

Key Issues in Information Communication Technology Policy Review Process: The Case of Tanzania

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ABSTRACT

Developing a National Information Communication Technology Policy (NICTP) of a country is vital for the development of a nation. Tanzania recognized that Information and Communication Technology (ICT) sector is a key accelerator to development, that is why NICTP was enacted by parliament in 2003, and what followed was its implementation. So far tremendous progress has been made including liberalisation of the sector. Although it is more than 7 years the ICT sector has changed quite significantly; there is a need to review all stages of the policy and finally come up with suggestions for improvements. This paper looks into the process of reviewing the Tanzania NICTP by applying the benchmarking process as a supporting tool for policy-making. The paper illustrates the analysis carried out and the results from five relatively successful countries, namely Australia, Estonia, Malaysia, Mauritius and Singapore in ICT policy formulation, policy focus areas and policy implementation. Besides the policy process and stakeholder's involvement, the ICT policy goals, objectives and mission are discussed. The institutional arrangements for driving the ICT policy at regional and international dimensions, as well as the implementation processes, policy review and monitoring are elaborated. The paper concludes with a set of recommendations on how the policy review processes should be carried out.

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1. INTRODUCTION

The National Information Communication Technology Policy (NICTP) development process for Tanzania started in the year 2000 as a result of the perceived lack of guidance on ICT. The lack of ICT Policy and existence of isolated initiatives led to random adoption of different systems and standards, resulting in unnecessary duplication of effort hence wastage of resources. Benefits of effective adoption of ICT are likely to result not only in an increase in connectivity or access, but more importantly benefits acquired from the facilitation of new types of development solutions and economic opportunities that the utilization

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of ICT makes it possible. These opportunities are envisaged in the National Strategy for Growth and Poverty Reduction and the Country's Vision 2025. The said NICTP was essential and necessary to guide the ICT development in Tanzania.

The NICTP development took the following action steps:

- a. Lobbying at the initial stages through government machinery
- b. Drafting and reviewing of the policy
- c. Approval process through the government machinery
- d. Publication of the NICTP
- e. Implementation and
- f. Policy implementation, monitoring and review

The policy was approved and published in 2003, this was the first phase. Some of the weaknesses in the implementation of this phase were the top-down model of implementation, non-involvement of stakeholders during the developing process and non-integration and harmonization of regional ICT policies.

The publishing of the policy was to be followed by a sector by sector development of an integrated implementation strategy as a second phase of the ICT Policy development process. This phase was however faced by various challenges that eventually made this phase less effective in delivering the objectives stated in the policy document. Some of the challenges experienced included ownership of the process, institutional and governance structure, capacity and coordination at the Ministry of Infrastructure development and competition for resources among ministries, departments and agencies [Lishan, 2008].

From these weaknesses and challenges, there is a need of reviewing the policy to address the observed weaknesses and challenges, synergies and regional cooperation in ICT policies and harmonise regional policy framework in order to achieve economies of scale. The recent interest in broadband connectivity within the region and the development of a single market provide an opportunity for Tanzania to review its national ICT policy so as to reflect regional and global needs.

This paper underlines the need and effective process of NICTP review suitable for Tanzania, and the analysis of the key success factors that need to be considered during undertaking of the task.

2. METHODOLOGY

ICT is dynamic and therefore the processes and activities keep changing within very short time scales. These rapid changes in the ICT sector affect key decisions made and essentially call for a contemporary environmental scan. Owing to this dynamic nature of ICT, benchmarking appears to be the suited tool for policy review. In this case, review of the ICT Policy formulation of fast growing countries in recent years is considered effective. In the final phase, an analysis on how the Tanzanian ICT Policy was developed and implemented is made and thus elucidating the commonalities and differences.

2.1 Source of Information

In this study, key documents reviewed and analysed included the following: National ICT policies for Tanzania, Estonia, Australia, Mauritius and Malaysia. Other documents reviewed included:

- a. Fact Finding Mission Report by Lishan Adam concerning EAC ICT policy review – 2008.
- b. Harmonization of the East African Communications Regulatory Regime report by Professor David Souter - 2008.
- c. Stakeholders' recommendation report for ICT policy review in Tanzania by Lishan, 2008 EAC report.
- d. Key stakeholders from Tanzania were consulted in order to gather ideas and recommendation on the review of the ICT policy. The following stakeholders were consulted:
- e. The Permanent Secretary and the Director of ICT in the Ministry of Communication, Science and Technology (MCST)
- f. Director of Information, Commission for Science and Technology (COSTECH)
- g. Members of the Tanzanian ICT Policy formulation of 2003
- h. Director of Managements of Information Systems of the Bank of Tanzania (BOT)
- i. Director of Legal and Regulatory Framework of Tanzania Communication Regulatory Authority (TCRA)

- j. The private sector and the civil society specifically advocacy groups.

Resources for environmental scan are presented in Table I.

Table I: Resources reviewed during the environmental scan

Source Type	Number Reviewed
ICT Policies	7
Articles (Conference/Journal)	10
Reports (technical , fact finding and research reports)	3
Physical visits	6
Total	26

The desk survey was used to review the existing policies of the mentioned countries. In the final stage, the Benchmarking analysis of the ICT policy cycle (formulation, implementation and review process) in Tanzania was considered against experiences of five relatively successful countries namely Australia, Estonia, Malaysia, Mauritius and Singapore. The emanating aspects of this work are discussed within the context of:

- a. The policy development process and stakeholders involvement
- b. The ICT policy goals, objectives and mission
- c. ICT policy focal areas
- d. Institutional arrangements driving the ICT policy development and implementation
- e. Regional and international dimensions
- f. Implementation processes
- g. Policy monitoring, evaluation and review.

3. BENCHMARKING AS A POLICY REVIEW TOOL

Benchmarking has different meaning depending on the institutional and organization set-up in which it is applied. It can be used to measure the success factors of a policy towards developing an ICT society. There are several regional benchmarking options that includes the bottom-up approach, top down approach, horizontal approach etc. In the bottom-up approach, regions get together and agree among themselves on a set of common indicators. Since the region has different policy framework, it is not possible to apply the method initially. The choice of indicators is a result of a compromise among different regions without top-bottom coordination. This implies that the same indicator can measure different parameter in different regions for example a measure of policy output, results, and impacts, or a simple framework of readiness indicator could be adopted [Osimo and Gareis, 2005].

In this work it is important to consider the position of indicators into the policy-review process and benchmarking as indicated in Figure 1.

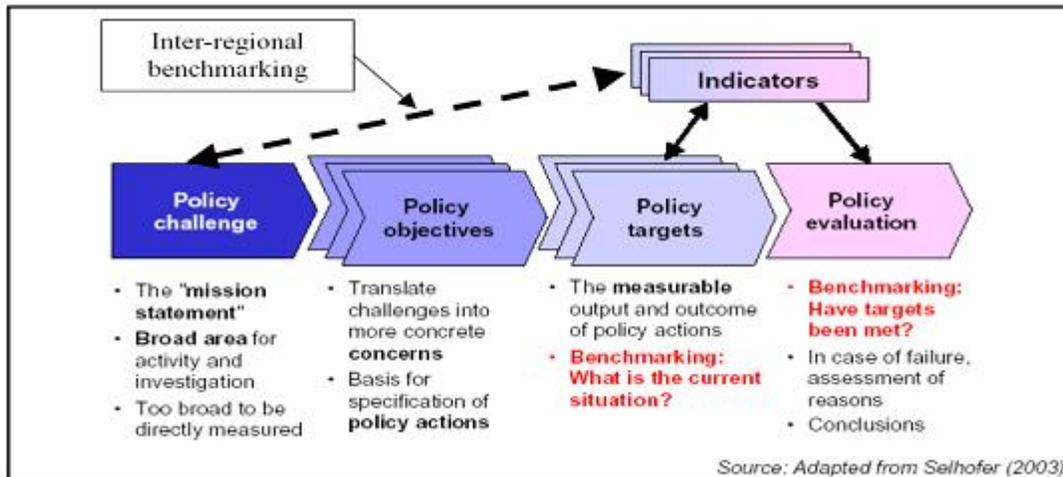


Figure 1: The different roles of benchmarking in policy-making

From the figure, the role of benchmarking is not simply to measure the attainment of policy objectives through policy evaluation, but have a direct impact on the policy review process.

3.1 Policy Development, Review Process and Stakeholders Involvement

The policy formulation of five selected countries demonstrates several advantages of involving stakeholders like the private sector, academia and civil society organizations such as professional bodies in the policy processes. The process for development of Australian, Estonian, and Singapore and Mauritius ICT policies had consultative meetings with a range of stakeholders. Of interest is the case of Australia where the stakeholders were approached by e-mail regarding their discussions on effective use of ICT by citizens and consumers across civil society [Australia Gov. ICTP].

The Tanzanian policy development emerged as a need from the government and gather experts on ICT to develop or rather draft the policy. This team used their expertise and developed the policy without involving the stakeholders. In principle this draft lacked ownership of the majority of the stakeholders. The consequence of this process is the lack of clear harmonized approach to its implementation strategies.

3.2. Benchmarking ICT Policy Vision, Missions and Objectives of selected countries compared to the Tanzania's

The policy vision, mission and objectives of Estonia, Singapore and Mauritania emphasizes addressing citizen problems which are similar to those of Tanzania. Furthermore, countries like Singapore [Singapore ICTP] and Malaysia [Malaysia ICTP] have provided milestones in the policy. In Malaysia, the State has a vision to utilize ICT to transform successively to an information society, a knowledge society and finally a values-based knowledge society [Malaysia ICTP]. In Mauritius, the policy vision on making use of the ICT as the fifth pillar of the economy and transforming the country to a regional ICT hub [Mauritius ICTP].

The Tanzania NICTP is aligned to the following vision statement: "Tanzania to become a hub of ICT Infrastructure and ICT solutions that enhance sustainable socio-economic development and accelerated poverty reduction both nationally and globally." This vision statement has the following limitation;

The vision statement is directed towards the utilization of ICT for accelerating poverty reduction nationally and globally. The global focus of poverty reduction shouldn't be among the elements of the national vision. Rather the vision should focus on full participation of the country in the global information society.

No emphasis of universal access in the vision statement as the success of becoming the ICT hub depend much on the accessibility issues that includes the concept of digital divide between access in urban/rural and national/international relations.

3.3. Strategic ICT Leadership

The objective of the Strategic ICT leadership involves an increase in the use of ICT for equitable and sustainable socio-economic and cultural development of Tanzania, aiming at improving the awareness on the role and potential of ICT. In so doing, creating an authoritative national organization to effect, coordinate and review the ICT policy. The role of prioritizing ICT investment in development assistance policies and programmes, enhancing synergy, economies of scale and productivity in all ICT matters and create a favorable environment for cooperation and partnership in ICT among public and private sectors, civil society became an important ingredient to its development. This is consistent with best-practice in Estonia, Singapore and Malaysia picking a few supporting examples. The review process has to follow this definitive focus.

3.4 ICT Infrastructure

Infrastructure covers both national and institutional levels. At national levels a system to ensure usefulness of the installed infrastructure has to be assured of. In Tanzanian case for example, building the broadband infrastructure is the main agenda. Achievements realized in Mauritius and Singapore is a result of broadband deployment. Both countries based on the objectives of the respective Act, targets were set which include:

- a. An increase in penetration rate from 25 to 50 for every 100 population for the whole country and rural areas respectively by 2020. An interim target of 30 per 100 persons had been set for Malaysia by the year 2005.
- b. Quality of service at affordable costs.
- c. Infrastructures development communications and multimedia infrastructures with adequate and effective plans for supporting overall economic development.
- d. Creation of a hub to serve the global hub of communications and multimedia industry in this region.

The Tanzania NICTP has several objectives concerning broadband issues including the objective of providing special incentives for investors to deliver broadband connectivity to hitherto disenfranchised and isolated populations in the country [Statement 3.10.2 (c) of the National ICT policy (2003)]. The fact finding report revealed that, the private sector especially the mobile operators have invested substantially in developing an efficient infrastructure (Lishan 2008 EAC). However, interoperability, reliability and rural access are challenges to the initiative. Infrastructure sharing has been recommended as the most sustainable and efficient way of rolling out infrastructure, although it is facing internal resistance from the operators who consider their infrastructure as a business differentiation tool.

3.5 The ICT Industry and Human Resource

The ICT industry is service- or hardware manufacturing- or assembly-based. It is imperative that companies are involved in all aspects of the business. A national ICT policy could stimulate the establishment, development and growth of ICT businesses through incentives and support provision. Incentives could include encouraging foreign partnerships or joint ventures, foreign direct investment or empowering local businesses and tax incentives.

In Mauritius for example, several strategies to enhance productivity and efficiency across economic sectors and SMEs through the use of ICT were set and it worked. Besides, Mauritius established an Export Development Fund in order to extend the foreign market for ICT.

NICTP on the other hand, intend to make Tanzania a producer and not a mere consumer of ICT products and services. It is thus clear that the ICT Policy is expected to create conducive environment for a vibrant and sustainable ICT industry, making the country a more competitive developer and producer of ICT products and services. The policy lacks support to entrepreneurship and emphasis on small and medium enterprises (SMEs).

On human resource development, Mauritius, Estonia and Malaysia defined it clearly in their ICT policies. Malaysia set several objectives to improve the human resource capacity that stimulates improving science and technology courses, the use of e-learning and training teachers on ICT skills.

Tanzanian NICTP provides for the development of an ICT ready workforce with the objective of increasing human resource ICT skills, support ICT training for political decision-makers, community and civil society leaders, as well as private and public sector executives, expand and develop the teaching of ICT at all levels of the national system of formal and informal education and training, to foster interest among scientists. The policy does not address regional linkages in the development of human capacity development.

3.6 ICT Productive and Service Sectors

The inception and diffusion of ICT in the production sectors forms an important basis for exploitation of the ICT muscles at the full-scale. The ICT policy needs to strengthen the competitive and comparative advantage of hardware and ICT service providers locally, regionally and internationally. Policies of some countries have focused on local companies over foreign-owned companies just as is the case with Mauritius ICT policy's priority, "*Enhanced productivity and efficiency across economic Sectors and SMEs through ICT*" is evident [Mauritius National ICTP].

The Tanzanian NICTP basically was to bring a facilitative role of ICT within the production sector so as to improve efficiency and productivity. It had an objective of contributing to the reduction of poverty and improve the quality of life of Tanzanians, fostering enterprise, entrepreneurship and innovativeness for sustainable socio-economic and cultural development.

Correct policies have to recognize the opportunities and services so that they could be included in the policy implementation strategies. This is evident in Australia, which recognizes e-commerce as a service to ICT [Australia NICTP]. ICT policies of Estonia, Singapore and Australia recognize economic reforms that are necessary. Thus, the Tanzanian service sector needs to aim at improving the economy by boosting production, ensuring growth and living standards.

3.7 ICT Legal and Regulatory Framework

Many of the leading countries in ICT policy formulation and implementation formulated regulatory and legal frameworks for easy implementation of the ICT policy. In this case, Singapore created several acts and regulations that provide legal recognition of electronic contracts and electronic signatures. Malaysia on the other hand, developed Digital Signature Act. 1997 to give a digital signature the same legal status as an ordinary signature, thumbprint or other binding mark in use. Above all, Singapore and Malaysia have enacted binding laws dealing with cyber crime while Mauritius intends to improve cyber security culture. Deployment of the necessary infrastructure to support secure electronic transactions for e-business and e-government need be implemented. Other entailing key issues include measures to protect the confidentiality and privacy of citizens, increase the level of awareness on information security threats and best practices to safeguard data.

Singapore established cabinet agencies to oversee ICT policy-development as shown in Table II. The key question here is whether there is one best institutional model for policy-development and implementation. However, it is important that agency or commission is given a leading role in ICT planning and development.

Table II. Policy-making and Regulatory Bodies: Apex ICT Policy-making Bodies

S/N	Country	Details
1.	Singapore	Ministry of Information, Communications and the Arts (MITA) Formulates and administers policies to regulate and develop the Infocomm industry (which includes telecoms/IT/Postal Service) through the Infocomm Development Authority. MITA also supervises Singapore Broadcasting Authority (SBA), the agency responsible for regulating broadcasting and Internet content.
2:	Malaysia	National IT Council (NITC) established in 1994, chaired by the Prime Minister, and composed primarily of government ministers with private sector participation

Technological development to significantly regulate is of important. Digital technology has enables the use of one digital network to distribute services that used to require a number of different analogue networks. Thus, broadcasting, telephony and internet can be delivered using one network. A number of countries have created one regulatory agency to handle telecommunications and IT, owing to the convergence of information and communication technologies. Malaysia's Communications and Multimedia Commission and Singapore's Infocomm Development Authority are good examples as shown in Table III.

Table III. Policy-making and Regulatory Bodies and the Regulatory Environment

S/N	Country	Details
1.	Singapore	Infocomm Development Authority (IDA) Regulator of telecommunication and postal services. Media Development Authority of Singapore (MDA) Responsible for regulating broadcasting and Internet content.
2:	Malaysia	Malaysian Communications and Multimedia Commission (MCMC) The Malaysian Communications and Multimedia Commission Act 1998 (Act 589) provides for the establishment of the MCMC with powers to supervise and regulate communications and multimedia activities in Malaysia.

Tanzania Communication Regulatory Authority (TCRA) is a convergence regulator bringing the convergence concept in communication sector to reality in Tanzania. TCRA is a merger of the former Tanzania Communication Commission (TCC) which used to regulate communication, the Tanzania Postal Commission (TPC) which was regulating postal services and the Tanzania Broadcasting Commission (TBC) which used to regulate broadcasting industry [<http://www.tcra.go.tz>]. The merger concluded the evolution of the regulatory environment from the Tanzania Post and Telecommunication Corporation. Nevertheless an emphasis is needed on confidentiality and privacy, formulation of the National Information Security Strategy and promoting the adoption of Information Security Standards at national level.

3.8 Public Service and Local

Many developed and developing countries focus on the use of ICT to enhance service delivery to the public. Remarkable efforts have been shown in many of these countries including Singapore and Malaysia. Mauritius has set out goals for the use of ICT for delivering government services. Specifically, the government of Mauritius stipulated strategies for comprehensive business process re-engineering in departments and ministries, launch a special initiative to cater for delivery of e-government applications through other electronic channels other than Internet, implementation of information systems and shared databases, introduce policies and procedures to safeguard the privacy of citizen data, encourage the use of smart cards and biometrics in e-government applications and will enhance the current ID card to one based on smart card technologies.

This pillar (Public service) in the Tanzania NICTP focuses on effective delivery of services to the public. The specific objectives of e-government outlined in NICTP are to increase the productivity of both the public and private sectors, empowering the public by building an e-Government platform that facilitates their relationship and interactions with the Government, and enhances the range and delivery of more effective public services at both central and local levels, while also generating accurate and timely information to better shape policies, strategic plans and tactical decisions for developing and enhancing the delivery of affordable public services. Moreover the policy also has outlines strategies for promoting good corporate and public governance by furthering information sharing, transparency and accountability.

Compared to infrastructure development, content development has not received as much attention from governments worldwide. Already we see that lack of local content has driven Internet traffic in many countries to foreign sites. There are countries such as Singapore that have initiatives to develop local content. Singapore and Malaysia have laws and rules regarding objectionable Internet content Table IV. Singapore is unique in combining government rules with industry self-regulation in managing content. While most prohibit content that are deemed pornographic, a number also regulate political content. In some countries, governments are nervous about content, especially that which is seen to be challenging the political and economic interests of the State or its allies. Content that has the potential for political

mobilization also comes within the orbit of the State's surveillance, which is provided for by the laws enacted in these countries.

Table IV. Content Management

Singapore	MDA's Class License Scheme Under which the Internet Code of Practice was issued. Internet Code of Practice Drafted by the Singapore Broadcasting Authority in 1997. Establishes the guidelines for acceptable content that can be published over the Internet.
Malaysia	Communications and Multimedia Act of 1998 makes it an offence to provide content that is indecent, obscene, false, menacing or offensive in character with intent to annoy, abuse, threaten or harass any person. Other laws (including the Penal Code, Sedition Act, and Internal Security Act) apply to content regulation of the Internet.

Source: Singapore & Malaysia NICTP

While other countries have developed laws governing the management of local content, The Tanzania NICTP focuses on supporting the local creation and development of ICT applications and multi-media content for productivity, as well as for social interactions, culture and entertainment, encouraging the development of local content and promoting the development of local content to support e- activities. Thus, the role of the government in providing support and resources in the development and deployment of content in local language need to be enhanced by developing adequate policies to re-enforce government commitment to broaden dissemination and use of local content in local languages.

Mauritius has strategies for harnessing ICT for Social Development. These include the specific targets of increasing ICT integration in society, by providing access to ICTs to all communities including those who are isolated geographically or economically, provide access to ICTs 3.12 Universal Access through the enhancement of existing Public Internet Access Points (PIAPs), reducing the digital divide, by encouraging the youth to set up computer clubs with the aim to encourage their interest in IT-related fields and to provide online for so that they can express their needs.

The study found that commitment to universal access is the cornerstone of efforts to reach out to include everyone in the information economy and is a first step in bridging the digital divide. A funding mechanism to meet the cost of universal access has to be discussed and negotiated by the telecoms regulator and/or the government department/ministry responsible for this. Operators should contribute to the cost of rolling out access as part of their obligations under the licensing agreements they have signed with the local regulatory authority of the government.

3.9 Institutional Arrangements for driving the ICT policy

Similarly to Singapore, Tanzania has established TCRA as the sector ICT regulator. The regulator is an independent, credible, and effective quasi-government body whose functions are to regulate and monitor the ICT sector and foster competition through the issuance of licenses to operators and franchise holders. The regulator is a statutory body that was established as part of the Government Policy reforms in the communication sector with the aim of improving the availability of the info-communications services to the public as well as to allow new players into the market. TCRA reports to the line Ministry (Ministry of Communication Science and Technology) established February 2008.

Contrary to Singapore, the above two organs are not featuring in the ICT policy for Tanzania, thus the policy should clearly outline the roles for TCRA and MCST. Moreover, identification of the various players, their specific roles and relationship should be defined clearly in the policy framework. Furthermore, institutional arrangements for ICT policy implementations should consider the participation of both public sector and private sector and functional linkages between different key institutions should feature clearly in the revised policy.

4. FORMULATION OF TANZANIA NICTP

4.1 Tanzanian National ICT Policy Formulation Process

The efforts for developing a policy to support the deployment of ICT for social-economic development in Tanzania began in the mid nineties. Two National workshops were organized by the then planning Commission and facilitated by the UNECA under its NICI Projects initiatives. It was however the interests of the general public, under the Tanzania e-ThinkTank [<http://www.ethinktank.org>] group - a fraternity supported by the United Nations Development Programme (UNDP) that made further push for the articulation of the policy. The actual drafting of the policy was undertaken by a broad based Task-force under the Ministry of Communications and Transport which was mandated to be a focal point for ICT and the policy was adopted in 2003. The broad objectives of the ICT policy were to [TNICTP]:

- a. Provide a national framework that will enable ICT to contribute towards achieving national development goals
- b. Transform Tanzania into a knowledge-based society through the application of ICT
- c. Provide a national framework to accommodate the convergence of information, communication and technology including media.

Despite the broad participation of multiple stakeholders in its development, the ICT policy in Tanzania did not translate into action plans. The establishment of the Ministry of Communications, Science and Technology in 2008 created a new impetus for updating the policy framework and implementing flagship projects.

Table V. shows the state of ICT for policy and key milestones in Tanzania

1999	<p>ICT policy spearheaded by loose informal group – eThinkTank but latter overtaken by government.</p> <p>The ICT policy implementation plan was not developed.</p>	<p>1993- Tanzania Communications Act and establishment of Tanzania Communications Commission</p> <p>1997 -National Telecommunication Policy</p> <p>2003 - Adoption of a national ICT policy</p> <p>2003- Tanzania Communications Regulatory Act</p> <p>2003- Establishment of TCRA as a converged regulator combining Tanzania Communications Commission and Tanzania Postal Commission (TPC) and the Tanzania Broadcasting Commission (TBC)</p> <p>2005- TCRA converged licensing framework</p> <p>2005- ICT backbone study</p>
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Source: TCRA www.tcra.org.tz

The above snapshot, Table V, is the ICT policy processes in Tanzania. It indicates that in all cases telecommunications policies precede the development of broad-based national ICT policy. However, there has been limited connection between efforts to liberalize the sector and the broader national ICT policy that were aimed at addressing ICT application for social and economic development. Consequently there has been a major disconnection between communication policies that address access issues and broad based ICT policies that focus on the exploitation of ICTs as instrument of development. A consequence of the disconnection between communication sector reform and ICT for development policy was that although access to communication was improved through cellular services, progress with regards to fixed lines and broadband network that underpin ICT application has remained very low. Increasing access to affordable communication and the development of human capacity are prerequisites for the success of ICT policy in Tanzania.

4.2. Policy Priorities and Internet Regulation

Although Tanzania has started internal process of governance over the Internet by developing her own set of National ICT Strategies, infrastructure, technological and regulatory frameworks, there is wide gap between national policy and the regulation of online environment, particularly in the aspects of international communications infrastructure, content access and development, electronic trade and on-line applications. The policy process didnot pay particular attention to the governance of the Internet except efforts by civil society organizations that raised the issues of domain registration and participation in the full range of Internet governance debate. Awareness around Internet governance issues is very low and consistent legal framework to address consumer and data protection legislation against identity theft,

unauthorized access of information, e-commerce fraud and other forms of cyber crime are generally absent. There is a need to establish a committee to address Internet issues discussed above.

The review of the ICT policy shows that there is an overlap in the priority areas, a reflection of the common social and economic challenges in the country. The overlap is evident particularly in the areas of:

- a. Human resources development
- b. Infrastructure in particular broadband infrastructure development
- c. Policy, legislative and regulatory framework
- d. ICT sector development
- e. ICT applications and content

Main areas of focus of ICT policy Include: ICT Leadership, ICT Infrastructure, ICT Industry, Human Capital, Legal and Regulatory Framework, Productive Sectors, Service Sectors, Public Service, Local Content and Universal access. Furthermore, the vision and mission expressed in the policy document remain consistent - an indication of a degree of convergence in adopting common vision to harness information and communication technologies for development.

The review of the policy indicates that; there is under emphasis of the need for highly skilled human resources and ICT research and development that could have long term economic and social benefits to the country. The smart use of ICTs in the universities, public and private sector is critical for national as well as regional competitiveness.

The application of ICTs in agriculture and health has not been given equal attention as compared to the number of workforce and amount resources devoted to these sectors in the country.

4.2 Institutional Arrangement and Participation of Stakeholders

Institutional arrangement and the participation of various stakeholders particularly the media, civil society, private sector and the academia provide a good indication of the maturity of ICT policy. The review of institutional arrangement shows that the more the ICT function is sponsored by the highest political leadership (the President), the better the chance of its success. Similarly, the higher the involvement of major stakeholders in the policy process (formulation, implementation and review of policy), the higher the ownership and the better the success in implementing ICT programmes.

Although Tanzania had a relatively developed broad consultation process in the ICT sector, the participation of civil society in ICT policy issues has not been that consistent due to lack of a strong ICT civil society with a national coverage. Table VI shows institutional framework for policy formulation and implementation.

Table VI. Institutional Framework for ICT for Development Policy

Governance institutions	Governance features	Participation
New Ministry for Communication, Science and Technology Tanzania Communications Regulatory Authority	Ministry expected to promote with strong civil society participation Lack of coordination and ownership New ministry expected to alleviate coordination challenges	Tradition of civil society participation Strong and competitive private sector facilitated by good regulatory framework

Source: NICTP document

Evaluation of the governance framework shows that various sectors and institutions continue to compete for external resources to meet their needs and concerns independently, rather than creating a favourable framework applicable to all. It is evident that, the ICT policy was developed by experts. Where as one could have expected to it be developed by professionals. Neither the policy build on government computerization initiatives, no facilitation on further sector reforms to expand access to communication networks. The main lessons that can be drawn from the ICT policy can be summarized as follows:

Streamline institutional arrangements. The establishment of the directorate of ICT at the Ministry of Communication Science and Technology has a high chance of success in the implementation of ICT programmes and mobilization of resources.

Since the Ministry to champion ICT among other things exists, the established directorate will drive the policy process, develop priority and flagship projects and implement projects through public and private partnerships. The minister or the permanent secretary should act as key champions and sponsors for the ICT policy process.

The separation of policy (political) and regulatory (procedural) function has been a key governance challenge. There is no one size fit strategy for the separation of policy and regulatory functions; however it is essential that the regulator is insulated from day-to-day interference of policy makers and secure its financial autonomy. The legitimacy of the regulator can be improved by enhancing its competence and improving its interaction with the public.

A good coordination among institutions requires a champion Minister or Permanent Secretary, trust and flexibility within the ICT policy.

4.3 Implementation of ICT Policy

In general terms, the ICT policy leads to an implementation plan benchmarked by flagship projects, although the presence of an implementation plan may not guarantee the success of policy. A review of the situation of Tanzania shows that the implementation of the ICT policy is driven by external funding than a well thoughtout plan that addresses the key building blocks like infrastructure, regulatory functions and human resources development as envisaged and monitored.

Although NICTP existed, Tanzania did not develop the implementation strategy. Various projects targeted to the policy have been implemented with support from external donor agencies. The national fiber backbone network, Universal Access, Post Coding and Addressing System and the e-government projects are among the current flagship projects for the implementation of the national ICT policy. The main objective of the national backbone project is to establish a telecom backbone transmission network to satisfy domestic and regional ICT requirements in the long term. It intends to provide long-distance telephone networks, data backbone networks and extend Internet bandwidth countrywide by offering sufficient capacities, network resiliency and guaranteed quality of service provision to meet the needs of voice, data, mobile, internet, leased circuit and more.

5. KEY FACTORS ON THE DEVELOPMENT OF NICTP

By using the benchmarking principals the NICTP for Tanzania was analyzed and compared to other countries. The emerging issues from the work and the entailing findings are categorized in the following key elements summarized as:

- a. The policy process and stakeholders involvement
- b. The ICT policy goals, objectives and mission
- c. ICT policy focus areas
- d. Institutional arrangements for driving the ICT policy
- e. Regional and international dimensions
- f. Implementation processes
- g. Policy review and monitoring

Institutional framework for implementing the national policy implementation and monitoring was not described adequately in the policy, hence some roles were left hanging. It is observed that all the stakeholders consulted strongly feel that the policy left a serious governance gap. Most of the stakeholders interviewed agreed that, coordination of the implementation strategy was inadequate and therefore created confusion on what have to be done and what should be the source of funding for the proposed activities.

6. CONCLUSION

The analysis of the current NICTP development and implementation has been carried out. Weaknesses were identified through the Benchmark approach taken to analyze and compare the Tanzania NICTP from other countries of similar nature but in different regions. It is evident that from the start of the initiatives, drafting and development of the policy stakeholders took a backbencher role, thus leading to:

- a. Lack of ownership and operational institutional framework
- b. Poor participation of key stakeholders
- c. Poor coordination during implementation
- d. Lack of coherent but integrated implementation strategies

In order to correct the situation, the policy review process has to consider changes in technology, new national and regional developments and recognize the evolving of new acts and policies. A good policy with its implementation strategies and institutional framework has the potential of making ICT an effective tool in achieving countries development goals.

For an effective policy review process it is recommended that:

- a. The review of the NICTP should involved stakeholder emphasizing a multi-stakeholder participatory approach involving key ministries.
- b. Policy vision and mission to address universal access and infrastructural developments and sharing with key role players.
- c. The policy has to appreciate such other laws and regulations like cyber usage, e-transaction, confidentiality and privacy.
- d. The reviewed policy has to emphasize downstream issues like ICT Incubator to promote local entrepreneurial culture.

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