in 2018, Kenya was ranked 26th worldwide in the Digital Financial Inclusion Rankings[23]. The adoption of these technologies have stimulated economic growth due to improved and efficient business environments, increased accessibility, connectedness and better standards of living. The adoption of the Digital Economy Blueprint offers Kenya an opportunity to leapfrog economic development, join high-income countries and contribute to the global economy. This document proposes five pillars: as the foundation to grow Kenya's digital economy: Digital Government; Digital Business; Infrastructure; Innovation-Driven Entrepreneurship and Digital Skills and Values[24].

1.Digital Government

- This pillar emphasizes the need for government to entice and support citizens, business, and other national actors to create a digital economy. The GoK recognizes the need for ICT to modernize its systems.

2.Digital Business

- This pillar focuses on the development of a robust digital market which is characterised by increased quality of financial inclusion, fair competition, resilient data infrastructure, advanced consumer protection and greater regional integration. This pillar has three main focus areas: digital trade, digital financial services and digital content.

3.Infrastructure

- This pillar emphasizes the need for the GoK to consider how it will plan, implement or upgrade infrastructure to facilitate nation-wide access of ICT throughout Kenya. This includes the expansion of existing infrastructure or implementation of new infrastructure which will transform the current infrastructure into digital infrastructure to enhance the digital economy.

4.Innovation-Driven Entrepreneurship

- This pillar focuses on advancing an accessible, inclusive and collaborative innovation ecosystem which supports entrepreneurs at all levels, encourages investments and integrates research and development through partnerships.

5.Digital Skills and Values

- This pillar is focused on developing digital skills for all citizens to meet the competencies and expertise required for the digital economy.

Key Issues

The Digital Economy Blueprint suggests it will advance the digital economy in Kenya for all its citizens. It fails to recognize the inequalities and unique challenges women and girls face in accessing or interacting with ICT. Women were mentioned once throughout the document, though only as it related to AkiraChix, a Nairobi-based organisation that provides young women and girls training in technology. None of the five pillars considered women within its objectives, which demonstrates that the framework overall will fail to enhance the digital economy for "all Kenyan citizens" as stated at the onset.

The Kenya National Digital Master Plan 2022 - 2032

The Kenya National Digital Masterplan 2022 – 2032 is a proposed framework to leverage and deepen the contribution of ICTs to accelerate economic growth and is a continuation of the aspirations of the Kenya Vision 2030. It builds upon the Kenya National ICT Master Plan 2014 – 2017, the pillars of the Kenya Digital Economy Blueprint, and focuses on the country's trajectory towards a digital economy. This Master Plan has four pillars that are responsible to the provision of digital services to citizens, businesses and other stakeholders[25]: Digital Infrastructure; Digital Government Service, Product and Data Management; Digital Skills; and Digital Innovation, Enterprise and Digital Business.

1. Digital Infrastructure:

- For equitable access to national service through a pervasive and ubiquitous national ICT infrastructure;

2.Digital Government Service, Product and Data Management:

- For provision of e-Government information and services for improved productivity, efficiency, effectiveness and governance

- in all sectors. It also considers technology related products and services;

3. Digital Skills:

- For the development of a digitally skilled workforce and citizenry that is grounded on ethical practices and social cultural values to implement and operationalize this master plan; and

4.Digital Innovation, Enterprise and Digital Business:

- For enhancing the innovation value chain in order to turn innovative ideas into sustainable businesses and operating models. The pillar also aims to migrate businesses onto the digital platform.

Key Issues

Of the four pillars, Digital Skills was the only pillar to highlight issues pertaining to women and girls. "Youth, women, minorities, the elderly, rural communities and persons with disability (PWDs) are disproportionately affected by the digital transformation of the economy despite the fac that they constitute a sizable proportion of the population"[26]. The framework discussed challenges that "these marginalised groups" experience such as cost of access to ICTs, skills, lack of content, poor connectivity, information gaps and limited mobility, limited ownership and control of assets, as well as safety and security concerns[27].

By grouping women with other marginalised communities, it neglects to address their unique challenges. Although the pillar discussed the barriers women face, it would be beneficial to supplement these facts with statistics or figures which separate women and girls from the other marginalised groups. The pillar suggested that marginalised communities represent a "sizable"

proportion of the population, though women represent over half of Kenya's overall population. Indeed, this is a prevailing example as to why women's issues should be discussed within the context of their specific challenges, rather than under an umbrella term.

As it relates to the fourth pillar, Digital Innovation, Enterprise and Digital Business, migrating businesses onto the online platform, known as e-citizen, will be a challenge for those who struggle with the digital economy and could further marginalise them. In 2023, the GoK directed "all ministries to comply and create awareness on the migration of all government services onto the e-citizen platform by December 31, 2023"[28]. As a result, over 16,000 services will be offered on the platform. In some instances, e-citizen will be the only method to access government services. If women and girls are digitally illiterate, or do not have proper infrastructure to access the networks, then it will create an entirely new data desert within Kenya excluding them from imperative services, such as financial or healthcare, and could have detrimental impacts on many.

National Broadband Strategy 2018 - 2023

The vision of the National Broadband Strategy (NBS) is to transform Kenya into a globally competitive knowledge-based society enabled by affordable, secure and fast broadband connectivity[29]. Through its implementation, the GoK aims to increase access to broadband coverage of 3G; increase digital literacy in schools; expand broadband to multiple counties; and increase digital literacy in the workforce. The strategic objectives of NBS are outlined through its seven thematic areas including: Infrastructure and Connectivity; Services, Content and Applications; Capacity Building and Innovations; Policy, Legislation and Regulation; Privacy and Security; Broadband devices; and Finance and Investment.

Key Issues

Throughout the document, women are mentioned once when detailing the importance of broadband for increasing socio-economic endeavours. Section 1.7 Equity and Social Inclusion provides that the NBS is based on "the constitutional underpinnings of specific application of rights proposing initiatives" focused on children, PWDs, youth, minorities and "marginalised groups", and older members of society. Further, the strategy includes initiatives on digital literacy, access devices and material for PWDs, affirmative action programs (underserved/unserved areas) and programs aimed to ensure that "all persons including older members of the society and women fully participate in the affairs of society"[30].

The term gender was also referenced in terms of Capacity Building and Innovation under 3.4.2 Opportunities for Improvements "Mainstream gender-responsive approaches to capacity building and innovation"[31]. Though gender was acknowledged, specific capacities to support or address gender issues were not considered. As it relates to women within this document, they were referenced alongside other marginalised groups. For example, they would fall under "marginalised groups" as noted in the document, as well as when grouped with "older members of society". By combining various groups together, it assumes each group has the same or similar challenges rather than those unique to them.

The Budget 2023/2024 Financial Year

The GoK has financially pledged to support the country-wide uptake of ICT and will dedicate Kshs 15.1 billion to fund the ICT sector in the 2023/24 fiscal year.

The Energy, Infrastructure and ICT sector remains the second largest expenditure accounting for 16.4 per cent of total expenditure, primarily due to infrastructure resource requirements[32]. This is pursuant of the GoKs vision to leverage digital technologies for socioeconomic development within the country and to achieve the Digital Transformation Strategy for Africa 2020 – 2030[33]. To do so, the GoK has committed to several investments and partnerships with the private sector. In relation to ICT, the budget 2023/24 financial year outlined its commitment to Digital Literacy Programme and ICT Integration in Secondary Schools.

Key Issues

While the GoK has financially pledged to support the country-wide uptake of ICT, the understanding of women and girls in interacting with ICT are not addressed. For instance, although the GoK has committed to several instruments with the private sector to enhance ICT, the private sector considers urban and rural areas as commercially unviable where the return on investments is not guaranteed, thereby remain unserved or underserved[34]. Though women in remote or urban areas face higher barriers to interacting with ICT, the 2023/24 budget never explicitly mentioned women in relation to ICT, nor discussed their unique challenges.

The Universal Service Fund

The Universal Service Fund (USF), which is administered and managed by the Communications Authority of Kenya (CAK), was launched to close the access gap by ensuring all Kenyan citizens have access to ICT. The USF is provided by the Kenya Information and Communications (Amendment) Act, 2009 and its purpose is to support widespread access to ICT services, promote capacity building and innovation in ICT services in the country. The sources of the

Fund include levies on licensees, appropriations from Government as well as grants and donations. The Fund intends to finance national projects that have significantimpact on the availability and accessibility of ICT in rural, remote and poor urban areas. The USF have several projects which target the access gap such as servicing unserved or underserved communities, enhancing public learning institutions, providing public libraries with computers, and digitising educational content.

Key Issues

While the USF included women, it did so through allotting them under an umbrella with other marginalised communities. For instance, under Objectives 2 (b), the USF outlines the "availability of communication services to [PWD], women and other vulnerable groups" [35]. Though the only other mention of women throughout the document is under 8.2.3 (d) which describes E-inclusivity projects, whereby, "These are projects meant to ensure special groups such as women, PWDs, children, the aged are brought on Board in using ICT services with priority given to unserved and underserved communities"[36]. Women and girls need their unique challenges with ICT to be highlighted to ensure programmes funded through the USF are successful, and that women and girls are able to successfully build capacity.

National Development Goals

Kenya Vision 2030

Kenya Vision 2030 is the long-term development blueprint for the country, which aims to create a globally competitive and prosperous nation with a high quality of life by 2030. It aspires to transform Kenya into a newly industrialising, middle-income country providing a high quality of life to all its citizens by 2030 in a clean and secure environment[37]. Kenya Vision 2030 focuses on four pillars: Economic and Macro; Social; Political; are Foundations for the Pillars.

Discussion

ICT will be a critical component to ensure the success of Kenya Vision 2030. ICT will be essential for all four pillars as outlined in Kenya Vision 2030. For Economic and Macro, ICT will be crucial the development and acceleration of the prioritised sectors which include Business Process Outsourcing/ IT Enabled Services, Financial Services, and more[38]. For the Social pillar, ICT will be part of the TVET sector, the Laptop Programme, Integrating Information, Communication and Technology into Teaching and Learning and more[39]. Within the Political pillar, ICT will be essential for the internal programmes such as the development of a decentralised policy, as well as the external programmes such as proposed reforms, educational awareness, and capacity building activities[40].

The Bottom-Up Economic Transformation Agenda (BETA)

The Kenya Kwanza alliance manifesto on economic development is a bottom-up economic model designed to address current challenges facing the country's economy, stimulate economic recovery and resilience. The Bottom-up Economic Transformation Agenda (BETA) prioritises target reduction on the cost of living, job creation, methods to achieve an equitable distribution of income, enhance social security, expand the tax base and increase foreign exchange earnings[41]. The agenda is anchored on five pillars such as Agricultural Transformation; Micro, Small and Medium Enterprise (MSME) Economy; Healthcare; Housing and Settlement; and Digital Superhighway and Creative Industry. The corresponding enablers to the pillars are: Blue Economy; Education and Training; Environment and Climate Change; Foreign Policy and Regional Integration; Governance; Infrastructure; Manufacturing; Service Economy; Women Agenda; Social Protection; Sports, Culture and Arts; and Youth Empowerment and Development Agenda.

The Digital Superhighway and Creative Economy prioritises the increase of productivity and competitiveness by eliminating information asymmetry in market access and risk management. The sector is intended to support BETA as an enabler of infrastructure to intensify national connectivity through road, rail, port, energy and fibre-optic infrastructure to enable an environment for economic recovery and inclusive growth. The digital superhighway will also play a critical role in achieving the other four pillars of Health, Agriculture, MSME and Financing, as well as enhancing revenue collection through the automation of VAT systems.

Kenya's Kwanza commitment are as follows:

- Universal broadband availability throughout the country within five years. The GoK has committed to fast-track broadband connectivity by construction of 100,000km of national fibre optic connectivity network.;
- Enhance government service delivery through digitisation and automation of all government critical processes and make 80 per cent of government services online;
- Establish Africa Regional Hub and promote development of software for export;
- Implementation of the Digital Master Plan;
- Reduce the cost of calls and data and to use online platforms for entertainment, information and business;
- Establish a Presidential Advisory Council on Science and Technology Policy to ensure a government approach to technological development and use and build necessary capacities across government; and
- Strengthen Konza Technopolis to bring together industry, academic institutions and other innovators to co-invest in emerging technologies to create high-quality jobs that leverage on artificial intelligence, robotics and other technologies to enhance Kenya's regional and global competitiveness.

To achieve the ambitions of the digital highway outlined in BETA, the GoK has committed to Kshs. 40 billion which will be financed by the USF.

As it pertains to Energy, Infrastructure and ICT, the national government has allocated the Digital Superhighway and Creative Economy as the thematic area to push digitisation forward and have committed to investing in infrastructure such as roads, electricity and petroleum. For the sector Social Protection, Culture and Recreation, the Digital Superhighway and Creative Economy have the Women Agenda, Social Protection, Sports, Culture and Arts, and Youth Empowerment and Development as its enablers.

Discussion

The Digital Superhighway and Creative Economy will be a primary accelerator for Kenya's economic growth, though women and girls were not highlighted in its pillar. Though the BETA has prioritised cross-collaboration between government bodies, economic and social sectors, counties, and other relevant stakeholders by excluding women and girls the proposed funds cannot be utilised properly. The proposed programmes need to understand the barriers women and girls face when interacting with the digital economy so that they are effective. If those issues are not understood or addressed, the proposed programs will not be successful.

In terms of the national government investment in BETA 4.2.7 Social Protection, Culture and Recreation Sector supports the Digital Superhighway and Creative Economy of the Women Agenda, and Sports Culture and Arts, women were mentioned in thematic name only, whereby their specific supports were not discussed. Throughout the document, the two-times women were discussed were once under allocations to affordable healthcare, pertaining to free maternity; and once regarding Micro Finance, Youth and Women Enterprise Fund for Kajiado County for the sum of Kshs. 10,000,000. The way in which the GoK will support or enable women in the digital economy remains unclear.

International Development Goals

The Digital Transformation Strategy for Africa 2020 - 2030

The goal of the Digital Transformation Strategy for Africa 2020 – 2030 is to define a common vision for Africa's digitisation strategy. It will enable an integrated and inclusive digital society and economy in Africa through "harnessing digital technologies and innovation" for the transformation of African societies and economies. This will include economic growth, job creation, bridging the digital divide, among others. This strategy will define data governance and regulation, engage with global governance, regulate foreign technology companies operating on the continent, create a policy framework for African digital innovation, and empower African countries to be leaders in digital innovation[42].

Discussion

The African Union Assembly of Heads of State and Government highlighted the need for the ICT sector to lead the digital transformation process. It has also outlined several interventions which relate to women and address the digital gender divide such as strengthened policies for women and girls, educational frameworks which boost education opportunities and digital skills development in Innovation, Science, Technology, Engineering, Art and Mathematics (iSTEAM), digital literacy for women and girls across all levels of education, empowering women in agriculture using ICTs, enabling women's access to mobile finance, digital ID for women, and more.

The GoK should implement the recommendations as outlined in the Digital Transformation Strategy for Africa 2020 – 2030, as they outline specific issues which relate to women and girls.

UN Sustainable Development Goals

The 17 Sustainable Development Goals (SDGs) are a call to action to all 191 UN Member States to end poverty and inequality, protect the planet, and ensure that all people enjoy health, justice and prosperity. Its official slogan "Leave no one behind" (LNOB)) denotes the unequivocal commitment to all UN Member States to eradicate poverty in all its forms, end discrimination and exclusion, and reduce the inequalities and vulnerabilities that leave people behind and undermine the potential of individuals and of humanity as a whole. LNOB entails reaching the poorest populations as well as requires the ability to combat discrimination and rising inequalities within and amongst countries, and their root causes[43].

Specific SDGs which the GoK should remember to uphold are Goal 1: No Poverty, Goal 4: Quality Education, Goal 8: Decent Work and Economic Growth, and Goal 9: Industry, Innovation and Infrastructure, and Goal; Goal 5: Gender Equality, and Goal 10: Reduced Inequalities.

Discussion

Gender discrimination is a major cause which leaves people behind, and in Kenya it is a persistent issue. Women are excluded from fully participating in the economy and digital economy due to social stigmas, historical contexts in a patriarchal society, amongst others. The digital gender divide will need to bridge these gaps to ensure that over half of Kenya's population is included in the fourth industrial revolution as well as uphold the GoK's commitment to the UN 2030 Agenda to LNOB.

Kenya has adopted the UN 17 Sustainable Development Goals, and by including women and girls in its digital revolution, it is upholding its commitment to the 2030 Agenda for Sustainable Development. To be recognized as a global leader, innovator and ally, striving to achieve the SDGs will be imperative.

Discussion

For the GoK to achieve a fair and equitable digital economy, it will need to take a holistic approach to ICT. One that incorporates and recognises the unique challenges of all marginalised groups as their own entity such as women and girls, youth, the elderly, PWDs and others who are currently excluded. Of the ICT frameworks, national development goals, international development goals and financial frameworks analysed in this document, the unique challenges of women and girls or gender have been omitted. In the three frameworks, women or gender were mentioned as part of an umbrella term, alongside other marginalised communities such as PWDs, children, the aged, or others. When referencing unserved or underserved communities, women were not mentioned despite their compounding issues with interacting in the digital economy.

Without adequate support which target women-centric issues, the uptake and sustainability of services will never be realized by women and girls, who do not have the access, capacities, or resources to interact with the digital economy or ICT on their own. The digital skills gap represents a significant challenge slowing down the digital transformation in the Kenyan economy. This disparity "harms business competitiveness and productivity as the number of workers with tech skill does not match existing digital economy needs"[44].

It cannot be refuted that ICT is an integral party of contemporary society. Whether it is through the mandatory push towards all government services to be hosted on its e-citizen platform, ability to access financial services or healthcare, gain meaningful employment, or otherwise, digital skills are required. ICT should thereby be treated as a basic service, as outlined in the Equalisation Fund article 4 (2) in the Kenyan Constitution, 2010 which provides the national government shall use the Equalisation

Fund only to provide **basic services** including water, roads, health facilities and electricity to marginalised areas to the extent necessary to bring the quality of those services in those areas to the level generally enjoyed by the rest of the nation, so far as possible". The Equalisation Fund aims to stimulate development in 34 Counties which inhabit marginalised areas, whereby ICT should be ascertained as a basic necessity.

The digital economy is such a prevalent part of Kenya's society that the GoK passed the Finance Act, 2023 which outlined digital asset tax for individuals earning an income through digital revenue streams such as cryptocurrencies and other means which can be exchanged or transferred electronically. Section 2 provided stipulations for an income tax for digital content monetisation including 2 (c) "where the content creator earns a commission whenever the audience of the content creator clicks on the product displayed"[45]. It is thereby difficult to make the argument that the digital economy is not integral to Kenya's economic growth, as something as specific as clicks on digital content is enshrined in an official Kenyan law.

In 2023, Kenya made significant strides in supporting the growth of the digital economy. Some examples include the GoK recognizing International Women's Day (IWL) 2023 Theme: DigitALL: Innovation and Technology for gender equality, and the establishment of the Community of Practice (CoP) on promoting a Kenyan digital economy which brought together policymakers, regulators, the private sector, and related stakeholders to discuss transformative avenues for Kenya's digital economy. Although these initiatives recognize the need to invest in resources

to support the growth of the digital economy, substantive investment and support measures will be required to ensure women and marginalised communities can actively participate and prosper in the changing digital-economic norms and achieve gender equality.

Kenya is a signatory of several legal instruments relating to gender equality. This includes national instruments such as the Constitution of Kenya 2010; the National Gender and Equality Commission Act, 2011; and Sessional Paper No. 02 of 2019 on National Policy on Gender and Development and international instruments, such as the Universal Declaration of Human Rights; the Convention on the Elimination of all forms of Discrimination Against Women (CEDAW); the International Covenant on Civil and Political Rights; the African Charter on Human and Peoples' Rights on the Rights of Women in Africa; and the Intergovernmental Authority on Development (IGAD) Regional Action Plan.

Confronting the digital gender divide will be critical for Kenya's overall economic growth, and to achieve the ambitions as outlined in the ICT frameworks discussed above. Finally, it will support Kenya's international obligations to uphold women's rights and foster women's economic empowerment. Addressing the digital gender divide will require nation-wide support of raising awareness, dismantling stereotypes, while concurrently enabling enhanced, safer and affordable access to ICTs. Policies and frameworks have the potential to bridge the digital gender divide but will only do so if they offer a holistic and inclusive path for all.

Recommendations

ICT Policy, 2019

We propose that the GoK should amend the following sections in the ICT Policy to include specifications for women, their perspectives, skillset, and required support:

Mobile First

- The Mobile first initiative should recognise and describe the specific challenges for women and girls in its policy (these include but are not limited to poverty, access, affordability and lack of financial means, restrictive gender norms, a high prevalence of gender-based violence (GBV), including but not limited to female genital mutilation (FGM), lack of access to public services, lack of education as well as inherent biases and socio-cultural norms); statistics of women and girls owning phones, including smart phones, compared to men, women's ability to connect to the internet as compared to men, women's digital literacy as compared to men, and so on. Thereafter, the policy needs to provide space for recommendations specific to the challenges of women and girls interacting with ICT, budget allocations for targeted interventions, and gender specific ICT programmes to be designed and implemented.

- Strategies on how women and girls will gain access to mobile phones, including smart phones or other devices, as well as internet connectivity should be considered and outlined. Specific allocations of funds need to be invested in for women to access ICT, especially enabling technologies like mobile phones.

Market

- Though the GoK recognizes the importance of investing in devices and infrastructure to grow the digital and traditional economy and meaningfully participate in the global market, women and girls were omitted from its considerations. This section of the policy should outline the challenges women face in scaling their businesses to ascend to the global economy; understanding and adopting rules for a secure, open and transparent digital environment such as being included in the laws and policies created to monitor the digital economy; and the ways for women to actively participate in increasing fintech opportunities.

Skills and Innovation

- The GoK should encourage the private sector to include the perspective and unique challenges of women and girls in their market research, and to include them as an investment priority when creating skills in technology. Furthermore, women's low digital literacy rates should be considered when procuring funding scholarships, grants, challenges and innovation awards, so that they may be eligible to apply and obtain these awards. Part of this strategy should be to include TVET programs to build necessary skills for women and girls in technology.

Public Service Delivery

- When considering how the National and County level can collaborate to increase universal access to ICT, the challenges of women and girls in each county should be considered. Access to ICT varies by County, where some may have increased access as compared to others. In County's where there are higher rates of women and girls who cannot access ICT, they may have specific issues which should be recognised and acknowledged within the ICT policy.

- Internet connectivity and ICT in its totality are considered a basic need in contemporary society. For instance, the government pushed 16,000 services to its e-citizen platform in 2023. ICT is necessary to access those services, or others such as financial or healthcare and should be outlined as a basic service in the Equalisation Fund.

- When conducting future Economic Surveys, the Kenya National Bureau of Statistics[45] (KNBS) should include questions regarding women and girls throughout the entirety of the survey to determine current trends and gaps. This will highlight the challenges women and girls face when interacting with ICT and can inform future interventions and policy.

- The GoK should produce research which supports the development and implementation of technology programmes for women and girls.

The Digital Economy Blueprint

The GoK must consider the difficulties women and girls face within each of the five pillars to ensure the frameworks' success.

Digital Government

- A main objective within the Digital Government is to improve citizen services with e-Government through ICT. Secondly, accelerated achievement of SDG and social agenda is highlighted in this pillar, which is contingent upon the empowerment of women and girls. Neither of these objectives will be achievable unless women and girls can interact with ICT. The GoK needs to invest in programs which inhibit literacy, digital literacy, access to technology, and infrastructure in unserved or underserved areas.

Digital Business

- A main objective within this pillar is to advance digital financial services. This framework should be amended to include research on women and girls's interactions with digital financial services which would provide insights into improved user experience so that all Kenyan citizens may participate without barriers.

Infrastructure

- The GoK should heavily invest in ICT infrastructure in unserved or underserved areas. This would assist women and girls in accessing ICT and participating in the digital economy.

Innovation-Driven Entrepreneurship

- According to the OECD, women and girls have less relative presence or activity on online platforms such as for business purposes, as well as receive less financing for innovative endeavours. Additionally, women and girls often are confronted with "glass ceilings" which curb their professional ambitions. The GoK should invest in capacity building programmes which:
    - Promote women's participation in preliminary educational programmes related to digital innovation (iSTEAM, ICTs, etc).

- Women and girls have compounding barriers which prohibit their ability to start businesses. When considering ICT as an enabler for business, the GoK should invest in capacity building programmes which educate women on how to use ICT in their business, and which are sensitive to the existing challenges women and girls face as entrepreneurs.

Kenya National Digital Master Plan 2022 - 2032

When implementing the Kenya National Digital Master Plan 2022 – 2032 the GoK should ensure the following:

Digital Infrastructure

- Ensure unserved and underserved communities receive long-lasting ICT infrastructure. This could include modifying existing infrastructure to accommodate ICT or building new infrastructure specifically for ICT.

Digital Skills

- Programs which are specific to women and girls should be considered, developed and implemented. These programmes should address the unique challenges women and girls encounter in interacting with ICT.

Digital Skills and Values

- Including women and girls in this section will be crucial for the success of the proposed framework. This section should outline the unique challenges women and girls face, provide research, proposed solutions, and highlight current programmes which enable women and girls to learn digital skills throughout Kenya.

Digital Innovation, Enterprise and Digital Development

- Scholarship funds, mentorship programmes, or entry level supports should be provided to women and girls to endeavour in business ventures. Stipends should be provided to women who struggle with ICT for converting their businesses to online platforms. This would incentivize women to learn ICT, as well as enhance the GoK's ambitions of achieving the Master Plan 2022 – 2032.

National Broadband Strategy 2018 - 2023

- When referencing women and girls throughout the document, they should be referenced as their own group which explains the specific challenges or barriers, they face in interacting with ICT.

- When referencing gender-responsive capacity building activities, gender-specific issues should be addressed. Programs should be tailored around resolving current challenges. Suggested capacity building activities include:
    - Encourage girls and women to pursue education in iSTEAM
    - Provide mentorship to girls and women in iSTEAM programs
    - Equip girls and women with the necessary skills to create digital content
    - Educate girls and women to pursue iSTEAM related opportunities
    - Encourage women and girls to skill up in iSTEAM related opportunities.

Kenya Vision 2030

- To ensure its success, the GoK needs to consider women and girls within all aspects of its four strategic pillars and programming. Women represent majority of Kenya's population and will be crucial stakeholders to achieving the 2030 objectives. If they are unable to interact or access ICT, many of the objectives will fail.

The Budget 2023/24 Financial Year

The GoK should include funding in the Kenya National Budget to provide the necessary support to ensure women and girls are included in the development and expansion of Kenya's digital economy. This includes:

- Literacy programs for women and girls;
- Necessary supports within the literacy programs tailored to the learning needs of women and girls such as trained teachers, school supplies, and counsellors;
- Digital literacy programs;
- Investment in infrastructure which would enable access to high-speed internet nation-wide;
- Access to and affordability of computer equipment, phones or tablets;
- Educational campaigns to inform broader audiences of the importance of ICT, reduce stigma to those who cannot interact with ICT;
- Targeted ICT interventions for women and girls in unserved or underserved areas which address the unique challenges they face in interacting with ICT;

- TVET institutions should be built and enhanced in counties which experience extreme marginalization and should provide gender focused activities as it relates to technology and digital skills. Programs should focus on addressing gender barriers in accessing ICT, increasing women and girls's utilisation of ICTs in TVETS and enhancing gender equality in ICT TVET systems; and

- The GoK should establish research grants which identify barriers for women and girls to access ICT throughout the country.

The Universal Service Fund

- CAK should commit to pursue ICT infrastructure under the USF as it is expected to finance national projects that have significant impact on the availability and accessibility of ICT in rural, remote and poor urban areas. By doing so, it is also upholding its commitment to achieve the BETA agenda.

- Under "Other" 8.2.3 (b) Capacity Building should clearly define how women and girls could interact with ICT, which capacities women and girls would need to do so in unserved or underserved areas, and how the capacity building activities would come to fruition.

- Funding for educational campaigns in rural areas which target socio-economic factors that prevent rural women and girls from completing or continuing education. This includes the prevention of teenage pregnancies or marriages, support for poverty reductive strategies, and opportunities for mentorship and training.

- Provide rural communities, including women and youth, with high-speed internet access and necessary technology such as computers equipment, phones or tablets, and training so they can access and participate in the digital economy.

All Instruments which Relate to ICT in Kenya:

- The GoK needs to further and strengthen its support of the equitable participation in the digital economy of women and girls throughout Kenya.

- Targeted interventions for women and girls should be included in all aspects of the project cycle. This will establish the programme's understanding of the needs, challenges and insights women have in interacting with ICT, and will demonstrate that women are prioritised and highly valued.

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