



Document WSIS/PC-2/CONTR/102-E 17 February 2002 English only

The United Republic of Tanzania



TANZANIA COUNTRY PAPER AS INPUT TO THE 2ND WORLD SUMMIT ON THE INFORMATION SOCIETY PREPARATORY COMMITTEE (WSIS PREPCOM II), GENEVA, 17-28 FEBRUARY 2003

PREPARED BY

NATIONAL COMMITTEE FOR WSIS PREPCOM II DAR ES SALAAM TANZANIA

10 FEBRUARY 2003

CONTRIBUTIONS OF THE DECLARATIONS OF PRINCIPLES AND PLAN OF ACTIONS TO THE WSIS PREPCOM II, GENEVA, 17 – 28 FEBRUARY 2003

The Government of the United Republic of Tanzania recognizes national, regional and global efforts being made towards promoting socio-economic growth through a newly adopted method of using ICT as a driving force in the transformation of the society into Information Society where all citizens are empowered to access and make use (share/exchange) of the information and knowledge for improving their social and economic performance. ICT is an important tool for harnessing global desires of achieving objectives of the Information Society. The desired Information Society works with prosperity in the environment where there is open access to all, and all individuals, group of communities/societies, at all levels have access and opportunity to freely contribute to and share and or exchange and use information for decision-making, information as a resource is used in attracting investments for restoring socio, economic and cultural values and exploring more useful resources for furthering development.

Tanzania would like to express her appreciations for progress made so far by International Fora like G8 DOTFORCE, UN ICT TASKFORCE, UNECA, and others in their endavour of working on ways that will revive World's spirit towards working together and through the fast process of using ICT approach to develop the Information Society. The UN Millennium Assembly approved the 8 Millennium Development Goals (8MDGs) whose main objective, using ICT, is to improve quality and living standards of all human beings.

As a follow up action process, the world now is working out effective strategies (methods and frameworks) for implementing programmes in order to achieve the 8MDGs and the agreed adopted approach is through development of the Information Society.

As far as Tanzania is concerned, and based on WSIS PPREPCOM I discussions, and the Bamako Declarations, the Istanbul Action Plan 2002, Resolution Plen/7 (Marrakech, 2002) and its annexes concerning ITU input to the World Summit on the Information Society and reference to the New Partnership for Africa Development (NEPAD) Initiative Objectives;

And taking into consideration of the different contributions made by other Regional and the international community in the process of preparation for the World Summit on Information Society,

The Government of the United Republic of Tanzania submit to the WSIS Secretariat at the WSIS PREPCOM II the following draft of the declaration of principles and of the plan of action of the World Summit on the Information Society for consideration and further action:

1. "ICT INFRASTRUCTURE DEVELOPMENT"

Declarations

• All Governments particularly in Developing countries should play the leading role in the development of Infrastructure including financing

Experience has shown that the Private sector is not able to take the responsibility of owning and, thus carrying out all the rehabilitation, and maintenance of the existing network and expansion of the new one that reaches all people in the rural and under-served areas for creating open access to all.

• Governments should encourage establishment of Association of Farmers and provided with all necessary support in view of promoting agricultural production for the objectives of fighting poverty and hunger.

Experience show that the media has a crucial role in sensitizing and educating farmers on methods of production for high yields. Village community radios need to be established for information sharing and exchange

• Local and International Development Partners should extend their support to Infrastructure programmes that set top priority to reaching rural people or extend interest free loans to rural infrastructure programmes target in order to stimulate socio-economic activities such as agricultural production.

Agricultural production is highly dependent on how better the infrastructure is that will facilitate infocommunications and transportation of implements from the factories and commodities from the farmers to the markets. Farmers need to be furnished with weather and market information in time and supplied with inputs at the right time and subsistence and cash produce for distribution.

There is a need for increased access to market information, for affordable cost to farmers and traders due lower communications and transport costs.

• Encourage public -private partnership financing mechanisms that will provide credit facilities to rural people geared towards increasing agricultural production

Action Plans

Countries should be offered appropriate support, in developing their e-strategies including financial and technical support.

Special attention should be given to inclusion of remote, underprivileged areas and women in estrategies.

Affordability: Resorting to Public Private Partnerships (PPP) for the deployment of national and regional Internet backbones, including local Internet exchange points, facilitating setting up of internet exchange points and national ISP associations in developing countries.

Encouraging PPP by delineating the necessary policies, legislations and mechanisms for governing the telecommunication sector, its liberation and integration in the world economy.

Encouraging joint stakeholders' effort to address local obstacles and seek sustainable solutions for infrastructure in underprivileged areas.

Supporting aggregation of an ICT -cluster of private sector or NGOs active in field for relevant concerted actions.

2. "CAPACITY BUILDING NEEDS FOR ACHIEVING THE INFORMATION SOCIETY"

Declarations:

- Governments of Developing countries in collaboration with Developed and Developing Partners should encourage the building of internal capacity through Human Resource Development, strengthening Training, and Research and Development Institutions in order to meet the ever growing demand for ICT professionals and technology for lowered ICT costs
- Capacity Building in ICT should be an integral part in all development programmes particularly in developing countries in order to be self-sufficient in the field of ICT for enhanced Information Society development process

Currently most developing countries face the problem of acute shortage of ICT professionals and the cost for hiring becomes so high to afford, thus hindering all efforts of creating access and promoting the use of ICT for enhance development of the Information Society

Available few professionals are not adequately utilized. Training institutions are yet to fully introduce ICT training course programmes in their curricula. Research and Development bodies also have not been given enough priority to work on this sector.

There is need for a self sufficient in professionals in hardware and software development, technological innovation and local content development

Actions

Governments be supported in efforts of creating awareness on usage and benefits of ICT as a key tool for the establishment of the Information Society in developing countries.

Developing countries should implement the formulation of Estrategies as starting point for any action related to establishment of Information society.

Participation of different stakeholders be encouraged in all stages of formulation, development, and implementation of ICT programmes for develop a sense of ownership of the programmes for sustainability nad realization of the benefits.

Involvement of media and communities in capacity building programmes is of great importance in order to establish a foundation for building the Information Society.

3. "UNIVERSAL PRIMARY AND EDUCATION AND ACCESS TO INFORMATION SOCIETY"

Education for all is a key goal in the poverty reduction strategy. Appropriate use of ICT, distance learning and networking will play an increasing role in reaching all sections of the society. Universal access to information society results on provision of informal and formal training in health, education and culture at all levels including the village in the process of creation of information and knowledge based on culture and linguistic diversity".

Declaration

- Education programs in developing countries should focus on the provision of both formal and informal knowledge targeting to empower citizens particularly the rural and under-privileged people to be able to understand ways and means of identifying resources available locally for and appropriately their use for improved living standards while being able to manage the environment.
- Encourage participatory approach by involving all stakeholders in the designing and the preparation of educational programs in order to instil a sense of ownership of the programs into the entire society and ensure for sustainability
- Developing countries should embark on preparing and implementing adult education programs in order to increase the literacy level and articulate transformation process into Information Society and knowledge based economy.

Action

Encourage Public Private Participation in the development of education in developing countries – local governments, local communities and the civil society should cooperate with other developing partners in strengthening the existing schools infrastructure and in new expansion.

The media should be re-sensitized to revive their primary role in educating the society.

Community based media be established in all villages as a strategy for the promotion of information sharing and exchange, education, and acceptable cultures

Encourage the use of E-Strategy for implementing educational programs

4. "ICT IN HEALTH PROMOTION AND DISEASE PREVENTION CHALLENGES"

Tanzania National Development Vision 2025 envisages a sustainable human development with all the prerequisites of achieving a fully developed economy. It lays the long-term development goals which are also in line with the 8 Millennium Development Goals (8MDGs). The national goals include poverty reduction, promotion of health, education and other basic services, environmental conservation, etc. An Informed Society capable of using ICT methods stands a good chance of achieving the above goals.

Declarations

- Governments in developing countries should ensure that ICT infrastructure creates access of health services to all the citizens particularly those living in rural and other under-privileged areas.
- International Organisations in collaboration with developing countries (the most affected) should take all possible measures to rescue the life of human beings by ensuring Health services (HIV/AIDs, Maternal Health, Infant Mortality and prevention of other diseases) are accessible to and affordable by all citizens including those most vulnerable (.women, children, special groups)
- Developing countries should ensure effective promotion of health education through the use of ICT application supported by participation of all stakeholders the community, the media in enhancing change of altitudes, culture and behaviours towards unbecoming practices.

• World communities should arrest the decline in life expectancy of people due to HIV/AIDs impact in developing countries and raise it to about 60 and lower infant and maternal mortalities and death rates by other chronic diseases such as malaria

Action

Implementation of E-strategy – Istanbul Plan of Action

Provision of critical information through a multiplicity of media and delivery systems including the Internet, e-mail, TVs, radio, newspapers, etc

Improving awareness through multiplicity of delivery systems

Promotion of health care and confidential counselling services, through consultations in both ways of direct or online

It should be a conditionality of health promotion adverts/debate sessions to media service providers

Facilitate multi-sectoral coordination

5. "CULTURAL AND LINGUISTIC DIVERSITY AND LOCAL CONTENT DEVELOPMENT"

Cultural and Linguistic diversity constitute an essential element in the development of an Information Society. Content development is instrumental in reflecting the diversity and richness of different cultures ICT as a tool for enhancing Information Society has to facilitate restoration and promotion of one society's culture, expressed in own understandable language. ICT has to demonstrate its crosscutting nature by serving all sections of the societies in their particular culture and language. That aspect will truly bridge the existing digital divide and not by using ICT applications tailor made to promote the use of foreign cultures and languages.

ICT must be able to develop a natural Information society that empowers local communities to freely interact with foreign ones without elimination of other' cultures and languages – instead strengthen and promote them, in that way there will be participatory approach in the process which will lead into realization of the 8 MDGs.

Declarations

- WSIS should ensure all good societal cultural practices, norms and ethics are restored by the use of ICT and in own local content and language for making progressive process
- Developing countries should respect and fill proud of using ICT applications developed in their language promoting their good culture for the true and effective Information Society
- Capacity building process should take into account for the need for issues of culture, linguistic diversity and local content development while applying ICT in the development of Information Society. Development of software in indigenous languages be encouraged

Action

Encourage uses of E-strategy for preservation of national heritage.

Creating content development champions on the national level to encourage development of local information networks and coordinate with relevant authorities.

Developing countries must have capacity, not only for developing hardware but also software and the content which is relevant to different segments of population and use of local languages/ dialects.

Developing countries ensure capacity building process go hand in hand with strengthening of research and development and innovation for development of suitable technologies and the allied aspects for a sustainable Information Society.

Issue of using open source software be adopted in order to enhance uses of ICT.

Developing counties should discuss with International developers of software on the need for providing software at tax free /discounted rates



TANZANIA'S CONTRIBUTIONS ON RESULTS ORIENTED PARTNERSHIPS, DURING AN INFORMAL WORKSHOP1, AT THE WSIS PRECOM II, GENEVA17-28 FEBRUARY 2003

1. INTRODUCTION

Result Oriented partnerships approach in the Information Siciety is intended to ensure that the partnership approach becomes effective option towards bringing about progressive changes of the society into Information Society. Partnership is based on participation of stakeholders in the development of a certain program in all stages. The objective is to inculcate sense of ownership and efficiency in the implementation as well as in the distribution of the benefits.

2. **CURRENT SITUATION**

Result Oriented partnership approach has recently been in use and has proved effective in other areas. With ICT for Information Society, WSIS intends to adopt it as one of the effective method for achieving its goals.

Developing countries are required to encourage this approach because it is through which rural areas can start realizing some progress.

3. CHALLENGES

There must be conducive environment for that scenario to work. Legal and regulatory framework need to be in place to allow effective participation of stakeholders for effective achievements.

4. **STRATEGIES**

Developing countries should have common and shared vision and strategies for implementation of this option

Incentives need to be provided to the good doers in order to encourage others to do the same.



TANZANIA'S CONTRIBUTIONS ON THE ROLE OF MEDIA IN THE INFORMATION SOCIETY, DURING AN INFORMAL WORKSHOP2, AT THE WSIS PRECOM II, GENEVA17-28 FEBRUARY 2003

1. INTRODUCTION

The Media refers to a range of means of info-communications or dissemination. These include radio, telephones, newspapers, brochures, TV, Computers, Fax machines, whistles, and other traditional instruments. The Media plays an important role in the development of Information Society in providing entertainment news, but also information for various uses including promotions, security, education, campaigns, awareness and sensitization, mediation, peace, solidarity, knowledge, etc.

The Media forms part of the key stakeholders in the process of developing Information Society and hence it is a necessary instrument for promoting the use of ICT for enhanced socio-economic performance. Its crucial importance is harnessing the process of transformation of the society into information society. Strengths and weakness of the Information society to development is revealed by the media. It keeps the society informed of what is happening around the world, problems and attempts to encounter them through certain ways. All business and professional promotions depend on how efficient the media is in information search and dissemination.

The promotions on campaigns against HIV/AIDs, wars and other global disasters, preservation of heritages, restoration of culture values and other depend on the media. WSIS preparations are effective because of the media which makes the world smaller due to effective types and means of the media. Likewise, when misapplied, media causes disasters. Therefore, media should be always used appropriately in order to realize good results.

2. **CURRENT SITUATION**

The media is not effectively utilized. Media services are concentrated in cities and urban centres leaving the rural areas unserved. That has a big impact on the digital divide – rural people are always not informed of what is taking place in another part of the country or the world. The has not fully participated in the promotion of ICT for enhancing development of Information society for sustainable socio-economic growth.

3. CHALLENGES

Challenges are on how effectively the media can be involved in this global endeavour of promoting uses of ICT for efficient Information Society. How countries, developing partners

and the society are going to cooperate with the media for it to provide efficient service particularly in reaching the rural and underserved areas.

Even with full liberalization of the provision of media services, still the majority of the populations particularly in developing countries have no adequate access and coverage of the service, leaving two groups of; the informed and uninformed one (there exists the digital divide). Language barrier also limits the media to reach all citizens especially in rural areas.

Some media are still infant, have no capacity to extend their services up to the rural areas. They need training, working tools, and funds for facilitating the provision of services to the people. This weakness has a great impact on development – some times the media are compelled to be biased or to create a vacuum that may cause making unfair decisions or wrong choice, etc.

4. STRATEGIES

Developing countries should ensure their government take the leading role in strengthening the media in order to reach the rural areas

Educational programmes be developed for stimulating the media on the need for extending their coverage services up to rural areas

Establishment of Community based media and associations have to be encouraged

The issue of language barrier be looked into with a view to encouraging development of local content on own local languages

Training Institutions be strengthened and expanded to offer more media people to meet the ever growing demand for current news



TANZANIA'S CONTRIBUTIONS ON BUILDING E-COMMUNITIES IN PARTNERSHIP, DURING AN INFORMAL WORKSHOP, AT THE WSIS PRECOM II, GENEVA17-28 FEBRUARY 2003

1. INTRODUCTION

building e-communities in partnership is a strategy for speeding up the implementation of e-strategy program adopted by the Istanbul plan of action, this approach envisages involving all stakeholders to take part in the building up of e-communities the objective being to incite a sense of ownership of the activity which has been developed based on a common and shared vision, the main advantage of this kind of approach not only sustainability due to full commitment, but also the benefits are known and evenly enjoyed by all.

2. CURRENT SITUATION

much as the e-strategy is at infant stage, e-community has not yet in place at full scale. there a number of issues need to be resolved which include putting in place a legal and regulatory framework, carrying out enough awareness and sensitization campaigns on the importance of community participation in the building of own e-communities in partnership

3. **CHALLENGES**

wsis need to put in place clear declarations and plan of actions that will enhance building of ecommunities in partnerships as a way of promoting the use of ict and, thus information society development

developing countries have a big challenge of creating conducive environment for e-community, mobilising stakeholders to form the e-community, and provide all necessary support to the process in order to make it sustainable

4. STRATEGIES

Developing countries have a common shared vision and create conducive environment that will empower communities to develop e-communities for their development

focus on the implementing e-strategy adopted by Istanbul plan of action



TANZANIA'S CONTRIBUTIONS ON CIVIL SOCIETY IN WSIS, DURING AN INFORMAL WORKSHOP, AT THE WSIS PRECOM II, GENEVA17-28 FEBRUARY 2003

1. **INTRODUCTION**

Global socio-economic changes have constantly increased the need for an **Information Society** with the capacity to efficiently and effectively utilize optimally potentials of Information and Communications Technologies (ICT) and other socio-economic resources in meeting the ever growing demands for sustainable developments. The **Information Society** makes ICT a more powerful tool for overcoming socio-economic disparities and bridging the digital gap. ICT applications must bring about positive transformation of the society into information and knowledge based by creating access to all.

Civil Societies form part of the key target groups for which ICT has to access them with free market information exchange and services at affordable costs. Global Communities should adopt for best ICT strategic solutions for reaching the majority of the Civil Society – empowering to empower people particularly those living rural areas potential for economic production. The Civil Society should have the capacity to stimulate socio-economic development through effective participation in a competitive global economy and exploit comparative advantages.

The World Summit on the Information Society (WSIS) in its declarations and plan of action has to ensure realization positive impacts on economic growth of countries world-wide.

2. **CURRENT SITUATION**

Despite the important role the Civil Society has in the enhancing the use of ICT services, no thoughts have been put on to build, develop and involve, and fully utilize its potentials for harnessing the societal transformation process

3. **CHALLENGES**

Conducive Environment need to be in place to enable establishment of effective and sustainable Civil Societies formed by the local society for social and economic development Concerted efforts need to be made in formulation of strategic plans for building up knowledge and expertise of civil society organizations

Civil Societies have to be fully involved in preparation of Policy processes including ICT and related development programs in order to make the transformation process

Governments and other development partners support the on-going efforts of creating awareness and building up capacity to understand ICT policy concepts, issues, and how these impact on their daily life at national, regional and global levels

4. **STARTEGIES**

WSIS should focus on promoting uses of ICT for reaching the majority of the people living in rural areas.

Involvement of Civil Societies in the societal transformation while observing the issue of gender balance, child labour, concerns of communities' well being and their access to, and ownership of, communications tools, processes, services, technologies, training, education and opportunities.

There is a need to strengthen civil society and private sector inclusion in the national, regional, and international ICT policy forums and make full use of ICT as an effective mechanism for poverty reduction, HIV/AIDS and other World disasters

The right to freedom of expression is a fundamental individual right that includes the right to communicate and to access all means of communication. These principles must be the basis of regulation, legislation and infrastructure development.

Radio is an ICT tool of particular importance in most African countries by its potential to reach large populations in a cost effective manner and to overcome barriers to communication such as illiteracy and linguistic diversity.

Legal and regulatory framework consider the issues of gender balance and other marginalized and vulnerable groups

States should develop national infrastructure policies that are affordable, sustainable, upgradeable and expandable and that enable ICT to develop without restrictions created by current technological standards.



TANZANIA'S CONTRIBUTIONS ON ACCESS 1: ICT INFRASTRUCTURE AND FINANCING, DURING MULTI-STAKEHOLDER ROUNDTABLE NO. 1, AT THE WSIS PRECOM II, GENEVA17-28 FEBRUARY 2003

1. **INTRODUCTION**

Access to ICT infrastructure is one of the key requirements of the future information society for social, economic and cultural development. Building the right ICT infrastructure of the information society is one of the major challenges facing the developing countries in particular Africa.

This paper, therefore, presents current situation of the ICT infrastructure and highlight issues that resolve the challenges facing Africa in building the infrastructure of the information society.

2. **CURRENT SITUATION**

Teledensity in most African countries is still below 1 main telephone line per 100 inhabitants. The teledensity is unevenly distributed in the country. It is concentrated in urban areas and leaving rural areas without access to telephone. The low teledensity is also characterised by analogy telecommunications systems with traditional plain ordinary telephone services (PoTs) which cannot meet requirements of the future information society.

Some developing countries including Tanzania in 1990s launched Telecommunication Restructuring Programmes (TRP) to rehabilitate and expand the Public Telephone Switched Networks (PSTN) with digital transmission and circuit switching systems.

The existing digitalised PSTN also cannot support the requirements of the future information society because of lack of capability of the Internet Protocol (IP) technology. Further Telecommunications Restructuring Programmes with IP based Packet Switched Next Generation Networks (NGN) need to be developed in the developing countries in order for the information society to benefit advanced services delivered by the ICT industry.

3. **CHALLENGES**

The developing countries need to improve the teledensity of at least 1 main telephone line per 100 inhabitants through implementation of the TRP projects.

These TRP projects require huge investment that most of the developing countries cannot afford.

In most of the developing countries, the existing infrastructure need to be phased out because of lack of necessary facilities that are required by the new information society. The developing countries are therefore forced to prepare migration scenario from the existing legacy PSTN to a new IP based Packet Switched NGN infrastructure.

4. <u>EFFORTS BY TANZANIA GOVERNMENT</u>

Efforts so far made include:

- Liberalization of Communications Sector which resulted into formation of a Regulatory Body (Tanzania Communications Commission-TCC) and split of the then Tanzania Posts and Telecommunications Corporation – TPTC) into two independent institutions; Tanzania Telecommunications Company Ltd – TTCL and Tanzania Posts Corporation – TPC
- Further liberalization of Telecommunications sector by privatizing TTCL, resulting into having two private operators for the country's basic services and five land mobile phone operators
- opening of markets and liberalisation of the info-communications sector in order to encourage private participation in investment and provision of info-communication services and attract foreign direct investment (FDI) into info-communications sector.
- Separation of functions related to policy making, regulation and service provision through establishment of an independent regulatory authority and withdrawal of government from direct involvement in business marked by partial privatisation of the dominant telecommunication operator the Tanzania Telecommunication Company Limited (TTCL);
- Opening of all telecommunication services other than basic voice to competition;
- Abolition of all taxes on computers and allied equipment;
- Reduction of licence fees and royalty payable by telecommunication operators;

5. **STRATEGY**

All developing countries need to create a favourable legal and regulatory environment for cooperation and partnership in ICT infrastructure development among public and private sectors, civil society and between all stakeholders at local, national, regional and international levels in a way of building the ICT infrastructure for the information society.

Developed countries to assist developing countries in preparations of migration scenario programmes from the legacy PSTN to the IP based packet switched NGN.

To engage in research and development of new technologies for smooth transfer of know how from developed countries to developing countries.

To encourage international financial institutions to issue interest free loans to the developing countries for building the ICT infrastructure.

===============



TANZANIA'S CONTRIBUTIONS ON ACCESS 2: ACCESS TO KNOWLEDGE, OPEN ACCESS, CULTURAL AND LINGUISTIC DIVERSITY, LOCAL CONTENT, DURING MULTI-STAKEHOLDER ROUNDTABLE NO. 2, AT THE WSIS PRECOM II, GENEVA17-28 FEBRUARY 2003

1. **INTRODUCTION**

The Convergence nature of ICT leaves a lot to be discussed in order to harmonise different visions into common shared one that can bring about the envisaged positive changes of the society. Proper perspectives WSIS concepts and objectives need to rightly derived – of enhancing transformation of the society into Information and knowledge based society through effective use of ICT. ICT must empower the society with knowledge that can assist individuals or groups of people to overcome challenges of life within the surrounding environment.

ICT services creates an open access to information/knowledge that makes one be able to think about, contrast and compare and choose of the useful and better option, be it a culture, language, technology, method or strategy for achieving solutions for standard life.

Knowledge is essential in both forms, informal or formal education and can be obtained through the use of libraries, archives, distance learning, tales, adult literacy/lifelong learning, or and sensitization through media. To revive this era, there is a need for building up a new partnership for information sharing with traditional communities. Elaborate schemes like those on use by other countries like China and India have to be developed to strengthen partnerships with local communities. Developing countries have to embark on new initiatives to promote a society that values, seeks and utilises knowledge as a precious resource – ICT is a platform for knowledge on open access for promoting cultural and linguistic diversity and local content development

2. **CURRENT SITUATION**

The Society is not driven by Information and knowledge due to lack of the above vision and perspective. It is in a dilemma – facing difficulties in making progressive development for not having opportunities for even local markets information, effective community based media for providing base for information and knowledge exchange open source. This situation has great impact on urban immigration, change in culture, and altitudes towards own local traditional values.

3. **CHALLENGES**

OPEN ACCESS

There is a need to revive public service entities and support them for sustainability as the benefits of the open access services are necessarily felt by other sectors and not by the sector's providing the services.

All countries and all societies should not only have access to information but should also have the possibility to become sources of information

CULTURAL AND LINGUISTIC DIVERSITY

The Cultural and Linguistic diversity is a collection of total good cultural practices and characteristics of all the 120 + cultures in the country. There are no efforts made to carry out research works and analyse them in order to preserve and share the acceptable good ones. By not reinforcing and using the acceptable ones leaves Tanzanians exposed to inappropriate foreign influences (e.g. social services and security in local environments is part of own cultural inheritance of interdependence) as well as loss of possible income generation opportunities and local-global networks

LOCAL CONTENT

Local content refers to locally relevant and locally sourced as addressed in the National ICT Policy where the government needs to play a foundation role. ICT, especially TV has brought exposure to foreign content while there are no regulatory instruments to protect our society by generating counterbalance influences. Developing countries have popular local choirs and rap composed in local content and value, they ought to be promoted by public service as in creation of National Local Content Associations, etc.

4. **STRATEGIES**

The Access should be made open and free for information sharing to qualify as a basic right for all members of the society for enhancing decision-making process, transparency and accountability, while enriching popular participation in the processes of governance and democratization.

Central governments should encourage establishment of district and village Info-Centres and community based radio for information access, sharing, educational and cultural content to restore the national heritage.

The Cultural and Linguistic diversity is a source of vitality and creativity. The creation of information society will depend on the bridging of the digital divide. It should be noted, however, that the digital divide is not only a result of inadequate or absence of necessary infrastructure but also due to the fact that information is delivered in languages that are not understood by the majority of the world population e.g. English is spoken by 10% of the entire world population but dominates in provision of ICT services.

Access to technology and relevant infrastructure should go hand in hand with the use of the other languages of the world. Information technologies should not be tools for invading or conquering others. Instead, they should be tools for building global partnerships. Cultural and linguistic diversity be acknowledged and promoted as a building block for Information Society.



TANZANIA'S CONTRIBUTIONS ON ICT AND SECURITY, DURING MULTI-STAKEHOLDER ROUNDTABLE NO. 3, AT THE WSIS PRECOM II, GENEVA17-28 FEBRUARY 2003

1. INTRODUCTION

Despite the fact that ICT when appropriately applied for becomes a vital tool for development because of its potentials for empowerment – making people able to improve their living standards. Similarly, when misused, ICT may be a cause for disasters. In order to control that negative possibility, there is a need for the creation of conducive environment by formulation of effective legal and regulatory framework (security measures) within which users will be make use of good potentials of ICT applications and services.

At Global level, initiatives have been made and ITU have developed proposals which include cyber-treaty on security, copyright protection, cyber-crime prevention, and internet taxation. Developing countries need to be involved in the process in order to be able to perceive the right interpretation and impact on their people and the economies and share their experience. For instance, there is no legal framework for illegal taping of the services from the fixed telephone network.

2. **CURRENT SITUATION**

Tanzania is finalizing the National ICT Policy that, amongst other things, addresses all key issues giving direction for planning, management, and monitoring of implementation. Issues of security and ICT applications are also well dealt with taking into convergence nature. The policy also recognizes the importance for having some special treatment on operationalization of ICT activities in order to foster uses for enhanced growth. These include tax exemptions in the provision of Internet services, etc.

During the last two years, Tanzania has made significant efforts in the development of human resources on ICT through the University of Dar es Salaam . Local lower and higher public and private training institutions have embarked on building their own internal capacity for training ICT professionals. Such efforts should be supported and extended to the rest of the country abd beyond borders.

3. **CHALLENGES**

There is a need to have the Policy in place and should be in harmony with others

Review of the existing laws and formulate new ones taking into accounting new developments and the need for crime prevention and consumer protection against all forms of misconduct

Governments have to take measures that will lower costs for internet services, building IXPs being one of them

4. STRATEGIES

Involvement of all countries in the discussion of issues on ICT and security is crucial to provide developing countries share information and exchange knowledge and arrive at a common shared vision and strategies for a way forward

Ensure a culture for having secure ICT networks is articulated

Encourage the media to sensitize and educate uses of ICT of the importance of security controls



TANZANIA'S CONTRIBUTIONS ON THE NEEDS OF SPECIAL GROUPS, DURING MULTI-STAKEHOLDER ROUNDTABLE NO. 4, AT THE WSIS PRECOM II, GENEVA17-28 FEBRUARY 2003

1. INTRODUCTION

Special Groups refers to the people with disability - mentally challenged, brailed, deaf, elderly, etc. The groups form part of the society so need to be developed and become an Information Society. They are also stakeholders with a great role in promoting the use of ICT in the development of Information Society

ICT has to provide application instruments which will be used by these groups in participating in the Information Society. By the fact that they are human beings have all rights of getting involved and enjoying benefits of ICT for improving their living standards.

2. CURRENT SITUATION

Little initiatives are in place which is intended to provide facilities for the special groups to be able to participate in the use of ICT for development.

Areas which need to be worked on include facilities for reading and writing, riding and listening. For elderly people, individual family members (in developing countries) have responsibility of taking care of social services, making them live under very difficult conditions.

3. CHALLENGES

There is a need for devising a global standard framework for taking care of people under the special groups. Developing countries need to learn from others on how best these groups can be served so that becomes active to using ICT for national and global economic development

4. STRATEGIES

Developing countries have a common shared vision and formulate a policy for addressing concerns of the special groups

International development agencies should extend their support to offer medical services and other required facilities for the special groups in order to make them more productive

ICT Policies should incorporate aspects of the special groups



TANZANIA'S CONTRIBUTIONS ON CAPACITY BUILDING, DURING MULTI-STAKEHOLDER ROUNDTABLE NO. 5, AT THE WSIS PRECOM II, GENEVA17-28 FEBRUARY 2003

1. <u>INTRODUCTION</u>

Information and Communications Technologies (ICTs) driven by the convergence of computers, telecommunication and traditional media, are crucial for the knowledge based economy of the future. Rapid advances in technology creates a need for Tanzania, and other developing countries to take the issue of Capacity Building in both Human and Technology to be on top of priority order. ICT if not properly applied for can not assist in achieving our objective of promoting socio-economic growth and development. The goals of achieving socio-economic business integration within Tanzania and between the rest of the World can be immensely realized through the use of sustainable ICT services.

Developing Countries need to have ICT home-grown, have adequate internal human and institutional capacity to manage and plan various development innovation programs that, in the course of bridging the digital gap amoung the people, will foster interregional trade. The capacity must be able to make use of ICTs that serves as a vital tool for providing access of information to all, knowledge sharing, generated global information flows, and empowering people to participate in the knowledge economy through e-agriculture, education, health, tourism, trade and industries (commerce), transport and logistics, etc, in achieving a sustainable social economic growth.

2. **CURRENT SITUATION**

Currently, ICT services are yet to be fully realized in most of developing countries including Tanzania due to basic factors of; poor ICT infrastructure, weak and or the lack of policies and the lack of Capacity to manage and plan ICT industry. This combination has resulted in inadequate access to affordable telephones, broadcasting, computers, and the Internet. ICT has not been capitalized on enhancing livelihoods and creating new business opportunities, and cross-boarder linkages within the continent and between the region and with global markets (there still exist a digital divide).

3. **CHALLENGES**

The sector is faced with the following challenges which some are the result of the lack of internal capacity;

- High cost of access to ICT including to the Internet, equipment, and telecommunications facilities;
- Lack of affordable access to telecommunication across the nation;
- Outdated curricula in the education, and few computers in educational institutions throughout the education pipeline;
- Low level of deployment of ICT in the economy;
- Low level of coordination of national ICT initiatives:
- Lack egal framework making it hard to deploy electronic services or business and/or egovernment.
- Loss of cultural values,
- Low level of education due to inadequate facilities for e-distant learning, searching
- Low level of health and education services to fight against poverty, diseases and ignorance

In order to realize ICT benefits, there is a need for deliberate efforts of Building up own human and institutional capacity on a Public-Private partnership spirit. The private sector participation in the establishment, development and investment in training, and research and development institutions is of great importance for realizing effective ICT services.

4. EFFORTS MADE BY THE GOVERNMENT

In recognition of the importance of Local Capacity in promoting ICT for development, the Government has taken a number of measures to ensure sustainability of the services;

- Introduction of ICT related courses in secondary and higher learning institutions. Currently Courses in Computer Science and Engineering at degree level are being offered, e.g establishment of University Computing centre at the University of Dar es Salaam, introduction of computer and IT courses at the Dar es Salaam Institute of Technology, and plans are underway to introduce computer courses in secondary schools
- Private sector training institutions are licensed to offer basic, up to degree level training courses in ICT related fields.
- Taxes on importation of computers and associated accessories waived to enable more people afford buying and using ICT facilities
- Number of Media training schools and colleges is constantly increasing aimed at meeting the growing demand for information

5. STRATEGIES

These include;

- Formulation of harmonized, flexible and realistic policies
- Creation of centre of Excellencies
- Establishment of Internet Training Centre

- Introduction of Computer syllabus in the schools' curricula
- Encouraging Courses in Hardware designs and engineering trainingin order to be able to manufacture ICT products locally for making the cost of ICT services affordable

To achieve the above goals WSIS has to make the following a part of Declarations and Principles and Plan of Action;

- Encourage investments in development of training of ICT professionals at all levels of education
- Strengthening of research and development institutions in developing countries
- International Development partners should support developing countries in their programs to reach people in rural areas
- Raising awareness of leaders and decision-makers and the public on the importance of ICT for development and the wealth of digital opportunities that will enhance the quality of life:
- Improving the capacity of all in the ability to use ICT including improvements in the education system, training, and research and development;
- Ensuring women, the youth, children, the disabled, disadvantaged communities, and the illiterate, are not excluded from the opportunities that ICT offers;

Plan of Action

Human Capacity

For ICT to deliver services for sustainable development, there is a great need for making heavy investment in human resource development through strengthening of training institutions ranging from lower schools to higher learning ones such as Vocational Education Training Authority (VETA), Computing Centre and Electrical and Computer Systems Engineering Departments of the University of Dar Es Salaam, Dar Es Salaam Institute of Technology (DIT), Sokoine Agricultural University, University of Mzumbe, and other public and private learning Institutions in order to build up and expand their capacities to train ICT professionals.

Institutional Capacity

Research and Development Institutions in areas of Technology, Hardware and Software development including local content consideration also need to be strengthened. There is need to develop its internal capacity for designing and manufacturing IT related products

such as hardware components, software packages and other IT enabled services including office, educational, medical, etc equipment. Developing countries have to be able to produce enough products to meet both internal and external market. Governments will have a role to assist and facilitate exportation of IT goods to cooperating partners.



TANZANIA'S CONTRIBUTIONS ON ENABLING ENVIRONMENT/LEGAL AND REGULATORY FRAMEWORK, DURING MULTI-STAKEHOLDER ROUNDTABLE NO. 6, AT THE WSIS PRECOM II, GENEVA17-28 FEBRUARY 2003

1. <u>INTRODUCTION</u>:

Information and Communications is becoming more and more interdependent. In order to enable the Government to organize a relevant governance regime for the whole area it was felt that different needs and related functions have to be identified. The Governance regime in Information Society consists usually of three main components:- Policy for giving the direction and desires of two sectors of Information and Communications services; legislation and regulation for the setting and controlling the rules of the game; and development for facilitating and stimulating innovation and application of services in all sectors of the society.

While Policy, regulation and development of the Communications infrastructure and services belong mainly to an area for markets and markets interventions, the policy and development of information technology in our society as a whole are issues of national importance noted in national ambitions and development objectives. Both these perspectives have to be taken into consideration while designing the governance regime for the sector.

The policy, regulation and development of information and communications infrastructure and services should be seen as a natural part of the widening and dynamic. While the national policy and development for facilitation and innovation of the Information Technology in the society – private as well as public sectors should be seen as an overall national responsibility. This will distinctively deal with different functions of general societal development and market regulation and intervention.

2. **CURRENT SITUATION**

Currently, in most developing countries, rarely exist an effective enabling environment for allowing smooth changes and responsive transformation into a sustainable Information Society. The existing legal and regulatory framework is limited to specific scope of particular sectors such as telecommunications, posts, broadcasting, and other conventional productive and services sectors.

3. CHALLENGES

There are still a lot of work to be done in order to create enabling environment – legal and regulatory framework for accommodating the new developments coming up in the Information and Communications Technologies (ICT) – a tool that makes use of

converging technologies in their broader applications. For instance; legal framework need to be put in fostering uses of ICT services in development of e-Agriculture, e-commerce, e-learning, e-health, e-tourism, etc. Taping of the services from the fixed telephone lines, Internet Service Provision, Violation of cultural values (as a result of TVs), and others have been hindering progress due to absence of descriptive laws.

4. **EFFORTS MADE BY THE GOVERNMENT**

The Government has made some efforts to create enabling environment among others is to provide for universal Access in the Rural telecom policy, Establishment of policy on information technologies ICTs and information and Broadcasting, removal of taxes in all computer equipments, etc.

5. STRATEGIES

In order to achieve the intended objectives, all governments in collaboration with regional and international organizations should work together to ensure that the declaration of principles and plan of action below are fulfilled;

Declaration of Principle:

Formulation of harmonized policy frameworks with common and shared vision through which strategies for coordinating mechanisms become nurtured.

Legal and regulatory frameworks must be designed to suit groups of countries which f all under similar conditions and environment. Generalizing them pose a risk of developing countries remain underdeveloped – a case of Internet Taxation Law should be carefully defined.

Take cognizance of the role of ICT in empowering people to be able to face the daily challenges of life, there is a need of ensuring that important issues such as privacy protection consumer trust, protection of intellectual property rights, security etc. are taken into account

Plan of Action:

Conducive environment need to be created in order to maximize the economic and social benefits of the information society by creating legal, regulatory and policy framework that is capable of promoting appropriate technological innovation to work in both urban and rural areas, competition and encourage private sector participation in the process for sustainability.



TANZANIA'S CONTRIBUTIONS ON ICT APPLICATIONS AND SERVICES, <u>DURING MULI-STAKEHOLDER ROUNDTABLE NO. 7, AT THE WSIS</u> PRECOM II, GENEVA17-28 FEBRUARY 2003

1. **INTRODUCTION**

The World Telecommunication Development Conference 2002 in Istanbul, Turkey adopted an Action Plan of six programmes which define a way for developing countries to promote equitable and sustainable deployment of ICT networks and services.

One of the six programmes was the implementation of E-strategies and E-services/applications in government health, education, business, agriculture and other related sectors. The objective is to improve communications with a particular focus on gender, and youth most of them living in rural – hunger stricken areas for enhanced production.

This paper, therefore, presents implementation of the programme in Tanzania

2. **CURRENT SITUATION**

Tanzania is finalizing the preparation of the National ICT Policy. The policy addresses the importance of E-strategies and E-services/applications in promoting effective provision of efficient services through e-government, e- health, e-education/learning, e-business, e-agriculture and other related sectors with a view to extending the socio-economic benefits to all segments of the society.

E-Government

Programmes under implemented include;

- Establishment of Tanzania National Websites for access of and information sharing and exchange
- Implementation of Civil Service Reform Programme and the computerization of payroll systems
- Installation and use of an Integrated Financial Management System (IFMS) an accounting system intended to link all sub treasuries under the Ministry of Finance;
- Established of a customs transit network connecting offices of the Tanzania Revenue Authority country-wide with the objective of enhancing customs clearance of imported and exported goods on transit; and monitoring of operations
- Development of Motor Vehicles Online Register;
- Information Management Systems, the on going project in the Ministry of Trade and Industries

Natural Resources and Tourism Management Information Systems, etc.

E-Health

- Computerization of Patient Records
- Health Management Information Systems (HMIS)

E-Education/Learning

- Education Information Management System (EIMS)
- Tanzania Education Network (TENET)

E-Agriculture

Agricultural Database Information Management (ADIM)

E-Business

- Introduction of Automatic Teller Machine Cards (ATM) in the Banks
- E-Procurement under Information Management Systems (AIMS)

3. CHALLENGES

Governments should continue with the implementation of all the Six Programmes for ICT Applications and Services as adopted in the Instanbul Plan of Action for enhanced socio-economic performance

4. STRATEGIES

- Governments to ensure involvement of all stakeholders (government, private sector, NGOs and civil society) in promoting the ICT applications and services from the conceptualization up to implementation stage of the process.
- Enhance capacity for ICT management and planning ICT education be introduced in all formal and informal training institutions.
- Involve the media in creation of awareness campaigns and sensitization process focussing to reach people in rural areas
- Encourage the use of appropriate technology in ICT infrastructure development suitable for rural areas (simple, environmental friendly and affordable)
- Make effective use of broadcasting and other existing ICT systems and services in not limited to entertainment but also to dissemination and gather material for education, information (weather, trade), disaster relief management, etc.
- Intensify usage of media to avoid possibilities of their misuse through showcases and sharing of success stories and deliberate building awareness of opportunities for use e.g rural computers running on 12KVA biogas system.

- Need for effective mechanisms to encourage and monitor the appropriate and effective application of ICT in the sectors
- Mainstreaming of ICT will enhance efficiency in implementation of development programmes in other sectors such as roads designs, water management and control, etc.



TANZANIA'S CONTRIBUTIONS ON ICT APPLICATIONS AND SERVICES, <u>DURING MULI-STAKEHOLDER ROUNDTABLE NO. 7, AT THE WSIS</u> PRECOM II, GENEVA17-28 FEBRUARY 2003

1. **INTRODUCTION**

The World Telecommunication Development Conference 2002 in Istanbul, Turkey adopted an Action Plan of six programmes which define a way for developing countries to promote equitable and sustainable deployment of ICT networks and services.

One of the six programmes was the implementation of E-strategies and E-services/applications in government health, education, business, agriculture and other related sectors. The objective is to improve communications with a particular focus on gender, and youth most of them living in rural – hunger stricken areas for enhanced production.

This paper, therefore, presents implementation of the programme in Tanzania

2. **CURRENT SITUATION**

Tanzania is finalizing the preparation of the National ICT Policy. The policy addresses the importance of E-strategies and E-services/applications in promoting effective provision of efficient services through e-government, e- health, e-education/learning, e-business, e-agriculture and other related sectors with a view to extending the socio-economic benefits to all segments of the society.

E-Government

Programmes under implemented include;

- Establishment of Tanzania National Websites for access of and information sharing and exchange
- Implementation of Civil Service Reform Programme and the computerization of payroll systems
- Installation and use of an Integrated Financial Management System (IFMS) an accounting system intended to link all sub treasuries under the Ministry of Finance;
- Established of a customs transit network connecting offices of the Tanzania Revenue Authority country-wide with the objective of enhancing customs clearance of imported and exported goods on transit; and monitoring of operations
- Development of Motor Vehicles Online Register;
- Information Management Systems, the on going project in the Ministry of Trade and Industries

Natural Resources and Tourism Management Information Systems, etc.

E-Health

- Computerization of Patient Records
- Health Management Information Systems (HMIS)

E-Education/Learning

- Education Information Management System (EIMS)
- Tanzania Education Network (TENET)

E-Agriculture

Agricultural Database Information Management (ADIM)

E-Business

- Introduction of Automatic Teller Machine Cards (ATM) in the Banks
- E-Procurement under Information Management Systems (AIMS)

3. CHALLENGES

Governments should continue with the implementation of all the Six Programmes for ICT Applications and Services as adopted in the Instanbul Plan of Action for enhanced socio-economic performance

STRATEGIES

- Governments to ensure involvement of all stakeholders (government, private sector, NGOs and civil society) in promoting the ICT applications and services from the conceptualization up to implementation stage of the process.
- Enhance capacity for ICT management and planning ICT education be introduced in all formal and informal training institutions.
- Involve the media in creation of awareness campaigns and sensitization process focussing to reach people in rural areas
- Encourage the use of appropriate technology in ICT infrastructure development suitable for rural areas (simple, environmental friendly and affordable)
- Make effective use of broadcasting and other existing ICT systems and services in not limited to entertainment but also to dissemination and gather material for education, information (weather, trade), disaster relief management, etc.
- Intensify usage of media to avoid possibilities of their misuse through showcases and sharing of success stories and deliberate building awareness of opportunities for use e.g rural computers running on 12KVA biogas system.

- Need for effective mechanisms to encourage and monitor the appropriate and effective application of ICT in the sectors
- Mainstreaming of ICT will enhance efficiency in implementation of development programmes in other sectors such as roads designs, water management and control, etc.



TANZANIA'S CONTRIBUTIONS ON THE ROLE OF THE DIFFERENT STAKEHOLDERS IN THE INFORMATION SOCIETY, DURING MULI-STAKEHOLDER ROUNDTABLE NO. 8, AT THE WSIS PRECOM II, GENEVA17-28 FEBRUARY 2003

1.0 INTRODUCTION

Global socio-economic changes have constantly increased the need for an **Information Society** that has the capacity to efficiently and effectively utilize optimally potentials of **Information and communications Technologies (ICT)** and other socio-economic resources in meeting the ever growing demands for sustainable socio-economic developments. The **Information Society** makes ICT (when appropriately used) a more powerful tool for overcoming socio-economic disparities and bridging the digital gap.

ICT driven by the convergence of computers, telecommunications and tradition media are crucial for the Information and knowledge based economy of the future. Rapid advances in technology and the diminishing cost of acquiring opens up the new window of opportunity for Tanzania, and Africa as a whole to accelerate their economic growth and development. The goals of achieving socio-economic business integration within Tanzania and between the rest of the World can immensely be realized through the best use of ICT services to facilitate other sectors of the economy to function.

In addition to fostering interregional trade, the use of ICT could also accelerate Africa's integration into the global knowledge economy. ICT serves as a vital tool for bridging the digital Divide at all levels of lifes through the provision of access of information to all, allow free knowledge sharing, generated global information flows, and thus empowers people to participate in the promotion and use of the knowledge economy.

ICT therefore facilitates all other sectors of the economy in delivering services efficiently. In general, some of the benefits of ICT are as follows;

Help in the Poverty Alleviation through the promotion of democracy and good governance,

- Facilitates the integration of Africa with the new Information Society using its cultural diversity as a leverage,
- Used in a range of applications such as environmental, agricultural and infrastructure planning and management,
- Used in the identification and exploitation of opportunities for trade, investment and finance through Internet services,
- Facilitates national and regional distance learning and health education programme to improve health and education services.

2. ROLES OF STAKEHOLDERS IN THE INFORMATION SOCIETY

In order to realize the above benefits, ICT need to be developed on a Public – Private Partnership spirit involving all stakeholders to play their roles. The participation of Private sector is of crucial importance in the establishment, investment and development of ICT. Governments have to support and create conducive environment for investment in ICT development. The roles of each stakeholder groups are as summarized below;

The success of the implementation of the objectives of the ICT Policy will depend in great part of the collaboration and synergy that are established between the Government and its principal partners, based on a clear definition of the specific responsibilities of each. In this process, the principal partners of the Government are the private sector, the academic and research institutions, civil society organisations and the development cooperation agencies

2.1 The Role of Government

The fundamental role of the Government kin relation to the development of ICTs and their use for the sustainable development of the country depends on, on the one hand, on vision, policy, and the legal framework which will regulate the activities and connections of all the stakeholders. These are: the public and private sectors; the industry and services of information and communication; non-governmental and professional organisations and civil society in general. On the other hand, it depends on making available the necessary resources for the implementation of such a vision and policy and systematically evaluating its results. This is particularly important at a time when the development of the information infrastructure increasingly requires that the country should change from the traditional situation of the monopoly of the State in the telecommunications area, into an environment where services are offered competitively.

On the other hand, given the present situation of a private sector which is still weak although growing freely the State must play a key role in seeking and channeling resources to invest in the supporting infrastructure for ICTs in partnership with national and foreign businesses whose undertakings have much to gain from this in the future.

Amongst the main constraints are:

There still general lack of a culture and a tradition in the use of ICTs; the limitation in human, technical and financial resources available to stimulate the sector.

In this context the Government will, in close collaboration with the private sector and other partners,

- Quickly approve the necessary legislation for the implementation of the objectives put forward in the present ICT policy;
- Adopt an Implementation strategy for the ICT policy which will bring together its objectives and aims for the purposes of government;
- Devote all possible resources to the development of a national infrastructure to support the ICTs:
- Promote the general use of ICTs at the level of state services and institutions;
- Create incentive packages for investment in the national informatics industry;

- Promote and support the production of content for the Internet a content which will reflect Tanzania's national interests and realities;
- Mobilize other countries, organizations and cooperation agencies to support the introduction of Informatics into the country.

2.2 The Role of the Private Sector.

In the industrialized countries there is no doubt that the great driving force for the development of ICTs is the private sector. In Tanzania, as in many African countries and in the Third World in general, the private sector is also called on the play a catalytic role in the creation and consolidation of the Information Society, notably by means of:

Stimulating the economic growth of, and participating in, the development a national ICT infrastructure; Realizing business opportunities resulting from the implementation of the Information Society; thus, within the scope of this ICT Policy and in close collaboration with the Government and other partners, the private sector is encouraged to:

- Exploit to the maximum the new business opportunities presented by the ICTs;
- Spread the use of ICTs as a lever for the development of business, especially of small and medium-sized firms;
 - Stive to improve product and service quality to ensure competitiveness in the world market;
- Support and participate in the national effort to contribute to the general spread of informatics education and the use of ICTs for development; and
- Develop projects with a view to the national production of ICTs.

2.3 The Role of Higher Education and Research Institutions

Institutes of Higher Education and developed countries plat a leading role in the development of science and technology. They do the fundamental and applied research, and their results are then applied by industry to provide scientific and technological solutions that contribute to economic development for the welfare of their citizens.

In the same way in Tanzania, Higher Education and Research institutions must play the major role in seeking and implementing solutions and methodologies which will allow the expansion of the use of ICTs for production processes, the provision of services, the improvement of teaching and learning, research, etc. in order to improve living conditions for our citizens.

Thus, within the sphere of the ICT Policy, it is these Higher Education and Research institutions which must be encouraged to undertake the following initiatives in close collaboration with the Government, the private sector, civil society and other partners.

- To expand and consolidate the use of ICTS;
- To emphasize the teaching of informatics in their curricular of science and technology;
- To use ICTs to increase access to higher education;
 - To assume the leadership in testing new technologies, and to recommend to the Government, the private sector and society in general the appropriate action to taken;
 - To apply the technologies for the benefit of the people through the implementation of projects:
- To create specialized and multi-disciplinary research teams on ICTs;
- To produce advanced solutions appropriate to the challenges of national development;

- To systematically publish and disseminate the results of research and experimentation, both by traditional means and by means of the new ICTs especially on the Internet;
- To maintain contact, cooperation and information interchange with institutions of Higher Education and Research in other countries.

2.4 The Role of Civil Society

Civil society represented by mass organizations, non-governmental and professional organizations, unions, community-based organizations, etc.; have an important role to play in the social and economic development of the country. Civil society is a fundamental element in the preservation of peace and in the process of the development of the Information Society in Tanzania, it should be called on to play a major role.

The challenges that face civil society in this area are related to:

- Low levels of schooling;
- Deficient telecommunications infrastructure, electricity supply and the road system; and
- Weak coordination amongst different stakeholders.

Therefore, civil society is encouraged to undertake the following initiatives in coordination with Government and other partners:

- To exploit the potential of ICTs in the dissemination of information and knowledge;
- To spread the use of ICTs in carrying out community programmes
- To use ICTs as a vehicle for the transmission and dissemination of information in development programmes; and
- To incorporate an ICT component in community development programmes and in programmes of cooperation with international organisations and other countries.

2.5 The Role of Agencies for Development Cooperation

The economic and social impact of ICTs in the life of nations today is given high priority on the agendas of international organisations and in their discussion forums. The entry of Tanzania into the Global Information Society is a result of the determination of the country, but it will not be possible without the decisive support of cooperation agencies. However, these are called on to respond to the strategies outlined by this country, not those imposed from abroad on a base of limited knowledge and understanding of our national realities.

The Government therefore hopes that cooperation agencies, as partners in the sustainable development of Tanzania, will take the following initiatives:

- To support in all possible ways the formulation of the ICT policy and its Implementation Strategy;
 - To support the projects and progarammes financially and technically, with a view to their realization;
 - To mobilize the support of other partners in the fundamental areas of education, teaching of instructors, infrastructure and universal access health, governance, scientific research, electronic commerce, etc.;
 - To facilitate the setting up of links and relationships between national institutions and researchers and similar institutions and researchers abroad;
 - To support programmes of information and technology transfer within the country and to help retain qualified technical people in Tanzania and

•	To support the participation of Tanzania in international forums concerned with the use
	of ICTs for development.