Republic of the Gambia

THE GAMBIA ICT FOR DEVELOPMENT (ICT4D) POLICY STATEMENT [2018-2028]

FINAL REPORT

REPORT COMMISSION BY THE MINISTRY OF INFORMATION AND COMMUNICATION INFRASTRUCTURE (MOICI)

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ACCRONYMS

ANR   Agriculture and Natural Resources

FDI   Foreign Direct Investment

G2B   Government-to-Business

G2C   Government-to-Citizens

G2G   Government-to-Business

GDP   Gross Domestic Product

GNAIP   Gambia National Agricultural Investment Plan

GNI   Gross National Income

GoTG   Government of the Gambia

HRD   Human Resource Development

ICT4D   Gambia ICT for Development

ICTs   Information and Communication Technologies

IKS   Indigenous Knowledge Systems

MDAs   Ministries, Department and Agencies

MSMEs   Micro Small and Medium Enterprises

NEAP   National Employment Action Plan

NEP   National Employment Policy

NEPS   National Entrepreneurship Promotion Strategy

NES   National Export Strategy

NGOs   Non-Governmental Organizations

NICI   National Information and Communications Infrastructure

OD/L   Open/Distance Learning

PAGE   Programme for Accelerated Growth and Employment

PRSP Poverty Reduction Strategy Paper

PSDS Private Sector Development Strategy

QoS Quality of Service

R&D Research & Development

SDG Sustainable Development Goals (SDG)

STE Science and Technology Education

STEM Science Technology, Engineering and Mathematics

STI Science Technology and Innovation

TVET Technical Vocational Education & Training (TVET)

UAS Universal Access and Services

UNECA United Nations Economic Commission for Africa

WAP Working Age Population

Preamble

Nations worldwide have recognized the developmental opportunities and the challenges of the emerging information age characterized by information and communication technologies (ICTs). These technologies are driving national development efforts worldwide and a number of countries in both the developed and developing world are exploring ways of facilitating their development process through the development, deployment and the exploitation of ICTs within their economies and societies.

It is acknowledged that for the Gambia to move her industrially weak and subsistence agriculture-based economy towards an information and knowledge economy she will need to develop and implement comprehensive integrated ICT-led socio-economic development policies, strategies and plans. It is however recognized that for the policy to make an appreciable desirable impact on the socio-economic development process of the Gambia, it will need to be integrated into the overall developmental objectives, priorities and programmes of the country.

With the right sets of policies and action plans it will be possible for the Gambia to facilitate its socio-economic development process through the development, deployment and exploitation of ICTs within the economy and society without first going through an extensive industrialization process.

The Gambia ICT for Development (ICT4D) Policy Statement -2018-2028 fully taking into account the aspirations and the provisions of key socio-economic development framework, policies, and plans since independence represents the Vision for the Gambia's development in the information age.

The Policy Statement sets out the road map for the development of the Gambia's information society and economy and provides a basis for facilitating the socio-economic development of the country in the emerging information, knowledge and technological age to be dominated by information and knowledge-based economies.

1.1 Introduction

The emergence of the information age has brought to the fore, the important role that *information*, *knowledge* and *technology* can play in facilitating socio-economic development. The effective use of information and knowledge is becoming the most critical factor for rapid economic growth and wealth creation, and for improving socio-economic well-being in most developed and developing countries throughout the world.

There is no doubt that information; knowledge and technology are increasingly becoming the key drivers for socio-economic development world-wide. A nation's capability to accelerate its socio-economic development process and gain global competitiveness and improve the well-being of its people depends very much on the extent to which it can develop, use, exploit and sell, ---- *information*, *knowledge* and *technology* in one form or another.

There is now mounting evidence that: information and communications technologies (ICTs) can be used to facilitate various aspects of the socio-economic development process in both developing and developed countries. For example, research work based on a number of case studies suggests that ICTs can serve as a key resource essential for achieving broad-based development goals – the principal lesson being that although the technology is not a goal in itself, it can be used as an enabler of broad-based developmental goals of a given nation.

Evidence now points to the fact that, some of the areas where the deployment and utilization of ICTs can have a significant impact on the developmental process of nations include:

Development of the private sector especially the services sector: – The private sector, -- the engine of growth in most countries, can be facilitated by the deployment and exploitation of ICTs in a number of areas. The services sector especially, the banking and financial services sub-sectors are to a large extent ICT-driven in most developed and developing countries. Also the rapid growth in the ICT sector and industry in a number of developed and developing countries is having a major impact on the development of the private sector in these countries.

Production Activities and Operations: --- There is no industrial process which cannot be programmed using computers. ICTs can be used to support the: scheduling of various production processes; design of products, simulating products under various conditions; actual production process using computer-aided and programmable machines & robot systems; the warehousing, distribution and delivery of the products etc. ICTs have been successfully deployed and exploited to improve productivity in all types of industrial and production set-ups and has contributed immensely to enabling a number of industrial countries to gain competitive advantage in ranges of product areas on the global market.

Agriculture operations to improve productivity: – Various types of agricultural activities and operations including the production, processing, packaging, marketing and distribution of agriculture products as well as agriculture-research and extension activities can be supported by the deployment and exploitation of ICTs. These technologies are being deployed to modernize agricultural operations, systems and processes and as well improve agriculture productivity and yield in a number of countries

Administration and Service Delivery within the Public Sector: --- The deployment and exploitation of ICTs to facilitate government administration and service delivery has the potential for: improving administrative efficiency and service delivery; enhancing and improving government responsiveness to citizens; reducing administrative, operational and transaction costs of governments administrative activities, service delivery functions and operations through the reduction of operating inefficiencies, redundant spending and unnecessary excessive paperwork; assisting in the transformation of government into a citizen-centered government and improving productivity within the government machinery and institutions. The cumulative impact of all these on the overall developmental process of a given nation can be significant.

Other areas where the deployment and exploitation of ICTs have been making substantial developmental impact include areas like:

Rural development --- ICTs are being deployed to play a major role in the extension of services to the rural populations. Services like health, education, social services and various types of government services are being made available to rural peoples through the deployment and exploitation of various types of ICTs. Evidence from a number of developing countries shows that ICTs are being used to enhance rural development programs and improve the delivery of public services through computerization schemes --- suggesting that the potential impact of ICTs on development can be enormous, particularly in terms of improved health, hygiene, nutrition and education

Support trade and commerce --- ICTs have been used to achieve global competitiveness in the area of trade in a number of countries. E-commerce a major growth area forecast to be a multi-billion dollar industry is an ICT-driven industry.

Information and communication technologies have also made major developmental impact in area like:

Education and Training --- ICTs are making it possible to improve access to limited educational resources to a larger population. It is now possible through the use of ICTs to provide high quality education at an affordable cost to a wider population.

Good Governance --- The use of ICTs to facilitate electronic government and governance has been contributing to the process of good governance and the strengthening of democratic institutions thus facilitating universal participation in the democratic and governance process. Governments world-wide have recognized the key role that ICTs can play in facilitating development and bringing government closer to the people. A number of countries in both the developed and developing world have been putting in place and implementing e-government and governance strategies and programmes targeted at

exploiting the potentials of ICTs to facilitate government administration and service delivery as well as the governing process through good governance.

Poverty Alleviation: There is increasing evidence that access to ICTs can have a direct impact on raising living standards and improving the quality of life of the poor. The indirect impact on poverty alleviation, through growth and productivity, has long been recognized.

ICTs as agents of Wealth Creation and Rapid Economic Growth: There is no doubt that: countries that are making major progress in the area of wealth creation are those in the fore-front of developing, deploying and exploiting ICTs within their economy and society. Recent research in the USA has concluded that the production and use of ICTs have contributed half or more of the acceleration in U.S. productivity growth in the second half of the 1990s. The successful experience of East Asian countries has lent support to an 'ICT-led development' thesis --- implying that poor countries can adopt 'leapfrogging' strategies. Global evidence shows that ICTs present a 'window of opportunity' for developing countries to progress from a situation of 'zero' or 'limited' technology to widespread adoption of 'sophisticated' technologies, without going through the stages of technological adaptation and learning experienced in developed countries.

A number of African countries including the Gambia have now acknowledged that: to move their industrially weak and subsistence agriculture-based economies towards an information and knowledge economy there is a need for them to develop and implement comprehensive and integrated ICT-led socio-economic development policies, strategies and plans. The contention is that with the right sets of policies and action plans it will be possible for the Gambia to facilitate her rapid socio-economic development process through the development, deployment and exploitation of ICTs within her economy and society without first going through an extensive industrialization process.

1.2 The Gambian NICI-1 Process

Acknowledging the need to pursue an ICT-led socio-economic development agenda, the Government of the Gambia (GoTG) began its ICT for Development (ICT4D) process in 2002 with what we now term as the NICI-1 phase of the process. The process was supported by a technical assistance from the United Nations Economic Commission for Africa (UNECA) under the auspices of the African Information Society Initiative (AISI) launched by UNECA in 1996. The NICI-1 phase of the process followed the methodology developed by UNECA to guide the NICI process in its member countries. The NICI methodology stipulates that the NICI process in a given country should be conducted in phases with each phase yielding specified but related deliverables as depicted below:
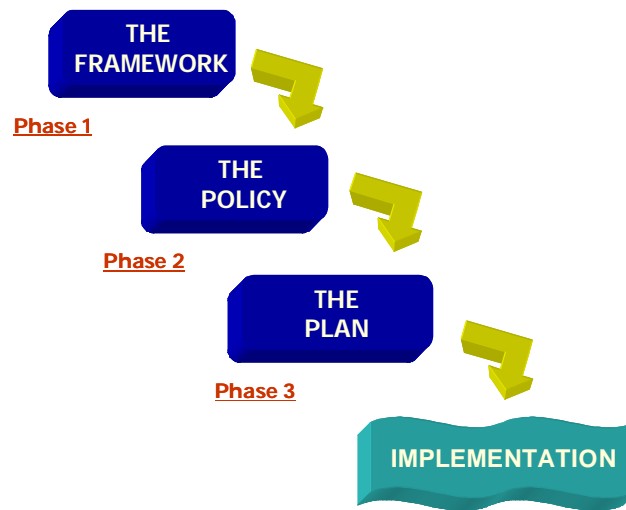
The GoTG used this methodology to develop and implement the deliverables of the NICI-1 process involving the development of the Gambian ICT4D (NICI-1) Policy Statement in 2004 and the corresponding ICT4D action plans (the ICT4D-2013 Action Plan) in 2010. In developing and implementing these, Government did recognize that: for the stated policy provisions and commitments in the ICT4D (NICI-1) Policy to make an appreciable desirable impact on Gambia's socio-economic development process they will need to be integrated into the overall developmental objectives, priorities and programmes of the country. Such an all-inclusive comprehensive ICT4D policy and strategies were aimed at the implementation of initiatives within the ICT4D-2013 Action Plan that could contribute to addressing the key *developmental challenges* facing the Gambia.

A review of the deliverables of the NICI-1 process is presented below to provide the basis for the development of the ICT4D Policy Statement

1.2.1 Examining the Focus Areas of the NICI-1 Policy Statement

Based on the need to achieve the developmental goals of the Vision 2020, The Gambian NICI-1 Policy Statement launched in 2004 was based on 10 policy *focus areas* as illustrated below. The ICT4D-2013 Action Plan developed in 2010 was designed to implement the provisions of specific components of each of these focus areas of the Policy Statement.
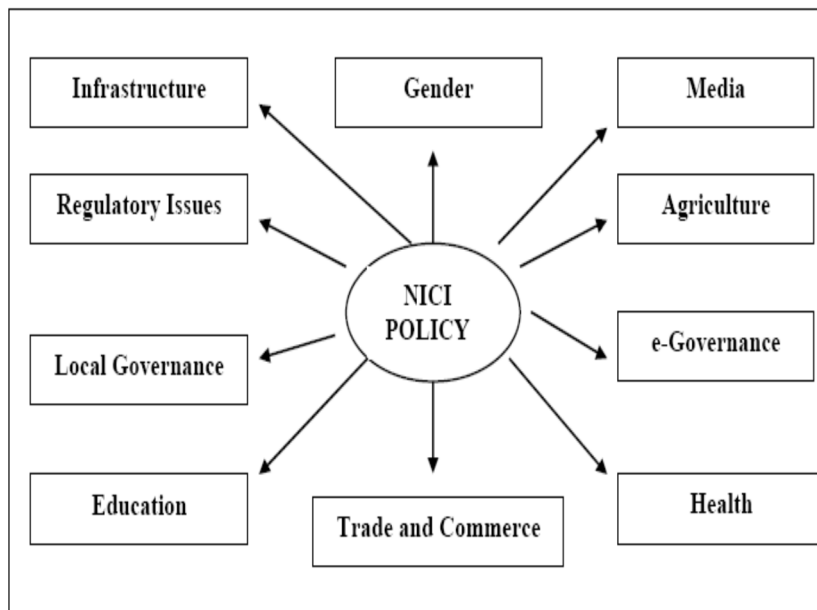
1.2.2 The NICI Planning Cycle

The *NICI Planning Cycle* that governed the NICI-1 process stipulates that, a number of NICI Plans will be developed and implemented within a policy time-frame of the ICT4D (NIICI-1) Policy Statement. This   will involve going through a number of corresponding NICI Plan cycles as depicted below.
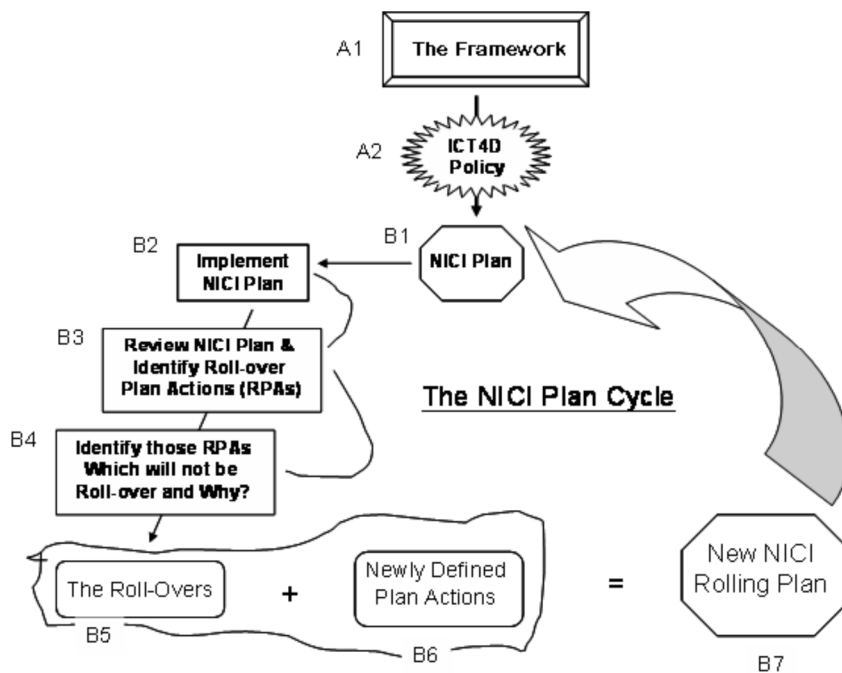
A1: Represents the development of the Framework Document (corresponding to the output of Phase 1 of the NICI methodology)

A2: Represents the development of the Policy Document (corresponding to the output of Phase 2 of the NICI methodology)

B1: Represents the development of the NICI Plan (of which one is to be developed for each of the NICI cycles within the stipulated time-frame of the ICT4D Policy) -- This also corresponds to the output of Phase 3 of the NICI methodology – this phase is to be repeated for each NICI cycle

B2: Represents the implementation of the Plan -- this incorporates the requisite resource mobilization to implement the initiatives of the Plan (this corresponds to Phase 4 of the methodology and is to be repeated for each NICI cycle)

B3, B4, B5, B6: Are all self-evident, --- involving the monitoring, the evaluation and the review of the implementation of the Plan (as per **B3**).With **B4** and **B5** providing for rolling over work-in-progress and 'not-implemented' planned actions into the next NICI plan as the need be, with **B6** representing new additional planned actions for the next NICI Plan.

B7: Represent the next (new) NICI Plan for the next NICI cycle.

The entire NICI Planning cycle process is based on the *principle of rolling-over*. Hence the NICI plans are not distinct mutually exclusive self-contained plans but rather rolling plans – with one plan rolling into another. The Gambia NICI-1 process has now completed its first NICI cycle involving the development of the development, implementation and the review of the 1st (ICT4D Policy – the *NICI-1 Policy Statement* and the corresponding *Gambian ICT4D-2013 Action Plan*.

1.2.3 Elements of the NICI-1 Policy and the ICT4D-2013 Action Plan

The Gambian NICI-1 Policy Statement was based on the following *Vision* and *Mission* Statements

1.3 The Vision Statement
To leverage the benefits of ICTs for a people-centered, free market based and export-oriented socio-economic development strategy built on principles of public-private partnership for wealth creation.

1.4 The Mission Statement
To achieve higher growth rates in all spheres of socio-economic activities using ICTs as a platform to exchange data, information, knowledge and a tool to implement applications and provide services in order to 'leapfrog' Several stages of development through a participatory approach in building human resources and a conducive environment.

On the whole, the NICI-1 Policy and the corresponding *ICT4D-2013 Action Plan* were geared towards recognizing the areas where ICTs can contribute to the attaining the overall objective of the Vision 2020, the details of this Vision are elaborated on below.

1.5   *The Vision 2020*

The *Vision 2020* for the Gambia envisages that the country will be transformed into a middle-income country by the Year 2020. The long-term growth strategy of the Vision 2020 is based on four strategic development areas, namely:

- *Accelerating private sector development;*
- *Restructuring economic management;*
- *Developing the human capital base;*
- *Institutionalizing decentralized and democratic participatory government structures processes and systems.*

To achieve these, the Government of the Gambia put in place a Poverty Reduction Strategy Paper (PRSP) -- the Second Strategy for Poverty Alleviation (SPA-II). SPA II priorities are focused on attaining a high level of economic growth (with a special focus on the critical areas of private sector development, agriculture, natural resources, tourism, trade and industry), and a timely attainment of the Millennium Development Goals (MDGs).

The four critical poverty issues addressed under the SPA-II for the Gambia were:

1. Enhancing the Productive Capacity of the Poor.

- Promoting labour-saving devices for Women.
- Providing Access to Credit.
- Re-organizing Agricultural R&D to encourage labour intensive agriculture and development of small ruminants.

2. Enhancing Access to and the Performance of Social Services.

- Expanding access to Basic Social Services in Rural Areas.
- Delivering responsive social programs to the poor.
- Enhancing sustainability and quality of social services.

3. Local Level Capacity Building.

- A Political and Legislative framework for decentralization.
- Empowerment of Local Government Authorities to assume decentralized responsibilities.

4. Promoting Participatory Communications Processes.

- Enhancing Participation beyond Consultation.
- Addressing Gender at National and Local Levels.
- Institutionalizing Dialogue between Government, Civil Society and Donors.

1.2.4 The 10 Pillars of the Gambian ICT4D-2013 Action Plan

For the purpose of the development of the *ICT4D-2013 Action Plan* to implement the provisions of the Gambian NICI-1 Policy Statement, the 10 *policy focus areas* of the Policy were re-organized into 10 pillars of the Plan as illustrated below. Each of these pillars were designed to incorporate specific programmes and initiatives for implementing in concrete terms the various actions of the WSIS Plan of Action. The goal is to make The Gambian ICT4D Action Plans 'WSIS-compliant'.
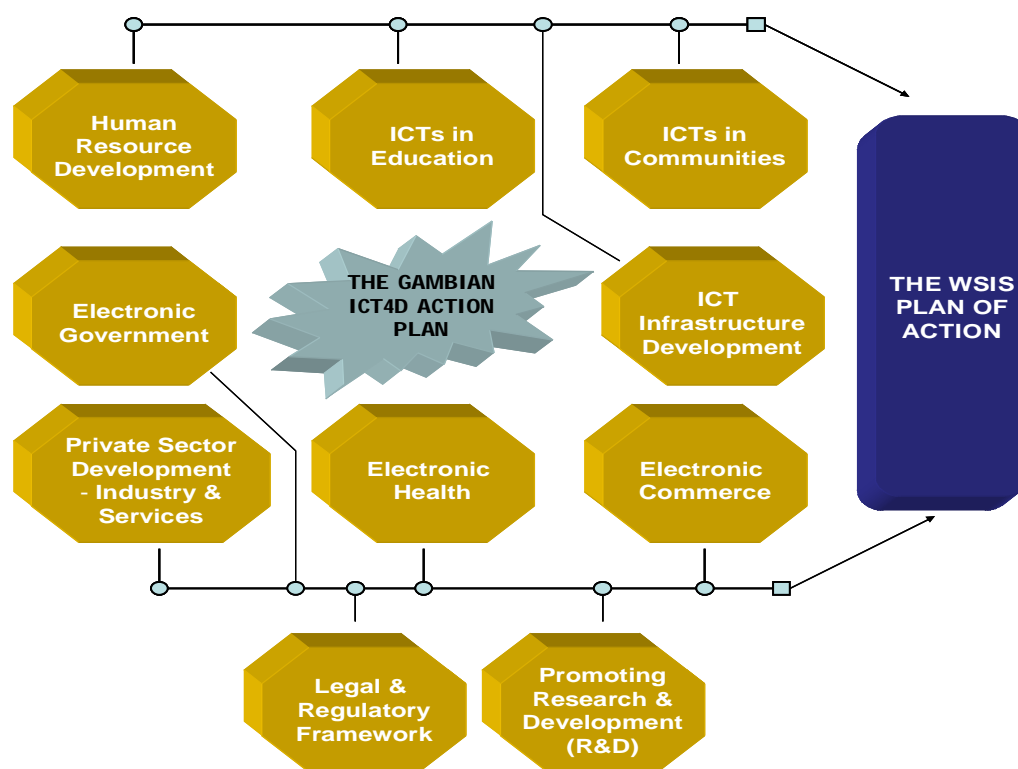
The implementation phase of *ICT4D-2013 Action Plan* which came to an end in 2014 was followed by the evaluation of the implementation of the NICI-1 Policy and the *ICT4D-2013 Action Plan in 2015 as per the* **B3** stage of the NICI cycle

1.2.5 Summary of the Review and Evaluation of the Implementation of the NICI-1 Policy Statement and the ICT4D-2013 Action Plan

The NICI-1 review process, reviewed and analyzed the implementation of the provisions and the measures detailed in the Gambia NICI-1 Policy Statement and the corresponding ICT4D-2013 Action Plan. Specifically the review analyzed the extent and the landscape of the implementation of the Action Plan in terms of the stated policy objectives and measures and indicative action plan projects and initiatives. The specific objectives of the review exercise include:

- Assessment and review of the ICT4D policy, strategies and plans developed and implemented by the Gambia since 2004;

- Assessment of the impact of the policy initiatives in relation to the effectiveness of the ICT4D policy implementation, in terms of what has been achieved as a result of the plans and strategies implementation;

- Identifying specific sectors upon which the Gambia has placed emphasis with reference to the country's ICT4D policy goals and objectives, making reference to the overall ICT4D plans and advice on future directions.

- Identifying strengths and challenges with reference to lessons learnt during the development and implementation of the NICI policy plans and strategies;

- Identifying new directions and target areas as regards ICT policy development and implementation to ensure ICTs make significant contribution to development of the country in the coming years.

The Impact Assessment Periods

In order to clearly assess the impact of the NICI Policy and the, ICT4D-2013 Action Plan, the impact assessment analysis was carried in respect to three periods:

(i) **Impact Assessment Period 0 (IAP-0):** *The period prior to the development of the NICI-1 Policy (2000 – 2004).* This is the period prior to the NICI process which commenced in 2004.

(ii) **Impact Assessment Period 1 (IAP-1):** *The NICI-1 Policy Development and Implementation Period (2004 – 2009).* This is the period prior to the development of the ICT4D-2013 Action Plan; it signifies the time between the development and the implementation of the NICI Policy provisions without the development of the action plans.

(iii) **Impact Assessment Period 2 (IAP-2):** *The ICT4D-2013 Action Plan Development and Implementation Period (2010- 2014).* This period is the implementation time-frame of the ICT4D-2013 Action Plan. It denotes the time during which the Policy that informs the development of the Action Plan and as well as the Plan itself are being implemented.

The **IAP-0** provided the requisite baseline data or benchmark that serves as a backdrop for assessing the actual impact of the implementation of the NICI Policy and corresponding action plan. The impact assessment evidence obtained in respect to **IAP-1**, serves as baseline (reference point) data to establish the level and scale of the impact of the implementation of the ICT4D-2013 Action Plan during period **IAP-2**.

The impact assessment based on evidence provided by various indicators during the identified three periods, was carried out at two levels, namely the:

 (i) *NICI Process Impact Assessment (NP-IA)*: involving the overall impact assessment of the entire NICI-1 process involving the period of the implementation of the NICI-1 Policy and the ICT4D-2013 Action Plan (the combine impact assessment of periods **IAP-1** and **IAP-2**) and

(ii) *ICT4D-2013 Action Plan Impact Assessment (ICT4D-IA)*: involving the impact assessment of the implementation of the ICT4D-2013 Plan alone.

As illustrated below, the *NICI Process Impact Assessment (NP-IA)* examined the outcome of *IAP-2* over **IAP-0** and the *ICT4D-2013 Action Plan Impact Assessment (ICT4D-IA)* examines the outcome of *IAP-2* over **IAP-1**
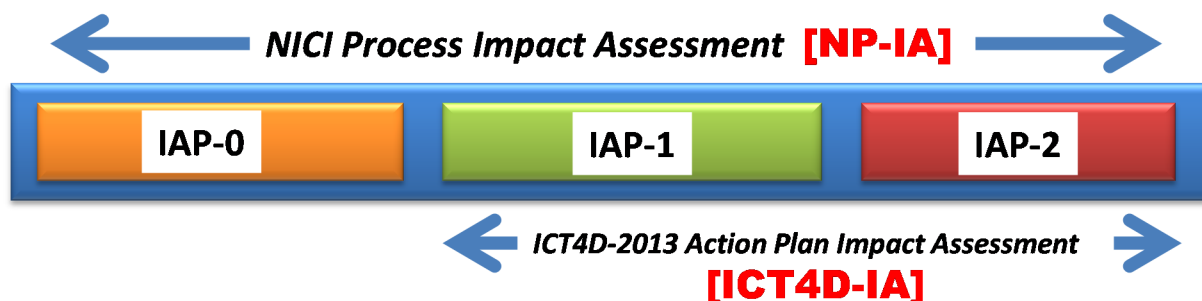
Summary of the Results of the Impact Assessment

- *ICT Infrastructure and Services Deployment*

The review in relation to the impact assessment of the implementation of the NICI-1 policy and the associated action plans points to the fact that the level of the deployment and the roll-out of *ICT infrastructure and services and access* improved appreciably during the NICI-1 policy and the ICT4D Plan implementation process.

The key findings are:

- The level of the deployment and the roll-out of *ICT infrastructure and services* and the level of access to these infrastructure and services clearly points to the fact that an appreciable impact has been registered during the policy and the plan implementation periods. For example, the number of mobile telecom and communication operations as well as ISPs increased from the

pre-NICI process period of zero to 4 and 5 operators respectively during the NICI process; the number of fixed telephone lines subscriptions increased by an average percentage point of about 30%; the number of mobile cellular subscribers increased by a percentage value of as high as 99.92% (during the entire NICI process (NP-IA)) and 35.09% (during the plan implementation period (ICT4D-IA)).

- The broadband infrastructure and services roll-out also witnessed a major improvement resulting in the *fixed broadband subscription per 100 inhabitants* registering a 100% impact value during the ICT4D-2013 Plan implementation period; with the *mobile broadband subscription per 100 inhabitants* registering a high percentage increase, with the mobile broadband subscription recording an impact value of 100% during the ICT4D-2013 Plan implementation period.

- On the *Internet infrastructure and services deployment and access,* major improvements were also registered. For example, fixed Internet subscription increased in the region of 91% during the Plan implementation period with the *Internet users as percentage of the population* increased by 76.43% during the same period.

  o *ICTs-in-Education: ICT Deployment, Utilization and Access*

5. The findings of the NICI-1 Policy and the ICT4D-2013 Action Plan implementation in relation to the *ICT situation in the schools and the tertiary institutions are summarized as follows:*

- The review shows that a major change was registered during the post NICI-1 policy period, with for example, a high 97.4% of teachers/lecturers at tertiary level having access to computer/laptops. The corresponding figures for teachers in basic schools was 34.3% and that for secondary and vocational school teachers was 36.5%. Also the findings shows that on average, the prevalence of computer usage for educational purposes across all levels of the educational system was around 67% with the tertiary institutions figure about 100%.
- On the level of computer literacy within the Gambian education system, whilst evidence prior to the NICI-1 process shows that on average only 3.3% of the teachers in the basic schools surveyed were computer-literate, with the figure for the secondary and vocational schools was on average 35% and that for the tertiary institutions was just 13.9%; the post NICI process period shows an appreciable improvement at all levels with on average, 56% of basic schools teachers surveyed categorized as being ICT (or computer) literate. The average figure for the secondary and vocational schools teachers was 54.4% classified as being computer literate; with a high 94.7% of the lecturers in the tertiary/university institutions classified as computer-literate.
- On the level of *Internet access and usage* within the Gambian Educational System, the Report clearly shows that the evidence in relation to the IAP-2 (during the NICI process) period compared to that of the IAP-0 period (prior to the initiation of the NICI process), do point to the

fact that there has been a major improvement in the area of Internet access and usage at all levels of the educational system in the Gambia.

One whole, the impact assessment in relation the deployment and exploitation of ICTs within the Gambian educational system shows that the NICI-1 process constituting the development and the implementation of the NICI-1 policy and the ICT4D-2013 Plan did have an appreciable impact on the deployment and the utilization of ICTs in the schools, colleges and the universities.

Also it can be concluded that the implementation of the NICI-Policy and the programmes and initiatives of the E-Education and other associated sub-plans of the ICT4D-2003 Action Plan did impact on the level of Internet access and its usage to support education and learning activities with the Gambia educational system

o *ICTs Deployment to Support Health Delivery*

The findings of the review in relation to the impact of *ICTs within the Health Sector* due to the NICI-1 process, carried out by comparing the before the NICI process (IAP-0) and the post NICI process (IAP-2) evidence of key indicators of the deployment and the use of ICTs within the health sector shows that: the impact of the implementation of the NICI Policy and the programmes and initiatives of the E-Health sub-plan of the ICT4D-2013 Action Plan has been minimal.

On the whole the evidence points to the fact that the NICI-1 process did not make appreciable impact in respect to the deployment and the utilization of ICTs to support and drive the delivery of health services within the Gambia.

o *ICTs-in-Communities: ICT Deployment, Utilization and Access*

On the impact assessment in relation to *ICTs in Communities*, it was established that whilst prior to the NICI process, the vast majority of households had access to radio, with a reasonable percentage having access to TVs, the majority of households surveyed do not have access to computers and the Internet. The findings relating to the post NICI period shows that whilst the level of access to radio and TV did not change that much during the entire NICI process when we compare the percentage of households with access to radio and TV during the post NICI process (IAP-2) period to that of the pre-NICI policy (IAP-0) period, the access to the Internet, mobile phones and computers improved appreciably during the NICI process. The percentage increases for Internet access was 89.81%, that for access to computers was 74.80% and for mobile phone access was 25.33%.

On the whole the impact assessment analysis shows that the NICI-1 Policy and ICT4D Action plan implementation did make an appreciable impact in respect to the deployment and the utilization of ICTs within the communities, namely in households and in the Gambian society at large.

o *E-Government: ICT Deployment, Utilization and Access within Government*

In relation to the impact assessment of the implementation of the *e-government strategies, programmes and initiatives*, the Review shows that because there are no comparable data on key e-government deployment and roll-outs covering the pre-NICI process (IAP-0) and the post NICI process (IAP-2) periods, it was difficult to carry out a realistic impact assessment in respect to evidence of the impact of the NICI process in the area of e-government programmes and initiatives implementation.

Given that of the total 73 programmes and initiatives of the E-Government sub-plan, only 14% were not implemented (NIP); with 23% completed (CPT) and 63% being project in progress (PIP), it is reasonable to assume that the implementation of the provisions of the E-Government policy and the corresponding strategies and E-government sub-plan did make an impact. It is therefore fair to conclude that the NICI process did make some impact in respect to the deployment and the utilization of ICTs within Government institutions.

o *Impact Assessment Analysis: Economic & Productive Sectors*

The economic and productive sectors considered for the impact analysis include those of Agriculture and Tourism

ICT Deployment, Utilization and Access to Support Agriculture Development

The evidence in relation to the impact assessment analysis of the implementation of the *e-agriculture policy, programmes and initiatives of the* NICI-1 Policy and the ICT4D-2013 Plan shows that due to the lack of baseline data in respect to the level and the degree/spread of the ICT landscape and deployment within the agriculture sector prior to the NICI process, and as such it was not possible to carry out a realistic impact assessment analysis,

The findings of the impact assessment in relation to the post NICI process situation did provide some indications of the extent of the ICT deployment and utilization within agricultural establishments at the end of the implementation time-frame of the ICT4D-2013 Action Plan.

Also due to the fact that of the total 84 programmes and initiatives of the E-Agriculture sub-plan only about 10% were not implemented (NIP); with 13% recorded as completed (CPT) and 77% are implementation in progress (PIP) it is reasonable to assume that the implementation of the E-

Agriculture policy provisions and the corresponding E-AGRIC sub-plan did make an impact. It is therefore safe to conclude that the NICI process did make an appreciable impact on the Agriculture sector in respect to the deployment and the utilization ICTs within this key sector of the Gambian economy.

ICT Deployment, Utilization and Access to Support Tourism Development

The findings of the impact assessment analysis in relation to the implementation of the *E-Tourism policy and the corresponding programmes and initiatives* did point to the fact that although due to the lack of ICT baseline data in respect to the Tourism sector prior to the NICI process, the evidence in relation to the extent of the ICT deployment and utilization within the Tourism establishments and institutions at the end of the implementation time-frame of the NICI-2013 Action Plan *points to the fact that the NICI process did make an appreciable impact on the sector.* Also given the fact that of the total 40 E-Tourism sub-plan's programmes and initiatives only, 8% were not implemented (NIP), with about 15% recorded as completed (CPT) and 77% recorded as projects in progress (PIP) it is reasonable to assume that the implementation of the E-Tourism policy provisions and the sub-plan did make an impact during the NICI process.

It is therefore safe to reasonably conclude that during the NICI process, the deployment and the utilization of ICTs within the Tourism sector did impact on the development and the growth of this sector of the Gambian economy.

o *Services and Communications Sector Development*

The Review on the impact assessment analysis attributable to growth in *services and the communications sector (private sector)* during the NICI process, noted that the services and communications sector, a key sub-sector of the private sector of the Gambian economy is responsible for the major growth in ICT deployment and utilization within all other sectors of the economy.

Given that the telecommunications and the communications sub-sector forms a key constituent of the services and communication sector and given the appreciable growth experienced by this sub-sector during the NICI process, *it is reasonable to assume that the development and the implementation of the ICT Policy and the corresponding ICT4D-2013 Action Plan did contribute to the growth of the sector.*

It is also safe to assume that the growth of the Gambian services sector during the NICI process, wouldn't have been possible without the deployment and the exploitation of ICTs within the sector.

On the whole, it is therefore reasonable to conclude that during the NICI process, the growth of the services and communications sector was ICT driven and the deployment and the utilization of ICTs

within the services and communications sector did impact on the development and the growth of the services sector and on the overall private sector of the Gambian economy

Examining the Economic Outlook of the Gambia at the End of the NICI-1 Process

1.2.6 Implementation of the NICI-1 Policy and the ICT4D-2013 Plan: Lessons Learnt

The Review identified a number of *specific challenges and key policy relevant lessons in* relation to the development and the implementation of the NICI policy and the corresponding Action Plans. The key ones are:

- The lack of effective coordination structures and mechanisms to support the monitoring and evaluation of the implementation on a periodic basis was identified as one of the challenges during the implementation stage. It is noted that as a key lesson, since the implementation of the NICI policy and the associated action plans is decentralize, and as such not implemented by one single entity it is essential that the implementation efforts of the various agencies are not only coordinated but also mechanisms must be put in place for periodic monitoring and evaluation of the implementation process. The need to set-up institutional and organizational-level coordinating and implementation monitoring on a periodic basis during the next phase of the NICI process is therefore paramount.

- Fragmentation of the Implementation of ICT4D initiatives was noted as another area of implementation challenges to the effect that: despite the fact that there is a national ICT4D Action Plan serving as a planning framework for coordinating on a national level all ICT4D initiatives in the country, some initiatives were still being implemented outside this framework partly due to the fact that a number of these initiatives were donor funded and hence need to be implemented using the funds made available and tied to these initiatives by the donors. The key lesson is that there is a need to coordinate the efforts of donors within the framework of the national NICI process such that, donor funded ICT4D initiatives could be mainstreamed into the national ICT4D process to ensure maximum impact of resources used to support the implementation of the action plans.

- Another key implementation challenge was identified as the lack of financial resources and funds to implement a number of the programmes and initiatives by the designated implementation agencies. Also linked to the financial resources mobilization challenges is the fact that the implementation of a number of the programmes and initiatives of the sub-plans were not tied to the budgetary regimes and schedules of the implementation agencies. The key lesson here

relates to the need to tie the implementation of future ICT4D Plans to the annual national budgetary provisions and schedules of the implementations agencies, especially those in the public sector.

- Sustainability challenges was identified as a problem area, due to the fact that some aspects of the Gambia NICI process were donor supported and as such do have some sustainability challenges when funding dries out. The key lesson is the need to build sustainability into the implementation of the various sub-plans. Efforts must be made to ensure Government buy-in and ownership of the process and commitment to fund and ensure the sustainability of the implementation of the various initiatives of future ICT4D Action Plans.

- The implementation challenges relating to the fact that a number of the implementation agencies lack the requisite technical and professional level human resources critical for supporting the implementation of their designated programmes and initiatives was noted in the Report. The lack of requisite human resource was compounded by the fact that, a number of the key HRD sub-plan initiatives designed to address the critical shortfall in requisite human resources were either not implemented or are still work-in-progress. The key lesson is that the need to address the shortfall in this area is paramount for the next phase of the Gambian NICI process.

On the specific recommendations on actions to take to support the next phase of the Gambian NICI process, the Review report noted the followings:

- Developing a National E-Leadership Capacity to encompass: (i) top-level political leadership; (ii) leadership of core group of senior administrative managerial and technical personnel, expertise and manpower within MDAs; (iii) key system development and deployment personnel to serve as critical technical expertise corps; and (iv) core group of dedicated senior level decision makers and professionals;

- Putting in place the requisite ICT4D Implementation Coordinating Structures and Mechanisms to among other things: coordinate the efforts of the various implementation agencies; to monitor and evaluate on a periodic basis the status of the implementation of the designated programmes and initiatives; to put in place and implement on a periodic basis a programme to facilitate the ownership of the Plan execution process by the implementation agencies;

- Preparing a Resource Mobilization Document (RMD) to support the implementation of each of the future ICT4D Action Plans to provide comprehensive estimates of the cost of implementation of the programmes and initiatives of these Plans in order to come out with an idea of the

estimated total cost of implementing the Plans and as well as provide possible sources for mobilizing the required financial resources.

Specifically on recommendations on new directions and target areas, the report noted the followings:

(i) Identifying and Rolling Over Relevant Programmes and Initiatives of the ICT4D-2013 Plan

Given that a number of the programs and initiatives of the various sub-plans of the ICT4D-2013 Action Plan are classified as either 'not implemented' (NIP) or 'project-in-progress' (PIP), there is a need to identify these and roll-over to the next ICT4D Action Plan those that are deemed relevant for implementation during the next NICI phases.

(ii) Identifying new and emerging thematic areas of ICT4D Plan Development and Implementation

Since the development of the NICI Policy and the ICT4D-2013 Action Plan in 2010, some new thematic areas have emerged on the ICT4D scene which need to be taken on board within framework of the next NICI planning process. These areas among others include:

- Broadband
- Cyber Security
- Climate Change and Environment
- Green ICT and E-Waste
- Geo-Information

(iii) Identifying Targeted Areas of Subsequent ICT4D Action Plans

To target using ICTs as key drivers to develop sectors of the economy to ensure that the Gambia's progress towards the development of its information and knowledge economy is accelerated in information and technological age it is recommended that the next sets of ICT4D-Action Plans should be targeted at programmes and initiatives with the potential to promoting:

- Economic Growth and Jobs
- Private Sector Development and Empowerment
- Government Process, Systems and Structures Modernization
- Science Technology and Innovation
- Agriculture Development and Modernization
- Social Services Delivery and Empowerment
- Advanced ICT Infrastructure Development

It is envisaged that these targeted focus areas will enable the Gambia make substantial progress towards developing its information and knowledge-based economy and society within a given time-frame.

2.1 A Review of Key Socio-Economic Development Policy Frameworks of the Gambia

The Gambia since independence has formulated and implemented a number of socio-economic development policy frameworks to address the nation's developmental challenges and drive its development agenda. The key ones are documented below:

Policy Framework	Sector/Focus	Goal/Purpose/Aspiration
The Gambian Vision 2020 - The Gambia Incorporated	Economy-wide (Multi-sectorial)	Launched in 1996 the Vision 2020 is Gambia's socio-economic development blueprint for the period 1996-2020, aimed at raising the standard of living of the Gambians by transforming the country into a middle income country by the year 2020. The long-term objectives of the Vision 2020 were targeted at key focus socio-economic development areas including: agriculture and natural resources; industry and infrastructure; services; human resource development, population; housing; environment, the private sector and public institutions
Poverty Reduction Strategies - SPA I and SPA II, Poverty Reduction Strategy Paper (PRSP) including the PRSP I and the PRSP II	Economy-wide (Multi-sectorial)	Multi-sectorial socio-economic development strategies anchored on the implementation of the provisions of the Vision 2020 to facilitate Gambia's social and economic development with focus on poverty reduction
Programme for Accelerated Growth and Employment (PAGE) - 2012-2015	Economy-wide (Multi-sectorial)	Launched in 2011, the PAGE also refers to as PRSP III is a medium-term development strategy and plan designed for implementing the provisions of the Vision 2020. The overall objective of PAGE strategies is to accelerate pro-poor growth and generation of significant employment. The PAGE's principal strategic objective is to accelerate growth and employment, and is based on five pillars: (i) accelerating and sustaining economic growth; (ii) improving and modernizing infrastructure; (iii) Strengthening human capital stock and enhancing access to social services; (iv) improving governance and increasing economic competitiveness; and (v) reinforcing social cohesion and mainstreaming cross-cutting issues.
The Private Sector Development Strategy (PSDS) -2015 - 2019	Private Sector	The PSDS is targeted at the development and the enhancement of growth and competitiveness of the private sector and aimed at contributing to the achievements of the

		country's medium-term objectives as outlined in the PAGE and succeeding medium-term plans and by extension the long-term developmental objectives of the Vision 2020
The National Science and Technology Policy (2013-2022)	Economy-wide (Multi-Sectorial)	The Policy is aimed at promoting the harnessing of science, technology and innovation for a vibrant and sustainable socio-economic growth and development for improved quality of life for all Gambians. The Policy in effect articulates the nation's common objectives and commitment to create synergy for the development and effective utilization of STI for the socio-economic transformation of the Gambia and its increased integration into the world economy It aims at consolidating the actions of the Gambian Government in ensuring that STI features effectively in the country's overall development agenda.
The National Information and Communication Infrastructure (NICI) Policy and Action Plans	Economy-wide (Multi-Sectorial)	Launched in 2004, the NICI-1 Policy and subsequent action plans (The ICT4D-2013 Action Plan) was aimed at driving the nation's ICT for Development (ICT4D) agenda in the emerging technological age toward the development of the Gambia information and knowledge-based economy and society
Agriculture and Natural Resource Policy (2009-2014)	Agriculture	Anchored on the provisions of the Vision 2020 and the PRSPs, the Policy was aimed at promoting the development of the agriculture and natural resource sector to enhance its productivity and competitiveness and its contribution to socio-economic development and poverty reduction
Gambia National Agricultural Investment Plan - GNAIP (2011-2015)	Agriculture	The Gambia National Agricultural Investment Plan (GNAIP) served as a medium-term (2011-2015) strategic plan targeted at achieving an increased contribution of the ANR sector to the national economy by improving productivity through commercialization and active private sector participation predicated on a sound national macroeconomic framework aimed at enhanced growth and poverty reduction. To meet this goal, the developmental goal of the GNAIP was to increased food and nutritional security and household incomes including for vulnerable households through increased ANR production, productivity and marketed output, based on sustainable use and management of natural resources in support of national goals of poverty reduction and improved livelihoods
The Gambia Education Policy (2004 -2015)	Education	This Policy, premised on both Vision 2020 and PRSP, provides a policy framework that sets out the national agenda for education in the Gambia for the period 2004-2015

The Education Sector Policy (2016-2030)	Education	This Policy, serving as a follow-up to the Gambia Education Policy (2004 -2015) is premised on the Vision 2020, Programme for Accelerated Growth and Employment (PAGE) and the Sustainable Development Goals (SDG) and is aimed at providing accessible, equitable and inclusive quality education for sustainable development;
The National Youth Policy (2009-2018)	Education (Youth Development)	This Policy constitutes the third of the ten-year policy aimed at investing in Youth to promote sustainable development. The Policy is based on the Gambia Government's commitment to creating an enabling environment for youth as an integral part of the national development – It is aimed at addressing youth issues within the larger development goals of the country
The National Health Policy (2012-2020)	Health	This Policy anchored on the Vision 2020 and the Program for Accelerated Growth and Employment (PAGE) is targeted at contributing to socio-economic development and wealth creation by promoting and protecting the health of the population through equitable provision of quality health care. The Policy is targeted at achieving the vision: *provision of quality and affordable Health Services for All by 2020*
The Gambia National Health Strategy and Plan (2014-2022)	Health	The Policy aims to achieving the provision of equitable, affordable and quality health and related services at the highest attainable standards to all Gambians and the Plan is anchored on the National Health Policy 2012-2020 which is linked to the country's development blue prints: the Vision 2020 and Programme for Accelerated Growth and Employment (PAGE);
The National Nutrition Policy (2010-2020)	Health	The Policy framework which is anchored on the PRSPs and other sectorial policies seeks to address the major nutritional problems in the Gambia, and its implementation is supported by Strategic Action Plan
The Gambia National Gender Policy (2010 -2020)	Gender (Multi-Sectorial)	The Policy based on the recognition that sustainable economic and social development of the country requires full and equal participation of women, men, girls and boys; is aimed at guiding and directing all levels of planning and implementation of development programmes, with a gender perspective including resource allocation geared towards equitable national development
The National Employment Policy (NEP) and the National Employment Action Plan (NEAP) (2003-2008)	Employment Generation (Multi-Sectorial)	The NEP and NEAP (2003-2008) provided a framework to support poverty reduction activities through the creation of decent and productive employment opportunities, within the context of PRSP I & II. They were specifically aimed to

		addressing the acute unemployment and underemployment problems in the country especially amongst youths and women.
The National Employment Policy and Strategy – NEPS (2010-2014)	Employment Generation (Multi-Sectorial)	The NEPS is a follow-up policy framework to the NEP and NEAP (2003-2008) and based on the premise that a revised and updated employment policy and programme is the best option open for promoting productive employment in the country through a multi-pronged employment generation strategy which recognizes the need to reorient the entire national development strategy (PRSP) so that it becomes more employment intensive. The Policy was therefore aimed at the promotion of more rapid growth of the productive employment sectors – the labour intensive and labour absorbing economic sectors, particularly agriculture, fisheries, tourism, construction and the informal sector through greater support and incentives for the private sector, and access to credit for productive investment
The Gambia's Trade Policy 2011	Trade	The vision of this policy was aimed at promoting trade as an engine for economic growth and to take full advantage of the Gambia's potential in trade for greater integration into the global economy and create employment for poverty reduction
The National Entrepreneurship Policy	Private Sector	This is a 2016 draft Policy serving as an extension to the National Entrepreneurship Promotion Strategy (NEPS) and is aimed at building a national entrepreneurship ecosystem in the Gambia, to support inclusive and green entrepreneurship development targeted at creating new economic activities, improving local productive capacities, providing solutions to environmental and social challenges and generating decent jobs
National Export Strategy -NES (2013-2017)	Trade	Anchored on the Vision 2020 and the PAGE, the NES seeks to address the imbalance and to promote, develop, and diversify the country's export base. The Policy is aimed at the implementation of initiatives targeted at creating employment; alleviating poverty; improving and sustaining the contribution of the NES sectors to GDP; improving trade facilitation; and promoting Gambian women participation in the export sectors including those relating to exports of Horticulture, Fisheries, and Cashew
The National Tertiary & Higher Education Policy (2014 – 2023)	Education	The Policy is anchored on the Vision 2020, the Programme for Accelerated Growth and Employment (PAGE) and other national policy and strategy initiatives to reaffirm relationship between tertiary and higher education, the job

		market and national development aspirations and efforts. It is aimed at promoting and enhancing the role and importance of tertiary and higher education in the process of national development
The Gambia National Cyber Security Strategy	ICT	The strategy provides guidance on the development of: a cyber-security ecosystem for the Gambia, the legislative, regulatory and institutional framework for cyber-security in the Gambia; the requisite cyber-security capacity and capabilities and the development of guidelines to: (i) ensure that critical public and private ICT systems and infrastructure are protected and made resilient and (ii) foster the adoption of security standards within the Government and the private sector

2.2 Summary of Key Socio-Economic Development Policy Objectives and Priorities of the Gambia

Some of the key policy objectives and goals of the Gambia as identified in the socio-economic development policy frameworks developed since Independence are:

Broad Socio-Economic Development Policies and Goals

- To pursue a sustainable development agenda with the potential to transform the economy from a low income under-developed economy to a middle or reasonable high income economy that will raise the per capita income, create jobs and wealth

- To pursue an ICT-led development agenda, focusing on the use of ICTs as an enabler of a broad-based development of the various sectors of the Gambia economy

Private Sector Development Policies and Goals

- To prioritize the development of the private sector to serve as an engine for the accelerated development of the Gambia economy

- To actively promote local and foreign direct investment to support economic growth initiatives

- To reinforce the liberal and market oriented policies in prices, exchange and payment mechanisms and adopt an aggressive approach to export promotion

- To promote the modernization of the financial sector to ensure a constant flow of credit and investment into the key sectors of the economy

- To promote equitable access to the necessary factors of production, such as land, credit, finance, technology, improvements in health, education, skills training, poverty and institutional support services

- To enhance the capacity and output of productive sectors of the Gambian economy

- To promote the creation of an enabling environment for growth of Micro Small and Medium Enterprises (MSMEs)

- To promote an enabling entrepreneurship environment, quality entrepreneurship education and a thriving entrepreneurial spirit within the Gambia

- To encourage the development of entrepreneurial culture focusing on technology and innovation, finance and capacity-building, education and skill development, and the promotion of an entrepreneurial spirit at a national level

Agriculture Development Policies and Goals

- To transform the economy from one based on subsistence rain-fed and low productivity smallholder agriculture sector to a diversified globally competitive economy with a vibrant value-added services sector and dynamic knowledge-based industry and production sector which is capable of adjusting effectively to changes in the global economy

- To promote the transformation of the agriculture and natural resource (ANR) sector from a traditional low output, subsistence economy with centralized structures to a modern, market-led sector with efficient value chains diversified production base and effective decentralized structures

- To develop an export-oriented agro-business and industry through the modernization of agriculture

- To promote national efforts for food self-sufficiency

- To achieve sustainable levels of food and nutrition security in the country in general and among vulnerable populations in particular

- To promote and facilitate the development of a commercialized ANR sector ensuring measurable competitive, efficient, and sustainable food and agricultural value chains, and linkages to markets

- To increase agricultural and natural resource (ANR) output of both domestic and exports produce in order to ensure food security and generate earnings of foreign exchange to finance other aspects of the development process

- To accelerate the process of commercializing and modernizing the ANR sector through implementation of special initiatives targeted at aggressively promoting and popularizing the use and access to affordable technologies, essential inputs and other resources with the potential to increase the productivity and competitiveness of the sector

- To accelerate the process of the transformation of the agricultural sector from a traditional subsistence economy to a modern market-oriented commercial sector with well integrated food chains and a viable agro-processing private sector, resulting in increased incomes of agricultural value chain actors (including farmers, input suppliers, processors, traders and exporters

- To increase the food security, income generating capacity and nutritional status of the farming community especially women and youth through the use of sustainable land and water management practices and the use of modern farming techniques and methods

- To improve national and household food security and adequate nutritional levels, including during periods of disaster, with attention to targeting the most vulnerable groups and households in rural and urban communities

- To provide effective linkages between ANR and other sectors of the economy such that developments in the non-agricultural sectors, particularly manufacturing and tourism are founded on a firm and diversified ANR base capable of progressively releasing both labour and financial to other sectors of the economy.

- To diversity the agricultural and natural resource (ANR) base of the country to facilitate the production of a wider range of food and export produce in order to reduce the fluctuations and uncertainties associated with rural household incomes and export earnings

Science and Technology Policies and Goals

- To promote science, and technological innovation to support industrial and product development as well as agriculture productivity and the provision of services

- To promote the creation of a scientifically cultured society that contributes to the realization of a knowledge-based economy to support and improve the quality of life of the people of the Gambia

- To pursue a policy that will build and strengthen national capacity and competencies in STI that will enhance the attainment of economic development and national competitiveness

- To strengthen the nation's capacity and capability to effectively engage STI as a tool for wealth creation and social well-being through education, expansion and upgrading of the STI infrastructure

- To promote the development of the nation's ability and capabilities to commercialize national products, processes, services and outputs of research and innovations that meet market demands in a competitive way through the adoption of an aggressive export –oriented strategy

- To foster a culture that promotes creativity, innovation and entrepreneurship in STI through the creation of an environment that rewards market-driven ideas, supports science and innovation and inspires interest in STI indigenous technology careers

- To encourage and promote community appreciation of the value and the social and economic benefits of STI and facilitate their active participation in STI developments and initiatives relevant to their daily lives

- To promote awareness and participation in STI to increase the number of students offering STI-related areas at all levels (both formal and non-formal) of the education system;

- To strengthen the nation's scientific, industrial and agricultural research as well is its R&D capacity to develop the its STI capabilities, systems and infrastructure for promoting national development efforts

- To strengthen scientific research as a means to spur innovation and entrepreneurship especially among the youth and women to enhance their employment opportunities and their employability

- To promote the repositioning of STI and R&D as key drivers for wealth creation, economic development and social progress

Poverty Reduction Policies and Goals

- To reduce disparities between rural-urban incomes as well as between men and women, curb rural-urban drift and accelerate the pace of development of the rural sector

- To promote the production and processing of adequate food supplies and increase household income

- To address critical factors affecting population growth, while pursuing strategies aimed at establishing middle-sized households in order to facilitate the capacity to generate enough income per household

- To pursue poverty reduction policies through labour intensive programs and improvement of the labour environment

- To promote access to education as a means to poverty reduction among the population

- To promote the creation of an enabling policy environment to facilitate for rapid economic growth and poverty reduction

- To improve the coverage of basic social services and social protection needs of the poor and vulnerable

- To enhance governance systems and build the capacity of local communities and Civil Society Organizations (CSOs) to play an active role in economic growth and poverty reduction

Youth and Women Empowerment Policies

- To invest in, build the capacity and economically empower the Gambian Youth for national development

- To promote the integration of youth perspectives into national development programmes, interventions and initiatives order to improve the lives of all Gambians, especially the youth

- To prioritize the socio-cultural development of Youth as a key component of national development agenda

- To focus efforts towards the eradication of all forms of discrimination against women and children, the girl child in particular

- To promote the greater involvement of girls and women in science and technology education (STE)

- To mobilize requisite resources to support various gender and women empowerment interventions and initiatives

- To empower women to be able to take their rightful position in national development.

- To achieve gender equity and women empowerment as an integral part of the national development

- To promote and enhance the economic and social participation of women and girls for sustainable and equitable development and poverty reduction

- To achieve sustainable eradication of gendered poverty and deliver an acceptable quality of life

- To promote the strengthening of national institutions capacities to encourage and facilitate the participation of women in national development efforts

- To ensure gender parity at all levels and equitable access to equality education and appropriate livelihood skills for women and girls

- To promote the use of gender responsive curriculum and educational materials at all levels of the Gambia educational system

- To encourage increased access by women to agricultural extension services

- To promote the development and the deployment of appropriate and affordable gender sensitive technologies within the economy and society

- To promote and facilitate a fair representation of women and women in decision making positions at all levels including nationally and at the organizational level

- To promote the creation of a favourable environment for equal employment opportunities and benefits for women and girls.

- To promote the identification, development, acquisition and utilization of value-added labour and time saving technologies for the benefit of women and men.

Employment Generation Policies and Goals

- To promote full employment as a priority in national, economic and social policy and to enable the economically active population to attain and secure sustainable livelihood through full productive and freely chosen employment and work

- To stimulate economic growth and development, reduce the coincidence of poverty and improve the levels of living by minimizing the rates of unemployment and under-employment

- To promote a well-educated, trained, skilled versatile, self-reliant and enterprising labour force with a view to increasing employment

- To promote the development of relevant manpower/human resources that will continually meet the needs of the nation

- To pursue employment policy that is based on the premise that individuals, groups and communities at large must assume some responsibility for employment creation – and that they should be ready to create their own jobs and would need to move from a culture of "job seekers" to "job creators" and self-employment

- To promote accelerated growth and development of the private sector especially MSME as strategy for employment creation

- To pursue skills and entrepreneurship development and training as means for youth employment creation and generation

- To prioritize the promotion of employment opportunities targeted at the youth and women

Trade and Export Development and Promotion Policies and Goals

- To promote and achieve export-led economic growth

- To improve and sustain nation's export performance achieve trade competitiveness

- To develop requisite human resource and capacity to promote and support trade, especially exports activities and initiatives

- To promote trade as an instrument for rural and urban employment generation and poverty alleviation

Human Capital Development Policies and Goals

- To promote the development of the requisite human resource to meet the changing demands of the key sectors of the economy

- To enhance the human resource development capacity of The Gambia in response to labour market needs

Education Policies and Goals

- To promote the provision of responsive, relevant and quality education for all Gambians

- To promote a broad-based education at all levels of the education system including promoting life-long learning

- To encourage and facilitate equitable access to basic, senior secondary, tertiary and higher education

- To pursue science and technology education (STE) targeting all levels of the Gambia educational system

- To promote the use of ICTs and other educational development and delivery technologies to improve access, equity and quality of STE at all levels of the Gambia educational system

- To support the implementation as well as strengthening of the institutional and management capacity of the technical, vocational education and training (TVET) system in the Gambia

- To provide relevant, sustainable and high quality tertiary education and research to support socio-economic, scientific and technological advances and development, and promotion of excellence in the creation and dissemination of knowledge

- To promote and facilitate the provision of equitable access to high-quality and relevant tertiary and higher education that is sustainable and responsive to national and global needs".

- To mainstream gender in the creation of opportunities for all to acquire literacy, livelihood skills and the utilization of these skills in order to earn a living and become economically self-reliant members of the community

- To promote the understanding and appreciation of the contribution of science and technology to facilitate and support accelerated economic development of the Gambian economy and society

Health Services Development Policies and Goals

- To promote and protect the health of the population through the equitable provision of quality health care

- To provide high quality basic health care services that is affordable, available and accessible to all residents in the Gambia

- To strengthen the health promotion and education component in priority health programmes

- To improve infrastructure and logistic requirements of the public health system for quality health care delivery

Information Society Development Policies and Goals

- To promote the development of a cyber-security ecosystem for the Gambia

- To promote the adoption of cyber-security standards within public and private sector institutions and establishments

- To establish the requisite legal, regulatory and institutional framework on cyber-security for the Gambia

2.3 Towards the Development of the Gambian Information and Knowledge Economy and Society

The overall goal of the Gambian ICT4D process is to facilitate the accelerated development of the nation's economy through the development, deployment and the exploitation of ICTs within the various sectors of the economy and society. Specifically, the broad development goal of the process is to develop and implement ICT4D Policies and their corresponding action plans with the potential to transform Gambia's economy into an information-rich and knowledge-driven economy characterized by:

- A high income economy dominated by trading in ICT products and services
- An economy characterized by a large commercial services sector with a reasonably large and vibrant, ICT services sub- sector and industry
- An economy characterized by a technology-based knowledge-driven industrial sector
- An economy with a globally competitive industrial and services sector which is to a large extent driven by cutting-edge R&D activities
- An economy based on a rich pool of highly skilled human resources in critical skill areas relevant for developing and maintaining a competitive edge on the global market
- An economy in which the majority of the working population are either directly or indirectly involved in information and communications related activities
- An economy with a modern, efficient and competitive agricultural sector
- An economy characterized by a wide-spread deployment and exploitation of ICTs within the society to support the delivery of health, education, government and social services
- An economy characterized by a modern educational system within which ICTs are widely deployed to facilitate the delivery of educational services
- An economy in which a reasonable large proportion of the population have access to information and communications technology products and services
- An economy in which the provision and delivery of goods and services of the key sectors of the economy are to a large extent facilitated by information and communications technologies
- An economy in which the provision and delivery of services by government and its administrative machinery are to a large extent facilitated by information and communications technologies
- An economy based on an advanced and reliable national information and communications infrastructure
- An economy based on a literate society with a high proportion of computer literates.

Evidence shows that although the implementation of the NICI-1 Policy and the ICT4D-2013 Action Plan has resulted in the Gambian making some progress in areas like: developing the nation's ICT infrastructure, addressing regulatory issues to support and facilitate ICT development and deployment;

the deployment, deployment of ICTs within the educational system; implementing selected e-governments systems within the public service to support government administration and service delivery; developing the ICT services sector among others, the Gambia is yet to make substantial progress towards growing its economy and transforming it towards an information and knowledge-based economy.

The ICT4D Policy development process apart from taking into account and mainstreaming the outcomes of the impact assessment of the implementation of the NICI-1 Policy and the ICT4D-2013 Action Plan, the documented lessons learnt and the specific recommendations on actions to take to support the next phase of the Gambian NICI process, is targeted at putting in place and implementing those ICT4D policy provisions that will accelerate Gambian's progress towards developing its information and knowledge-based economy in the emerging technological age.

PART THREE – THE ELEMENTS OF THE ICT4D POLICY STATEMENT

3.1 The Case for the ICT4D Process

The Gambia over close to a 10 year time-frame (2004 and 2014) successfully developed and implemented the *NICI-1 Policy* and corresponding *ICT4D-2013 Action Plan* to drive the nation's socio-economic development process in the emerging information and technological age to achieve its developmental goals and priorities. A review of the outcome of the NICI-1 process did point to some achievements in moving the nation towards developing its information and knowledge-based economy while at the same time clocking some improvements in its key socio-economic development indicators since the commencement of the NICI process.

However the review also point to the fact that the Gambia do have some distance to travel if the nation is to achieve the goal of leveraging on the development, deployment and the exploitation of ICTs within the economy and society to drive the rapid development of the Gambia, with the potential to transform its subsistence agriculture dominated and industrially weak economy into a high-end middle income information and knowledge-based economy within a specified time-frame.

The Government of the Gambia *taking into account*, the achievements and the shortcomings of the NICI-1 process and the lessons learnt; being *mindful* of the need to address the identified developmental challenges facing the Gambia; *acknowledging* that it is possible to drive and accelerate the Gambia's developmental process through ICTs and *motivated* by the fact that the Gambia's accelerated development in the emerging information and technological age will still not be possible without developing and implementing a comprehensive integrated ICT-driven development policy and corresponding action plans; is: *committed to: taking bold steps to re-energize the nation's ICT4D process by re-focusing its vision, mission, policy objectives strategies and action plans to ensure that the stated ICT4D goal of transforming the Gambia into a high middle income information and knowledge-based economy within a specified time-frame is achievable.*

This commitment therefore necessitate the ICT4D process, to involve the development of the *ICT4D Policy Statement*, and the *Gambian Strategic Planning Framework*. This framework guides the development of the ICT4D Policy Statement and specific ICT4D Strategic Action Plans (I-SAPs) set within specific implementation time-frame.

The elements of the *ICT4D Policy Statement* defining the basis for the policy statement, the visioning and the broad policies are detailed below.

3.2 The Basis of the ICT4D Policy Statement

- **The Basic Question Addressed by the Policy Statement**

The Government of the Gambia (GoTG), recognized the need for the ICT4D Policy Statement to address the basic question of how the Gambia can take steps to address its developmental challenges and accelerate the nation's socio-economic development process to improve the social and economic well-being of its people utilizing ICTs as an instrument for driving its developmental process in the information and knowledge age.

- **The Basic Premise of the Policy**

The GoTG acknowledges that the basic premise of the Policy Statement is that, it is possible to drive and accelerate the Gambia's developmental process through the development, deployment and exploitation of ICTs within the economy and society.

- **The Basic Motivation of the Policy**

The GoTG strongly believes that the Gambia's accelerated development in the emerging information and technological age will not be possible without developing and implementing a comprehensive integrated ICT-driven development policy and corresponding action plans

- **The Key Drivers of the Policy**

The Policy is based on the use of ICTs as:

- An Enabler of Rapid Socio-Economic Development
- A Driver for Private Sector Development
- An Enabler of Social Services Development: Education, Health, Poverty-Reduction, Income-Distribution
- A Facilitator of Electronic Government and Electronic Commerce Initiatives
- An Enabler of the Services Sector Development
- An Enabler of Knowledge-driven Industrial Sector Development
- An Enabler of the Agriculture Sector Development
- An Agent for Job and Wealth Creation
- A Tool for Bridging the Gender inequality Gap in Social, Economic and Political Development

3.3 The Vision, Mission, Broad Strategies and Policy Objectives

The Government of the Gambia (GoTG) acknowledges the need to clearly define a Vision Statement and corresponding Mission Statement that will guide and drive Gambian's socio-economic development in the technological age towards the realization of transforming it into an information-rich and knowledge-based economy and society

The Vision Statement

To improve the quality of life and enrich the social, economic and cultural well-being of the people of the Gambia by orientating the socio-economic development of the country towards the development, deployment and the exploitation of ICTs within the economy and society to accelerate the nation's development in the emerging information and knowledge-driven technological age

The Mission Statement

To aggressively modernize and transform the relatively low-income agriculturally dominated and industrially weak economy of the Gambia into a relatively high-income information-rich, knowledge-based and technology-driven economy and society within the next 20 years

The Broad Strategies

To achieve the missions of the ICT4D vision, the (GoTG) is committed to pursuing the following broad strategies:

Strategic A: **Accelerating the Gambia's Socio-Economic Development through the Development, Deployment and Exploitation of ICTs within the Economy and Society**

The Government of the Gambia (GoTG) is committed to pursuing a strategy directed at the development, deployment and exploitation of ICTs within the various sectors of the economy as well as in the society to serve as key driver for socio-economic development towards transforming the Gambia into an information and knowledge-driven economy and society.

Strategic B: **Modernizing and Transforming the Nation's Educational System through ICTs**

The Government of the Gambia (GoTG) is committed to prioritizing the process of the modernization of Gambia's educational system using ICTs and other emerging educational technologies to support teaching, learning and the administration of the educational delivery and to improve and expand on access, equity and quality of educational and training delivery at all levels of the educational system, as well as make the educational system responsive to technological advancement and to meeting the needs

and requirements of the economy and society with specific reference to the development of the Gambian information and knowledge-based economy and society

Strategic C: **Rapid Human Capital Development**

The Government of the Gambia (GoTG) is committed to putting in place and implementing policy interventions and strategies aimed at the prioritization of the development and deployment of the requisite human resources in critical skills areas and expertise to support and drive the development of the nation's information and knowledge-based economy and society

Strategic D: **Prioritizing the Development of the Private Sector focusing on: Agriculture (including Agro-business), Industry (including ICT industry), and Services (including ICT and Financial Services) sub-sectors**

The Government of the Gambia (GoTG) will aggressively pursue a private sector development strategy directed the development of the key sub-sectors of the private sector to support the rapid development of a globally competitive, export-oriented and value-added economy with the potential to create quality jobs and generate wealth to drive and propel the Gambia's development in the emerging information and knowledge age

Strategic E: **Enhancing the Delivery of Social Services through ICTs**

The Government of the Gambia (GoTG) will adopt and implement a strategy aimed at supporting major improvements in the quality of health delivery services and community-based services delivery as well as improving access to these services by the populace through innovative deployment and utilization of ICTs

Strategic F: **Modernizing and Transforming the operations of the Civil and Public Service through the Development and the Deployment of E-government Systems and Services (G2B, G2G, G2C)**

The Government of the Gambia (GoTG) is committed to implementing a strategy aimed at promoting and facilitating through the development, deployment and the exploitation of ICTs the process of the modernization of the civil and public service with the aim to improve administrative efficiency, effectiveness and service delivery through the implementation of electronic government initiatives and systems set within the wider scope of the institutional reform and renewal of the civil and public service

Strategic G: **Rapid Modernization and Deployment of the Requisite National ICT Backbone Infrastructure, Addressing the Nation's Cyber Security Capability and Affordable Broadband Access**

The Government of the Gambia (GoTG) is committed to a rapid ICT infrastructure development strategy to support the process of modernization and expansion of Gambia's information and communications infrastructure and services to improve universal access and service as well as quality of service (QoS)

Strategic H: **Developing Requisite Technology-Neutral Legal, Regulatory Regime; Standards, Structures and Institutions to promote, facilitate and support the rapid Development, Deployment and Exploitation of ICTs within the Economy and Society**

The Government of the Gambia (GoTG) is committed to pursuing a broad-based strategy directed at promoting the development of the requisite legal, institutional and regulatory framework, standards and structures to provide a conducive and enabling environment for supporting and facilitating the process of the development, deployment and exploitation of ICTs within the economy and society

Strategic I: **Developing the Nation's Cyber Security Capabilities and Strength in the Information Age**

The Government of the Gambia (GoTG) is committed to aggressively pursuing a cyber-security prioritization strategy targeted at promoting the development and the enactment, of the requisite cyber security legal framework and provisions to support the secure deployment and utilization of ICTs within the public and private sector as well as safeguard and protect privacy of individuals

Strategic J: **Promoting Cutting-Edge Research, R&D and Science Technology and Innovation (STI) Systems & Products to facilitate rapid Socio-economic Development in the Knowledge and Technological age**

The Government of the Gambia (GoTG) is committed to promoting an STI development strategy aimed at supporting various R&D works and initiatives and other product development and research activities aimed at developing the Gambia's STI capacity and capabilities to support the rapid development of the key sectors of the economy

The Broad Policy Objectives

The pursue the broad strategies targeted at the realization of the stated mission, GoTG is committed to achieving the following broad policy objectives:

1. To aggressively ensure the accelerated development of the Gambia in the emerging technological age through the promotion and championing of an ICT-led development agenda

2. To target the development of the Gambia's private sector to serve as an engine for propelling Gambia's development with the potential to develop into a highly competitive ICT-led value-added and export-oriented sector driven by a globally competitive modern agricultural sector, a technology and knowledge–based modern industrial sector and competitive information-rich value-added services sector with dynamic ICT services and industry sub-sectors

3. To prioritize the rapid development of the requisite human capital, skills and expertise to meet the requirements of a modern and changing economy and to support and drive the development of the Gambia's information and knowledge-based economy in the emerging technological age

4. To develop and modernize Gambia's agriculture sector and develop a dynamic and vibrant export-oriented agro-business industry through the development, deployment, and exploitation of ICTs to improve on agricultural productivity, and the production of agricultural value-added products and services

5. To prioritize the implementation of e-government systems, processes and procedures targeted at: improving the efficiency of the delivery of government and social services; reducing the operational costs of government and public institutions and bringing government closer to the people

6. To promote the extensive use of ICTs and other emerging educational development and delivery technologies at all levels of the Gambian educational system to modernize and transform its operations, processes and deliverables that can position the sector as a key driver of the nation's development process in the 21st century

7. To position and empower the development of tertiary and higher education in the Gambia to serve as a key instrument and engine for facilitating accelerated and sustainable economic and social development in the information, knowledge and technological age

8. To transform the Gambia's tertiary and higher education system into a dynamic subsector capable of: (i) being responsive to technological advances and to the nation's socio-economic development goals and aspirations and (ii) contributing to providing the requisite educational, and training services and environment for producing the right types of skills, competency and expertise required for developing and driving the Gambia's information and knowledge-based economy and society in the emerging technological age.

9. To support the development of the Gambia's research and development (R&D) and science, technology and innovation (STI) capacity and capabilities to meet the changing needs and requirements of the key sectors of the economy to propel the Gambia into an information and knowledge-based high-tech export-orientated modern technology-driven industrial and services dominated economy

10. To create the enabling, facilitating and technology-neutral regulatory environment for promoting an advanced ICT and broadband infrastructure development, deployment and roll-out

11. To promote open access and universal access services to support the development of the Gambia information economy and society

12. To prioritize Youth development and empowerment initiatives, targeting modern skill development and job creation policy measures, interventions and initiatives aimed at encouraging and facilitating the active and productive involvement of the youth in playing transformative role in the nation's development: economically, socially, culturally and politically through the appropriate use of modern empowering and enabling 21st century technologies and resources.

13. To create the enabling environment to support and encourage the development and the empowerment of Women to play a critical role in the nation's development efforts in the emerging information, knowledge-base and technological age.

14. To promote cyber security initiatives that ensure secure access to the nation's public and private ICT infrastructure, systems and services including those related to national security, law and order and to other public and the private sector organizations and establishments

The Broad Policy Goals

Recognizing the need to achieve the stated broad policy objectives, the GoTG is further committed to the following broad policy goals:

Developing Gambia's Information Society and Economy

As key steps towards the realization of the ICT4D vision, efforts shall be directed at achieving the mission to transform Gambia into an information-rich, knowledge-based and technology-driven high income economy and society.

As part of these efforts, the Government is committed to implementing within the provisions of the broad strategies identified for achieving this mission ---- to within the next two decades or less transform Gambia's predominantly agricultural economy and society into:

- A high income economy dominated by trading in ICT products and services
- An economy characterized by a large commercial services sector with a reasonably large and vibrant, ICT services sub- sector and industry
- An economy characterized by a technology-based knowledge-driven industrial sector
- An economy with a globally competitive industrial and services sector which is to a large extent driven by cutting-edge R&D activities

- An economy based on a rich pool of highly skilled human resources in critical skill areas relevant for developing and maintaining a competitive edge on the global market
- An economy in which the majority of the working population are either directly or indirectly involved in information and communications related activities
- An economy with a modern, efficient and competitive agricultural sector
- An economy characterized by a wide-spread deployment and exploitation of ICTs within the society to support the delivery of health, education, government and social services
- An economy characterized by a modern educational system within which ICTs are widely deployed to facilitate the delivery of educational services at all levels of the educational system
- An economy in which a reasonable large proportion of the population have access to information and communications technology products and services
- An economy in which the provision and delivery of goods and services of the key sectors of the economy are to a large extent facilitated by information and communications technologies
- An economy in which the provision and delivery of services by government and its administrative machinery are to a large extent facilitated by information and communications technologies
- An economy based on an advanced and reliable national information and communications infrastructure
- An economy based on a literate society with a high proportion of computer literates.

The Goal to Develop Gambia's ICT Productive Sectors and Develop, Deploy and Utilize ICTs as Broad-Based Enabler of the Nation's Developmental Goals and Priorities

The GoTG guided by the principle that if the Gambia is to take full advantage of the opportunities of the information age and develop a vibrant multi-sectorial information and knowledge economy, it should not as a nation be just a consumer of ICT goods and services but also a producer and developer of the technology, its products and services.

The GoTG believes that the development of the nation's ICT production industry and services sector is as equally important as the deployment, exploitation and utilization of the technology to support the development and the growth of all the various sectors of the economy and society.

The GoTG is therefore committed to pursuing a policy that lays emphasis on both ICT *exploitation* and *production* involving: the utilization and exploitation of ICTs to support the development of the various sectors of the economy as well as the production, development and delivery of ICT products and services ---- i.e. towards the development and promotion of an ICT industry and services sector.

The Policy is also strategically focused on both the development of the local ICT industry targeted at the export market as well as on using ICTs as an enabler of the Gambia's broad developmental goals. The Government believes that: the Gambia being an under-developed nation, will need to use ICTs as a broad enabler of its socio-economic development process as well as implementing policies and

programmes targeted at the development of the ICT sector and industry. The policy recognizes that the spill-over or catalytic effect of developing the ICT sector on the economy as a whole will not be enough to accelerate Gambia's socio-economic development process.

The Policy goal is therefore to simultaneously focus on developing the ICT industry while at the same time using ICTs to drive other sectors of the economy. It is believed that this strategy will accelerate Gambia's development and spread the social and economic impact of the development, deployment and exploitation of ICTs much faster than a singular focus of the development of the ICT sector.

PART FOUR – THE PILLARS OF THE ICT4D POLICY STATEMENT

4.1 Introduction

To facilitate the process of transforming Gambia into a predominantly information-rich and knowledge-based society and economy, the following *priority policy focus areas* constituting the 8 pillars of Policy shall be targeted:

- Human Capital Development
- Electronic Government Development
- Promoting Technology-Enabled Education and STI Development
- Agricultural Development and Modernization
- Private Sector Development & Empowerment
- Promoting Technology-Driven Social and Community Services Provision & Delivery
- Youth & Women Development and Empowerment
- Promoting Technology-Neutral Legal, Regulatory Regime, Advanced Broadband ICT Infrastructure Development, Universal Access and Service (UAS), and Cyber Security Capability

The **ICT4D** Pillars – National Policy-Strategy Framework Mapping

ICT4D Pillar	Relevant National Policy, Strategy Frameworks	
	Economy-wide (Multi-sectorial) Policies Strategies	Sector-Specific Policies, Strategies
Human Capital Development	The Gambian Vision 2020 - The Gambia Incorporated Poverty Reduction Strategies - SPA I and SPA II, Poverty Reduction Strategy Paper (PRSP) including the PRSP I and the PRSP II Programme for Accelerated Growth and Employment (PAGE) -2012-2015 The National Information and Communication Infrastructure (NICI) Policy and Action Plans	The National Youth Policy (2009-2018) The National Employment Policy and Strategy – NEPS (2010-2014) The National Tertiary & Higher Education Policy (2014 – 2023) National Human Resource Development Strategy and Action Plan – ICT4D-2013
Electronic Government Development	Programme for Accelerated Growth and Employment (PAGE) -2012-2015 The National Information and Communication Infrastructure (NICI) Policy and Action Plans	The Gambia National Cyber Security Strategy National E-Government Development Strategy and Action Plan – ICT4D-2013
Promoting Technology-Enabled Education and STI Development	The Gambian Vision 2020 - The Gambia Incorporated Poverty Reduction Strategies - SPA I and SPA II, Poverty Reduction Strategy Paper (PRSP) including the PRSP I and the PRSP II Programme for Accelerated Growth and Employment (PAGE) -2012-2015 The National Science and Technology Policy (2013-2022)	The Gambia Education Policy (2004 - 2015) The Education Sector Policy (2016-2030) National Tertiary & Higher Education Policy - 2014 – 2023 The National Youth Policy (2009-2018) The Gambia's Trade Policy 2011

	The National Information and Communication Infrastructure (NICI) Policy and Action Plans	National ICTs-in-Education Action Plan – ICT4D-2013
Agricultural Development and Modernization	The Gambian Vision 2020 - The Gambia Incorporated Poverty Reduction Strategies - SPA I and SPA II, Poverty Reduction Strategy Paper (PRSP) including the PRSP I and the PRSP II Programme for Accelerated Growth and Employment (PAGE) -2012-2015 The National Science and Technology Policy (2013-2022) The National Information and Communication Infrastructure (NICI) Policy and Action Plans	Agriculture and Natural Resource Policy (2009-2014) Gambia National Agricultural Investment Plan - GNAIP (2011-2015) The National Youth Policy (2009-2018) The Gambia's Trade Policy 2011 National Export Strategy -NES (2013-2017) National E-Agriculture Action Plan – ICT4D-2013
Private Sector Development & Empowerment	The Gambian Vision 2020 - The Gambia Incorporated Poverty Reduction Strategies - SPA I and SPA II, Poverty Reduction Strategy Paper (PRSP) including the PRSP I and the PRSP II Programme for Accelerated Growth and Employment (PAGE) -2012-2015 The National Science and Technology Policy (2013-2022) The National Information and Communication Infrastructure (NICI) Policy and Action Plans	The Private Sector Development Strategy (PSDS) -2015 – 2019 The National Entrepreneurship Policy (2016) – Draft The National Employment Policy (NEP) and the National Employment Action Plan (NEAP) (2003-2008) The National Employment Policy and Strategy – NEPS (2010-2014) The National Youth Policy (2009-2018)

		The Gambia's Trade Policy 2011
		National Export Strategy -NES (2013-2017)
		National E-Commerce Action Plan – ICT4D-2013
Promoting Technology-Driven Social Services Provision & Delivery	The Gambian Vision 2020 - The Gambia Incorporated Programme for Accelerated Growth and Employment (PAGE) -2012-2015 Poverty Reduction Strategies - SPA I and SPA II, Poverty Reduction Strategy Paper (PRSP) including the PRSP I and the PRSP II The National Information and Communication Infrastructure (NICI) Policy and Action Plans	The National Health Policy (2012-2020) The Gambia National Health Strategy and Plan (2014-202) The National Youth Policy (2009-2018) The National Nutrition Policy (2010-2020) National ICTs-in-Communities Strategy and Action Plan – ICT4D-2013 National E-Health Strategy and Action Plan – ICT4D-2013
Youth & Women Development and Empowerment	The Gambian Vision 2020 - The Gambia Incorporated Poverty Reduction Strategies - SPA I and SPA II, Poverty Reduction Strategy Paper (PRSP) including the PRSP I and the PRSP II	The Gambia National Gender Policy (2010 -2020) The National Employment Policy (NEP) and the National Employment Action Plan (NEAP) (2003-2008) The National Employment Policy and Strategy – NEPS (2010-2014) The National Youth Policy (2009-2018)

	The National Information and Communication Infrastructure (NICI) Policy and Action Plans	National ICTs-in-Education Action Plan – ICT4D-2013
		National ICTs-in-Communities Action Plan – ICT4D-2013
Promoting Technology-Neutral Legal, Regulatory Regime, Advanced Broadband ICT Infrastructure Development, Universal Access and Service (UAS), and Cyber Security Capability	The National Information and Communication Infrastructure (NICI) Policy and Action Plans	The Gambia National Cyber Security Strategy Broadband and Demand Simulation Strategy Development Study and Action Plan for The Gambia (2014)

THE **ICT4D** PILLARS

Human Capital Development

o The Overarching ICT4D Policy Objectives

- To develop for the Gambia a rich pool of highly skilled human resources in critical skill areas and expertize relevant for supporting the development of the Gambian information and knowledge-based economy that has the potential for developing and maintaining a competitive edge on the global market

- To develop and transform the Gambian economy into an information and knowledge-based economy within the majority of the working population are either directly or indirectly involved in information and communications related activities

o Policy Statements and Commitments

1. The Government of the Gambia (GoTG):

- *fully recognizes* that human resource is the key to developing and transforming the Gambia from a predominantly subsistence agriculture-based economy into an information and knowledge based economy and society

- *is mindful* that the extent to which the Gambia will benefit from the advances and the opportunities of the emerging information age will depend very much on how the country is capable of developing and harnessing its human resources to initiate, support and maintain its socio-economic development towards an information and knowledge economy

- *acknowledges* that the youthful population of Gambia under the age of 25 years can be transformed into an asset by adding value to human resources and providing the environment for utilizing these human resources for socio-economic development process.

2. The GoTG is fully committed to the development of people of the Gambia to support the process of moving the Gambia into an information society and economy

3. The GoTG is further committed to putting in place and facilitating the implementation of a comprehensive human resource development policy measures and instruments to target the development of the requisite critical skill areas across key sectors of the economy for supporting the development of the Gambia information society and economy

Specific Policy Objectives and Strategies

Policy Objectives	- To promote the development of the nation's human resource needs in critical skill areas in all key sectors of the economy - To promote the development of the requisite critical human resources needed for developing and supporting a viable knowledge-driven ICT industry for the Gambia to facilitate the production, development and delivering of value-added ICT products and services - To aid the process of the development of nation's requisite human resource capacity and capabilities to meet the changing needs and demands of the Gambian modern economy in the emerging information and knowledge-driven age - To support and facilitate the development of the requisite pool of highly skilled human resources; knowledge workers and expertise capable of facilitating the process of developing and supporting a technology-based knowledge-driven industrial sector - To promote private sector initiatives targeted at human resource development efforts within private sector organizations and establishments. - To facilitate the process of the development of comprehensive human resource base in critical skill areas required for facilitating and supporting the development of a vibrant value-added services sector and ICT services industry of The Gambian economy - To support and facilitate the development of high-quality ICT manpower for the country and to ensure that the Gambia's ICT manpower and professionals are of high international standards - To promote international standards and best practices that could among other things aid the process of the development of quality human resources and professional skills needed for developing and supporting the Gambian information and knowledge economy and society - To build the human resource capacity of military and security personnel in the area of ICT skills and expertise - To promote periodic assessment of the nation's HRD status to establish on a periodic basis national human resource inventory (supply) and shortfall (demand) in key skill and professio areas - To promote the development of the human resource needs of the economy through improving and upgrading the facilities and the resources of the nation's universities colleges and higher

level and professional skills training institutions

- To build and expand the capacity of the nation's universities and colleges to facilitate the training of requisite human resources and manpower in ICT and other related skills to support the development of Gambia's information and knowledge economy and society

- To improve and expand on the teaching, training and research facilities of the nation's universities and colleges to improve and expand access to education and training as a step towards meeting the human resource requirements and needs of the economy in the emerging information and knowledge age

- To facilitate the development of the requisite pool of knowledgeable ICT workforce in critical skill areas and professions needed to support the development of the Gambia's information and knowledge economy

- To promote and facilitate the broadening of access to tertiary and higher education through the use of e-learning educational program delivery technologies and resources

- To provide opportunities for life-long learning in the Gambia

- To broaden access to career development opportunities through access to online education and professional training resources to those at work and as well as to job-seekers

- To promote professionalism among the Gambian ICT personnel and professionals

- To facilitate the development of the necessary highly skilled ICT human resources required for supporting the development and maintenance of advanced information and communications infrastructure and systems

- To develop for the Gambia the requisite expertise needed for the effective engagement and participation in the global ICT fora

- Facilitate an assessment of the human resource landscape and needs of the country

- Put in place special ICT promotion packages and incentives to encourage the private and public sector organization to invest in the development of human resources to meet the needs of the economy

- Promote the implementation on a national level a number of HRD initiatives to boast up ICT skills and other skill areas in the country

- Ensure the mobilization the necessary financial and technological resources to facilitate the

Policy Strategies, Measures and Instruments	implementation of HRD programmes and initiatives

- Support and facilitate the human resource development efforts of private sector establishments through tax incentives policy measures and instruments.

- Create incentives to facilitate private sector involvement in human resource development, to prevent high staff turn-over within the public sector due to the migration of public sector employees to the private sector.

- Promote the development of the necessary standards, best practices and guidelines to guide the process of HRD in key all sectors of the economy

- Set up a national HRD Fund to support human resource development initiatives in the country, targeting the development of critical human resources, skills and expertise needed for the development of The Gambian information economy and society.

- Provide the requisite institutional support for facilitating HRD on a national basis

- Upgrade the professional skills of civil and public servants

- Improve basic computer skills of civil and public servants through in-service ICT training and skill development and update programmes.

- Encourage the utilization of ICTs to support key aspects of the promotion of career, personal and educational guidance and counselling in educational institutions within the Gambia

- Upgrade the ICT competency and expertise within the military and other security agencies

- Set up a number of national professional bodies and entities to serve as national representative bodies for the ICT profession.

- Promote professionalism and the up-keep of high international standards within the ICT profession in the Gambia

- Promote the adoption of international standards to support the development of the local ICT personnel

- Promote national human resource planning exercise that maps out a national human resource development strategy to guide the nation in determining the human resource needs of the economy to ensure that the right types of skills, manpower and professionals in the right numbers and mix are produced by the nation's private tertiary institutions and other training institutions

- Develop guidelines for the certification of ICT Professional Skills in the country

- Implement and enforce standards for ICT training and skill development within the Gambia

- Facilitate the development and promotion of the necessary standards, good practices and guidelines to support ICT education and training within the country

- Define which ICT qualifications and work experience qualifies as an ICT Professional Skill for the purpose of employment and promotion in the private and public sector

- Promote and encourage the roll-out of professional certification programs in ICT and other professional programs in The Gambia

- Facilitate the development of a pool of certified ICT professional within Gambia.

- Promote the setting-up of associations for promoting ICTs in the country.

- Facilitate the process of the deployment of ICT-literate and highly skilled military personnel and other security personnel to support ICT capacity building and systems development and support within the public and private sector

- Upgrade the computer literacy and proficiency of teachers at the non-tertiary level of the Gambia educational system

- Conduct periodic tracer analysis of graduates of the nation's universities, colleges and other higher institutions of learning and professional training institutions in relation to job placements

- Ensure that the Gambia develop the expertise to effectively participate in various global ICT Fora

- Create local fora that would help develop local ICT experts to participate in international ICT fora

Key Information and Knowledge-based Economy (IKE) Development Impact Monitoring Indicators

- Indicators to measure the capacity and the quality of human resources
- Indicators to assess the critical nature and relevance of various skills to the IKE
- Indicators to assess the critical mass requirement of various IKE skills
- Indicators to measure the extent of the improvements in the level of ICT human resource capacity; professional level human resource capacity in key skill areas; human resource capacity and levels in key sectors of the

economy: agriculture, services and industry

- Indicators to measure the extent of the improvements in the human resource development capacity of the universities, colleges and other key HRD institutions and establishment; research and R&D human resource capacity of the nation
- Indicators [Indexes] to measure the proportion of the working population involved in information and communication related activities of the economy
- Indicators to measure the income levels of those working in or engaged in information and communication related industries or activities

Candidate Policy Implementation Agencies

- Personnel Management Office
- Public Service Commission
- Other Government Ministries, Departments and Agencies
- Private Sector Establishments

Electronic Government Development

o The Overarching ICT4D Policy Objective

To facilitate the development of an economy within which the provision and delivery of services to citizens and business entities by government and its administrative machinery are to a large extent driven and facilitated by development, deployment and the utilization of information and communications technologies

o Policy Statements and Commitments

1. The Government of the Gambia (GoTG):

- *fully mindful* that e-government involves the use of technology to transform the processes and procedures of how government works to bring about improvements in how government interact with and provide services to those that it serves, namely people and organizations

- *recognizing* the transformative role of the deployment of e-government to effect and improve how government works and serve its clients – citizens and business

- *acknowledging* the Government's role as a: key player and agent in the nation's development process; mobilizer of resources to facilitate the development process of the country; major consumer within the Gambia economy, hence its consumption actions and patterns; major employer in the economy and as such a substantial injector of salary-money into the economy; major consumer of ICT goods and services and as such can use its buying power and volume of demand to propel the development of the ICT industry and by so doing fuel an ICT-led economic development that could positively impact on the overall development process of the country

- *acknowledging* that the development and the deployment of e-government systems to support the operations and the activities of the machinery of the Gambian Government and its civil and public service institutions should not be seen as an end in itself but rather as a means to facilitating and supporting the development process of the country

- *further recognizing* that the implementation of e-government in the Gambia will positively impact on a nation's developmental process

- *while acknowledging* the crucial role that ICTs can play, the GoTG is however *mindful* of the fact the fact that: the mere deployment and exploitation of ICTs within government organizations and institutions will not necessary translate into improvements in productivity, efficiency and

service delivery which collectively could impact on the overall developmental process of the country

- *recognizing* that deployment of ICTs within public institutions and organizations and entities will have little or no impact on the nation's development process if not accompanied by a number of organizational and procedural changes as well as changes in processes, attitude to work and work ethics.

- *further recognizing* that for ICTs to have a real appreciable impact on Government's administrative machinery and service delivery to the public, there is a need to address a number of *critical success factors*

- *fully acknowledging* that the Gambia still faces a number of e-government implementation and roll-out challenges including the:

(i) lack of e-government enabler institutions;

(ii) slow pace of institutional and organizational system reforms – a prerequisite for successful e-government implementation;

(iii) lack of e-government enabler laws and legislative provisions;

(v)   lack of requisite and critical human resources to develop, roll-out, support and manage mission critical e-government systems and applications;

(iv) fragmentation of the implementation of e-Government initiatives to-date;

(v) limited spread and bandwidth of the national communications infrastructure including the Internet

(vi) low level of ICT deployment, penetration and access within the public and civil service;

(vii) weak and narrow e-government application systems implementation base –with the vast majority of the MDAs and public service organizations yet to develop and implement their key e-government back office systems and hence unable to provide a number of the standard e-government front office services (FoSs)

(viii) lack of requisite financial and technological resource mobilization capacity to support investments in the implementation of a comprehensive e-government system at-a-go across key MDAs, public service organizations and within the community at large; and

(viii)   challenges associated with the potential threat of cyber-attack on critical national infrastructure and systems

1. The GoTG is fully committed to implement an e-government strategy targeted at the development and implementation of the four main categories of e-government systems namely*: government to government* (G2G), *government to citizen* (G2C), *government to business* (G2B) and *government to employee* (G2E) electronic government

2. The GoTG is committed to the adoption of the 'whole-of-government' approach as an underlying guiding principle for the development and roll-out of e-government in the Gambia

3. The GoTG is committed to adopting an evolutional e-government roll-out strategy; given that the Gambia faces a number of e-government development challenges and as such it is therefore unrealistic to adopt a classical 'big-bang' e-government roll-out strategy

4. The GoTG is committed to putting in place policy measures and initiatives targeted at addressing the challenges identified as inhibiting the full implementation of e-government in the Gambia

5. The GoTG is further committed to providing a top-level political leadership and championship for e-government initiatives in the Gambia

6. The GoTG is fully committed to ensuring that a number of the key globally established e-government deployment critical success factors are addressed including ensuring:
   - Government's full endorsement and commitment to the national implementation of the national e-government strategy and corresponding plan actions and initiatives;
   - Making requisite changes in relevant organizational and institutional structures, processes, and procedures conducive for the effective implementation of the e-government strategy and plan initiatives;
   - Enactment of relevant legal and legislative provisions to support the e-government strategy and plan implementation process;
   - Designating a strategic Government Ministry to facilitate and coordinate the e-government process on behalf of the Government;
   - Dedicated policy decision makers, and professionals, cutting across the public and private sector committed to the national e-government process;
   - Logistic support and facilitation for the national e-government development and implementation process.

Specific Policy Objectives and Strategies
• To actively promote the extensive development, deployment and the roll-out of e-government systems within the MDAs as a means to:

Policy Objectives	- facilitating the process of transforming government systems into a *citizen-centered* government - facilitating the process of bringing the government closer to the people and making it easy for citizens to obtain services and interact better with government machinery and agencies at the national and local level - improving government's administrative efficiency, effectiveness and productivity as well as its information provision and service delivery to the public through the development, deployment and the roll-out of e-government systems with the MDAs - facilitating reducing administrative, operational and transactional costs of governments' administrative activities, service delivery functions and operations - improving the means and ways in which the Government serve citizens and businesses through the enhancement and improvement in government's responsiveness to citizens and businesses; - facilitating the provision of access to information and government services by the public. - To accelerate the Gambia's socio-economic development by way of facilitating improvements in government structures, processes, systems and service delivery through the development and deployment of e-government systems and facilities [*Adapted from the Gambian E-Government Implementation Strategy & Action Plan, 2010*] - To, through the development and deployment of e-government systems and facilities transform the processes and procedures of how government works as a step towards bringing about improvements in how government interact with and provide services to those that it serves [*Adapted from the Gambian E-Government Implementation Strategy & Action Plan, 2010*] - To promote and facilitate the setting up of the requisite e-government implementation coordination and management structures and relevant e-government implementation enabler institutions [*Adapted from the Gambian E-Government Implementation Strategy & Action Plan, 2010*] - To promote the carrying-out of institutional reforms and re-engineering of the Gambian public service aimed at instituting and implementing requisite institutional reforms and changes in relevant public service organizational and institutional structures, processes, and procedures conducive for the effective implementation of the various e-government programmes and initiatives [*Adapted from the Gambian E-Government Implementation Strategy & Action Plan, 2010*] - To develop the requisite e-government-enabler legal and regulatory framework as well as legislative provisions, standards, guidelines and procedures to support the promotion of e-government development and deployment in the Gambia [*Adapted from the Gambian E-Government Implementation Strategy & Action Plan, 2010*] - To develop and improve the human resource capability and capacity within the Gambia civil and public service and develop the requisite human resources for supporting the deployment and the

deployment of e-government systems in the Gambia [*Adapted from the Gambian E-Government Implementation Strategy & Action Plan, 2010*]

- To support the delivery and access to e-government services and facilities through the development of the requisite physical, communications and IT infrastructure to include: a robust, flexible, and scalable, information and communications infrastructure to support intra- and inter-agency electronic service delivery and information exchange; and the requisite access infrastructure to facilitate public access to e-government services and information services [*Adapted from the Gambian E-Government Implementation Strategy & Action Plan, 2010*]

- To facilitate the development of a suitable E-Government Enterprise Architecture for the Gambia to serve as a common reference framework for tools, processes, platforms procedures, and standards, for the management of resources, access, and content within the e-government system to facilitate information sharing, streamlining of government operations and reduction in bureaucracy [*Adapted from the Gambian E-Government Implementation Strategy & Action Plan, 2010*]

- To promote the development and implementation of the requisite e-government systems, platforms and applications including relevant e-government back-end and front-end systems and as well as requisite supporting e-government interoperability framework to facilitate the delivery of e-government services to the public at large [*Adapted from the Gambian E-Government Implementation Strategy & Action Plan, 2010*]

- To promote the development of the nation's e-leadership capacity and capabilities targeted at core group of senior administrative, managerial and technical personnel, expertise and manpower within national institutional set-ups and as well as the requisite e-government system development and deployment critical senior level technical expertise and professionals to support e-government deployment and to guide the national e-government efforts

Policy Strategies, Measures and Instruments	- Set-up institutional and organizational structures to support the management and roll-out of the national e-government initiative - Strengthen the capacity of relevant e-government implementation enabler and support institutional and organizations - Carry-out institutional and organizational reforms and re-engineering of relevant government ministries departments and agencies (MDAs) either as a separate public sector reform programme or as part of their national e-government initiative - Address key institutional, physical and resources barriers to the implementation of e-government initiatives within the MDAs

- Establish the nature, scope and types of legislative provisions, instruments and the requisite laws that will be required to support e-government implementation

- Promote and facilitate the development of relevant and critical skills and expertise for supporting the development and roll-out of e-government systems in the country

- Ensure the development of the requisite organizational IT and communication infrastructure network of the MDAs to support the development and delivery of e-government systems and services to the public

- Promote the use of ICTs to facilitate the decentralization of Government services and operations and to support the delivery of business and government services to the rural areas

- Improve the basic computer skills of civil and public servants through in-service training and skill update programmes in ICTs

- Develop and enforce of standards and best practices to guide the delivery of service to the public by civil and public sector organizations

- Promote and facilitate the development of a national e-government communication backbone network to interlink organizational and corporate networks of MDAs to provide infrastructure to support the nationwide delivery and access to e-government systems and services

- Promote the enactment of the relevant e-government-enabler legislative provisions, laws and legal regulations to support e-government development and deployment

- Facilitate the setting up of national data centers to serve as the hub for e-government communication systems, resources, applications and services

- Promote and facilitate the development and the setting up of various public access channels to provide multiple and diverse means of accessing and availing of e-government services and resources by the public

- Ensure the development of the requisite interoperability framework and enterprise architecture to support e-government roll-out in the Gambia

- Promote the development, the roll-out and the implementing requisite e-government back office systems

- Facilitate the development and implementation of the requisite e-government live-event, statutory government and community and public interface front-office services

- Address pertinent e-government deployment cyber-security issues

Key Information and Knowledge-based Economy (IKE) Development Impact Monitoring Indicators

- Indicators to monitor and measure the degree of adoption of ICTs to support operations and activities within government and public sector institutions
- Indicators to monitor and measure the degree of diffusion of ICTs within government institutions
- Indicators to measure the impact of the deployment and exploitation of ICTs and the implementation of e-government initiatives in Government and public sector establishments on the efficiency, effectiveness, cost reduction and service delivery of these agencies
- Indicators to measure the level of community access and connectivity to ICT services and resources
- Indicators monitor and measure the level and the spread of ICT infrastructure
- Indicators to measure the extent of the deployment of communications and network systems and technologies within organizations
- Indicators to measure the extent of the deployment and the spread of ICTs within the community

Candidate Policy Implementation Agencies

- Office of the President
- Personnel Management Office
- Public Service Commission
- Department of Planning (MOA)
- Other Government Ministries, Departments and Agencies

Promoting Technology-Enabled Education and STI Development

o The Overarching ICT4D Policy Objectives

To develop a modern educational system within which ICTs are widely deployed and utilized at all levels of the Gambian educational system to support and facilitate the delivery of educational services, learning and educational administration

To support the development of an economy based on a literate society with a high proportion of computer literates through the widespread deployment and the exploitation of information and communications technologies.

To develop for the Gambia, a vibrant STI eco-system aimed at supporting the development of a globally competitive industrial, agricultural and services sector which is to a large extent is driven by cutting-edge commercial, industrial and agriculture research, innovation and R&D activities encompassing basic and applied industrial and product development.

o Policy Statements and Commitments

1. The Government of the Gambia (GoTG):

- *fully mindful* of the need to recognize and address the nation's developmental challenges, specifically those relating: turning the youthful population into an asset for development: the relatively high proportion of population with no educational attainment with a further high percentage without access to higher education; the limited access to tertiary education; the limited critical human resource capacity characterized by low professional, technical and managerial manpower base; and the weak   scientific research base and under-developed Research and Development (R&D) capacity

- *aware* of the fact that a knowledge workforce is increasingly becoming a key determinant of economic development of the Gambia in the emerging information and knowledge age driven by advancement in technological resources and opportunities to drive and sustain the nation's developmental efforts and aspirations

- *acknowledging* that a technology-enabled tertiary and higher education is key to the development of the requisite critical knowledge workforce needed for driving Gambian's social and economic development in the emerging information and technological age

- *fully recognizing* that the key drivers of change in higher education that it needs to be taken on board in order to drive the development of the sector to oriented it towards the nations development efforts to transform the Gambia into an information and knowledge-based economy are:

  - (i) the democratization of access to unlimited knowledge and learning resources made possible by the spread of the emerging educational development and delivery technologies giving rise to massive increase in the availability of knowledge and learning resources online and the expansion of access to university education;
  - (ii) the increasing *competitive nature of the higher education market giving rise to c*ompetition in the student recruitment and enrolment market locally and internationally reaching new levels of intensity, while at the same time as the Government face tight budgetary provisions to fund higher education;
  - (iii) the *funding and sustainability of higher education provision -* increasing prospects of higher education funding and sustainability difficulties as the Government,- the main source of funding for higher education, reduces its funding obligations mainly due to economic pressure on the public purse to meet other social obligations;
  - (iv) *technology as a key driver of higher education development and delivery* — to the effect that the relevance of technologies for supporting education, training and research at all levels of the educational system has acquired new dimensions and greater urgency in a number of countries. --- The use of these technologies to support teaching, learning and the administration of the educational delivery processes and systems is fundamentally changing the educational delivery at all levels of the educational system;
  - (v) *open and distance learning (ODL) is fast becoming an indispensable part of the mainstream of the educational systems worldwide* – as ODL educational delivery systems and methods is increasing becoming a powerful means to utilize the emerging communications, and multimedia presentation, messaging and educational delivery technologies and resources of the Internet or other organizational and global networks and systems for the delivery of teaching and learning materials and information and in addition for supporting non-campus-based education and learning as a means for complementing and supplementing face-to-face campus based education at relevant levels of the educational system; and
  - (vi) *the need for fostering of closer higher education -industry linkage in response* to the call from industry to produce the graduates they need to drive their organizations and produce products and services needed by the ever modernizing competitive industry and economy. – A situation which is requesting of universities to work with industry through various university-industry linkages to seek their inputs and meet their skill development requirements, and address issues relating to the employability of the products of the universities as well as seek industry input and support for university research and R&D efforts and initiatives

- *fully aware* that the predicted demographic dividend that will ensure that in the next 20 years, South Saharan African countries including the Gambia will be experiencing a growth in the proportion of their working age population (WAP) [15 -65 years] - a large percentage of this will be a growth in the university going and the life-long learning age group

- *further mindful* of the opportunities that a well-positioned tertiary and higher education institutions, can derive from the demographic dividend in terms or growth in their student enrollment among others are immeasurable

2. The GoTG is fully committed to promoting the development and the advancement of the nation's tertiary and higher education systems to take full advantage of the emerging technologies to meet the challenges and the requirements of supporting the development of the Gambia's information and knowledge economy by:

- (i) putting in place the requisite higher education development enabling policy provisions and instruments;
- (ii) providing through its designated agencies the requisite enabling regulatory regimes and frameworks to ensure: (a) quality and standards and (b) equity of access targeted at the inputs, process and the outcomes (outputs) of specific regulatory interventions;
- (iii) providing resources (physical infrastructure, financial, technological and logistical) to assist and facilitate critical aspects and activities pertaining to tertiary education provision and delivery (iv) providing guidance, policy directions, and setting national parameters and scope in respect to tertiary education provision and delivery;
- (v) providing student financial support through scholarships, grants or loan schemes to facilitate and broaden equity of access to higher education;
- (vi) working with relevant educational provision and delivery actors and stakeholders to ensure that the human resource needs of the economy are met in terms of producing as far as possible: the right and the required set and mix of human capital and skills, meeting required quality standards and in the right quantity to ensure that the gap between demand and supply of these skills are minimize as far as practicable);
- (vii) carrying-out as part of a national higher education planning process, regular and periodic national human resource gap analysis studies to facilitate graduate output requirement planning to serve as a basis for the Government to set quotas for higher education graduate output in key fields and professions to meet national developmental goals and aspirations; and
- (viii) setting national research and innovation agenda and system and taking steps to actively support and fund (in collaboration with other stakeholders) research and innovation initiatives within the tertiary and research institutions.

3. The GoTG is fully committed to promoting the critical development of the Gambia's tertiary and higher education and make it relevant to the nation's developmental efforts in the emerging information and technological age by addressing a number of the key challenges constraining its development through: providing adequate funding to support key aspects of tertiary and higher education development, focusing tertiary and higher education institutions on producing job-creators as well as job-seekers; promoting and facilitating effective university-industry linkages; addressing key challenges of integrating technology into tertiary and higher education; and addressing the limited and weak research and R&D capacity of the country

4. The GoTG is further committed to honoring its statutory and enabling role in supporting and facilitating the development of key aspects of tertiary and higher education in the country, to enable the sector play a key developmental role including those relating to: (i) the development of the requisite human resources to drive and sustain the nation's socio-economic development process and meet the human capital and skills demand and requirements of the public and private sector of the economy (ii) promoting and supporting research innovation initiatives as well as R&D efforts to support national development efforts and aspirations

5. The GoTG is committed to upholding the right of every person to basic education, regardless of gender, age, religion or disability. Accordingly, basic education will be open to all. Learning at this level will be geared towards the holistic development of the individual for the positive realization of every person's full potential and aspirations *[Adapted from National Education Policy (2004 - 2015)]*

6. The GoTG is fully committed to promoting the development of the tertiary and higher education subsector to serve as key instrument and mechanism for supporting the development of the Gambia's research and innovation system capabilities as well as its R&D capacity and capabilities with the potential to conduct and engage in advanced and cutting-edge research and R&D work for supporting the development of a globally competitive information, knowledge-base and high-tech export industry and services sector as well as a modernized and competitive technology-driven export-led agricultural sector and agro-business industry

7. The GoTG is committed taking full advantage of technological advances to support higher education delivery to ensure that the citizens of the Gambia are among the most educated and skilled in the world in relation to university education, research and knowledge diffusion [*Adapted from the* National Tertiary & Higher Education Policy (2014 – 2023)]

8. The GoTG is committed to implementing the policy provisions of the Gambian National Science and Technology Policy (2013-2022)

Specific Policy Objectives and Strategies	
Policy Objectives	**Promoting ICTs-Education: Basic and Secondary Education** • To develop, deploy and roll-out a nation-wide educational communications network to support educational service delivery and learning activities within The Gambian school system • To promote and facilitate the deployment of computing resources in Gambian schools • To provide and broaden access to ICTs within the school system to facilitate teaching and learning • To increase the penetration of computers within the Gambian school system and as a result improve the student-to-computer ratio in the schools • To facilitate the process of introducing computers and other educational technologies into the schools and make computers and its products affordable and accessible within The Gambian school system • To promote and facilitate educational content development for delivery within The Gambian School system **Promoting Tertiary and Higher Education Development** • To create and facilitate the development and the implementation of the necessary enabling and supportive legal, institutional, and regulatory framework, environment and structures for supporting the development of a vibrant and internationally benchmarked technology-enabled tertiary and higher education system for the Gambia • To encourage through the development, deployment and the exploitation of various educational delivery technologies, and resources to: facilitate effective linkages between basic, secondary and tertiary education; promote high-quality lifelong learning opportunities, and provide students with a stimulating and rewarding secondary, tertiary and higher education experience. [*Adapted from the* National Tertiary & Higher Education Policy (2014 – 2023)] • To promote and facilitate the upgrade and the modernization of the nation's existing educational infrastructure and facilities to enhance more conducive teaching and learning environment and to ensure smooth and seamless adoption and exploitation of modern technologies for supporting development and the provision of education and training and enhancing learning outcomes at all level of the educational system

- To facilitate the development and promotion of the necessary standards, good practices and guidelines to support tertiary and higher education provision in the Gambia

- To improve the humanities-to-science ratio in academic programme offerings and graduate outputs at the tertiary level of the educational system so as to substantially increase the number of graduates with science, engineering and technology background to make an impact on the nation's socio-economic development process in the emerging technological age to be domination by information and knowledge economies

- To promote a stable higher education regulatory environment, characterized by transparent regulatory requirements and obligations as well as predictable expectations and outcomes

- To ensure political stability, and good governance environment and image that is conducive for attracting international students from the sub-region

- To build partnerships, linkages and networks to help increase the volume and improve the quality and relevance of research undertaken in the tertiary and higher education sector. [*Adapted from the National Tertiary & Higher Education Policy (2014 – 2023)]*

- To encourage institutional and individual capacity building to acquire a critical mass of researchers in the country [*Adapted from the National Tertiary & Higher Education Policy (2014 – 2023)*]

- To promote a diversified academic programme offerings within the nation's public and private tertiary and higher educational institutions to encourage them to move away from situation where most of them are offering same types of academic programmes, and in most cases concentrated in the humanities and management to included science, engineering and technology related academic programmes

- To provide access and equal opportunities for all capable Gambians to participate to their full potential in knowledge and skills acquisition and application [*Adapted from the National Tertiary & Higher Education Policy (2014 – 2023)*]

- To provide a conducive and enabling policy environment directed at building the capacity of the nation's tertiary and higher education institutions

- To facilitate the process of developing a critical mass of tertiary and higher education institutions into world-class institutions capable of producing internationally competitive, competent and highly skilled manpower and expertise the meet the changing needs and demands of developing a modern information and knowledge-based economy and society

- To transform the nation's universities and colleges into reputable world-class institutions and centres of excellence [*Adapted from the National Tertiary & Higher Education Policy (2014 –*

2023)]

- To facilitate the development, expansion, and the continuous modernization of the nation's tertiary and higher education institutions to address pertinent higher educational delivery challenges and opportunities relating to: quality, equity, access and the impacts of internationalization of higher education

- To enhance equity and equality in education and training opportunities and, more importantly, supporting the realization the GoTG goal to attain sustainable growth and development, as contained in the national blueprints [*Adapted from the National Tertiary & Higher Education Policy (2014 – 2023)*]

- To promote, encourage and facilitate the widespread use of modern multi-mode educational delivery approaches, technologies and resources within the tertiary and higher educational institutions to, increase enrolment, through broadening and improving access to higher education

- To promote and facilitate equitable access to affordable quality tertiary and higher education to the citizenry [*Adapted from the National Tertiary & Higher Education Policy (2014 – 2023)*]

- To promote the development and adoption of open and distance learning (ODL) and non-traditional modes of programme delivery at the relevant levels of the Gambian educational system [*Adapted from the National Tertiary & Higher Education Policy (2014 – 2023)*]

- To develop and implement a National Qualifications Framework for all the levels of tertiary and higher education system, incorporating the existing Gambia Skills Qualifications Framework [*Adapted from the National Tertiary & Higher Education Policy (2014 – 2023)*]

- To provide the necessary regulatory framework including legislation that allows the full participation of the non-state actors in providing tertiary and higher education service delivery in order to address the skills gaps [*Adapted from the National Tertiary & Higher Education Policy (2014 – 2023)*]

- To develop quality assurance standards and benchmarks for tertiary and higher education institutions in conformity with international standards [*Adapted from the National Tertiary & Higher Education Policy (2014 – 2023)*]

- To develop and institutionalize internal quality assurance mechanisms, including a staff appraisal system within all the tertiary and higher education institutions [*Adapted from the National Tertiary & Higher Education Policy (2014 – 2023)*]

- To provide an environment in which all teaching and learning in tertiary and higher educational institutions is supported by ICTs and other educational development and delivery technologies and resources [*Adapted from the National Tertiary & Higher Education Policy (2014 – 2023)*]

- To encourage the application of research and development activities, including the incorporation of indigenous knowledge and to protect intellectual property rights as they relate to research and development [*Adapted from the National Tertiary & Higher Education Policy (2014 – 2023)*]

Promoting Science, Technology & Innovation (STI) and R&D

- To facilitate the process of transforming Gambian into a computer-literate nation

- To promote and link tertiary and higher education to economic development and poverty reduction through the encouragement of the development and provision of appropriate STEM-relevant academic programmes and engagement in technology-mediated development-relevant scientific and industrial research, innovation and R&D work

- To facilitate the development of the requisite capacity and facilities of the tertiary and higher education institutions to offer modern and industry-relevant academic programmes especially those in science, engineering and technology

- To support the development and the transformation of a critical mass of promising tertiary and higher education institutions into world-class research universities capable of leading national STI-focus cutting-edge research and R&D efforts targeted at developing a competitive high value-added sectors of the economy, to serve as an engine for accelerated development and economic growth with the potential to develop and transform the Gambia economy into that of fully developed nation

- To reposition STI and R&D as the main drivers for wealth creation, economic development and social progress [*Adapted from the National Tertiary & Higher Education Policy (2014 – 2023)*]

- To promote an improved tertiary educational system within which all tertiary and higher education institutions are encouraged to extensively deploy and utilize the emerging and modern educational delivery technologies, systems and resources to facilitate the delivery of educational services and to support research initiatives and R&D efforts within the tertiary institutions

- To promote the integration of national STI efforts and initiatives into the education development and provision as well as research activities and initiatives of the nation's universities, colleges and in the research activities of the public and private (industrial-based) research institutions

- To facilitate the implementation of the policy provisions of the Gambian National Science and Technology Policy (2013-2022)

Policy Strategies, Measures and Instruments	**Promoting ICTs-Education: Basic and Secondary Education** • Improve equitable access to basic, senior secondary, tertiary and higher education *[Adapted from National Education Policy (2004 -2015)*] • Promote ICT literacy, education and training within the Gambian school system • Provide school teachers with basic computer literacy and computing skills to enable them teach basic computing, computer literacy and Internet usage in the primary, secondary, technical and vocational schools. • Train and deploy computer literate teachers within the Gambian school system • Implement a 'train-the-trainers' program in basic ICTs skills for teachers • Develop the computer competency level of all non-computer subject area teachers within the Gambian school system • Promote the spread of the use of the emerging educational delivery and presentation technologies in the schools. • Make ICT education an integral part of the Gambian educational system at the school level • Encourage the use of the Internet by teachers and students to support the teaching and learning process in the schools. • Promote and encourage the use of the educational resources of the Internet and the educational development and delivery infrastructure of the Internet to support and facilitate teaching and learning in the Gambian schools. • Promote the use of the resources of the Internet to facilitate educational linkages and exchange between Gambian schools and schools in other parts of the world • Promote and facilitate the use of ICT to support school management and administrative activities • Promote the use of ICTs to support a number of school activities including training events, curriculum development, monitoring of pupil progress among others • Implement national ICT applications relevant to the various levels of the Gambian educational system, including the schools • Encourage the development and mobilization of teaching and learning resources for deployment

in the Gambian School System

- Promote the use of the e-educational resources to support and facilitate teaching and learning at all levels of the Gambian school system

Promoting Tertiary and Higher Education Development

- Government to promote a responsive and flexible tertiary education supervisory and regulatory system that ensures standards and quality internationally benchmarked higher education provision and delivery and supports the development of the tertiary education system and institutions to meet their education provision and human resource development and research promotion mandates

- Enforce high standards in education provision and delivery to facilitate the development of a globally competitive quality and professional manpower to support the development of Gambia's information and knowledge-based economy and economy

- Improve the quality of teaching and learning at all levels of the Gambia educational system through the deployment and the utilization of emerging educational technologies and resources [*Adapted from National Education Policy (2004 -2015)*]

- Modernize the capacity of Gambia's educational system to improve quality and expand access to tertiary education, training and research resources and facilities

- Encourage and facilitate tertiary and higher educational institutions to take verifiable steps and pursue initiatives that make them responsive to the human resource and the research outputs needs and requirements of the economy with specific reference to the development of the nation's information and knowledge-based economy and society

- Provide appropriate and reliable communication infrastructure to facilitate the provision of relevant materials and opportunities for students to interact among themselves and with their tutors [*Adapted from the National Tertiary & Higher Education Policy (2014 – 2023)*]

- Facilitate the mobilization of and the necessary financial and technological resources for implementing the requisite educational programmes and specific ICT programmes and initiatives targeted at improving the higher educational delivery system

- Encourage private-sector participation in the provision of higher education [*Adapted from the National Tertiary & Higher Education Policy (2014 – 2023)*]

- Improve and strengthen the ICT capacity and resources in the universities and colleges and research institutions

- Facilitate the deployment and the use of ICTs to support teaching, learning and research the country's higher institutions of the learning and research

- Encourage and facilitate the use of ICTs to support all aspects of teaching, learning and research in the higher institutions of learning

- Promote the development of the nation's tertiary and higher education sector to enable them position themselves to leverage on and take advantage of the predicted demographic dividend to meet the human resource requirements of the economy

- Increase the enrollment capacity of tertiary and higher education institutions [*Adapted from the National Tertiary & Higher Education Policy (2014 – 2023)*]

- Promote the development of the necessary standards, curriculum, best practices and guidelines to guide and support the deployment, and the exploitation of ICTs in the schools, colleges and the universities

- Provide the necessary institutional set-up to support ICT exploitation and development within the educational system, the ICT training provision sector and the research institutions

- Create collaborative networks for ICT and electronic resources with the relevant institutions [*Adapted from the National Tertiary & Higher Education Policy (2014 – 2023)*

- Encourage the improvement of Internet connectivity within the tertiary and higher educational institutions [*Adapted from the National Tertiary & Higher Education Policy (2014 – 2023)*]

- Prioritize the training of teachers at the tertiary and higher educational levels to reduce the teacher requirement gaps at the basic and senior secondary education levels [*Adapted from the National Tertiary & Higher Education Policy (2014 – 2023)*]

- Review and strengthen teacher education programmes to provide adequate and competent teachers, especially technical teachers for TVET programmes [*Adapted from the National Tertiary & Higher Education Policy (2014 – 2023)*]

- Engage telecommunication and financial institutions to establish Internet hubs and other ICT facilities within the higher educational institutions [*Adapted from the National Tertiary & Higher Education Policy (2014 – 2023)*]

- Provide relevant science equipment to facilitate educational undertakings, particularly research and development [*Adapted from the National Tertiary & Higher Education Policy (2014 – 2023)*]

- Promote the provision and use of Internet servers, hubs and other accessories for public tertiary and higher education institutions [*Adapted from the National Tertiary & Higher Education Policy (2014 – 2023)*]

- Strengthen the innovativeness of Gambian researchers by building upon the existing knowledge in the context of the sector [*Adapted from the National Tertiary & Higher Education Policy (2014 – 2023)*]

- Link education, research and innovation in the form of a knowledge triangle concept for commercialization and, ultimately, growth and development [*Adapted from the National Tertiary & Higher Education Policy (2014 – 2023)*]

- Create incentives to promote investment and support in R&D by the private sector [*Adapted from the National Tertiary & Higher Education Policy (2014 – 2023)*]

- Enhance collaboration between research institutions and higher education institutions in order to train high-level research and scientific personnel [*Adapted from the National Tertiary & Higher Education Policy (2014 – 2023)*]

- Create mechanisms for ensuring that research is quality-assured at all the levels of the educational system [*Adapted from the National Tertiary & Higher Education Policy (2014 – 2023)*]

- Develop a strategy for investment in research infrastructure development [*Adapted from the National Tertiary & Higher Education Policy (2014 – 2023)*]

- Encourage research in indigenous knowledge systems (IKS) and promote technology transfer initiatives [*Adapted from the National Tertiary & Higher Education Policy (2014 – 2023)*]

- Sustain and improve research in health, education and energy as well as other areas of national development [*Adapted from the National Tertiary & Higher Education Policy (2014 – 2023)*]

- Encourage R&D activities that develop technologies through linkages with industries [*Adapted from the National Tertiary & Higher Education Policy (2014 – 2023)*]

- Promote training of a critical mass of middle-level technical personnel to address the provision of basic needs, such as food, shelter, health, clothing and energy [*Adapted from the National Tertiary & Higher Education Policy (2014 – 2023)*]

- Facilitate acquiring of skills in the use of advanced technologies, such as in the areas of ICT, biotechnology and nanotechnology, and integrating their applications in the day-to-day work and activities of the citizenry [*Adapted from the National Tertiary & Higher Education Policy (2014 – 2023)*]

- Review the curricula at tertiary and higher education levels to support STI goals and objectives [*Adapted from the National Tertiary & Higher Education Policy (2014 – 2023)*]

- Promote postgraduate education in scientific disciplines [*Adapted from the National Tertiary & Higher Education Policy (2014 – 2023)*]

- Improve science education at all the levels, particularly in all tertiary and higher education and TVET institutions [*Adapted from the National Tertiary & Higher Education Policy (2014 – 2023)*]

- Encourage through tertiary and higher educational institutions, life-long learning within the working population to promote on the job training, skills update, further and continuing education and learning within the public and private sector

- Promote enrolment in technical and vocational education and training (TVET) programs to enhance the middle-level management of science and technology application and service delivery in all the sectors [*Adapted from the National Tertiary & Higher Education Policy (2014 – 2023)*

- Strengthen, expand and diversify the provision of technical and vocational education and training (TVET) programmes to meet the emerging labour and skills needs of a growing economy *[Adapted from National Education Policy (2004 -2015)*]

- Promote science and technology innovation within the educational system [*Adapted from the National Tertiary & Higher Education Policy (2014 – 2023)*]

- Lay emphasis on industrial attachment for tertiary and higher education students [*Adapted from the National Tertiary & Higher Education Policy (2014 – 2023)*]

- Ensure the implementation of the policy provisions of the Gambian National Science and Technology Policy (2013-2022)

- Facilitate the tertiary and higher educational institutions to take steps to modernize and expand their facilities to increase enrollment and to contribute to national efforts targeted at ensuring that all citizens who qualify to enter tertiary institutions will benefit from such education

- Ensure that all tertiary and higher educational institutions take steps to adopt e-learning technologies and educational delivery methods to progressively offer aspects of their programmes online to broaden access to higher education to a large section of the population and to maximize the quality and efficiency of learning processes, systems and activities.

- Promote and facilitate the financial viability and sustainability of the nation's educational institutions in the climate of intense local and foreign competition for student enrollment

- Ensure that the tertiary and higher educational institutions take bold steps to mitigate the challenges and risks associated with the current regime of internationalization of higher

education (IHE).

- Encourage the tertiary and higher educational institutions to put in place and implement internationalization strategies in the area of recruiting international students and engaging in international partnerships in research and other academic collaborations

- Promote the aggressive introduction into the Gambian higher educational system, technology-based open/distance learning (ODL) and training and virtual learning systems to complement and supplement face-to-face campus based education and training systems in tertiary institutions.

- Encourage and facilitate tertiary and higher educational institutions to contribute to human capacity building in the science and technology areas, which hold promise for enhanced national development in the technological age

Promoting Science, Technology & Innovation (STI) and R&D

- Ensure that science and technology pervade all the sectors of the economy through the development and the pursuance of policy objectives and strategies to facilitate an STI-driven social and economic development agenda targeting the development of key sectors of the economy [*Adapted from the* National Tertiary & Higher Education Policy (2014 – 2023)]

- Promote and facilitate the computerization of the operations of the two Ministries responsible of Education and their respective organs

- Ensure greater involvement of the private sector in Science and Technology Education (STE) [*Adapted from National Education Policy (2004 -2015)*]

- Facilitate the building, upgrading and improving of the research and the academic programme development, provision and delivery capacities and facilities of the nation's tertiary and higher education institutions and research institutes to support national research and R&D efforts and as well as to broaden access to tertiary education through expanding their student intake and graduate outputs in key professional and skill areas.

- Encourage the private sector, particularly key industries, to invest in national human resource development as well as research and R&D initiatives targeted at the public and private tertiary and higher education institutions

- Lay curriculum emphasis on key societal issues such as environment, food production and security, gender, health, and renewable energy [*Adapted from National Education Policy (2004 - 2015)*]

- Promote capacity building for Science and Technology Education (STE) providers,

administrators and policy-makers [*Adapted from National Education Policy (2004 -2015)*]

- Increase the country's capacity to train personnel in the emerging technologies, such as biotechnology, nanotechnology and material sciences [*Adapted from the National Tertiary & Higher Education Policy (2014 – 2023)*]

- Identify and meet skills gaps in STI emerging technologies through regular reviews [*Adapted from the National Tertiary & Higher Education Policy (2014 – 2023)*]

- Facilitate the implementation of the policy provisions of the Gambian National Science and Technology Policy (2013-2022)

- Promote the utilization of ICTs and distant learning methods and technology to improve access, equity and quality of Science and Technology Education (STE)   at all levels of the educational system [*Adapted from National Education Policy (2004 -2015)*]

- Empower the nation's tertiary and higher educational institutions to contribute to the process of transforming Gambia into an information and knowledge-driven ICT literate nation

- Mainstream ICTs and other emerging educational technologies into all the levels of the Gambian educational system support all aspects of academic programme development and delivery as well as research and R&D activities of the tertiary and higher education institutions.

- Encourage and promote local and international collaboration and partnerships between tertiary and higher educational institutions to facilitate educational and faculty exchange and research partnerships and collaborations.

- Improve the R&D capacity of the nation's tertiary and higher educational institutions and research institutions to meet the demands and requirements for developing Gambia's information and knowledge-based economy and society.

- Encourage research and R&D activities in the nation's tertiary and higher educational institutions and research institutions aimed at the development of a modernized and competitive export-driven agriculture, services and manufacturing sectors of the economy.

Key Information and Knowledge-based Economy (IKE) Development Impact Monitoring Indicators

- Indicators to measure the ICT adoption rate within the educational system
- Indicators to measure the degree of modernization within various level of the educational system [educational system modernization coefficients/indexes]
- Indicators to measure the extent of the penetration of ICTs within the educational system (all levels)
- Indicators to measure the social and economic impact of the deployment and exploitation of ICTs to support teaching and learning and research in the Universities and Colleges

- Indicators to measure of the level and the extent of ICT awareness in the society
- Indicators to measure the ICT literacy within the society
- Indicators to measure the level and the spread computer awareness within the country
- Indicators to measure the degree of adoption computer education and training within the educational system
- Indicators on computer-related skills and professional within the workforce
- Indicators to assess R&D expenditure per million of population
- Indicators to assess the impact of R&D on productivity in the industrial and services sector
- Indicators to measure the size of high-tech exports attributable to R&D
- Indicators to measure the contribution of research and R&D on economic growth, GDP and GNI
- Indicators to measure the modernization-coefficient of the educational institutions as a result of the deployment and exploitation of ICTs
- Indicators to measure the research and R&D output of higher educational institutions and research institutes

Candidate Policy Implementation Agencies

- Ministry of Higher Education, Research, Science and Technology
- Ministry of Basic and Secondary Education
- Ministry of Information and Communication Construction Infrastructure
- Ministry of Youth and Sports
- Ministry of Agriculture
- Ministry of Transport, Works and Infrastructure
- Universities, Colleges and Research Institutions
- National Agricultural Research Institution
- National Council for Arts and Culture
- National Quality Accredited Authority
- National Training Authority
- Private Sector Establishments
- Gambia Bureau of Statistics (GBOS)
- Gambia Investment and Export Promotion Agency

Agricultural Development and Modernization

o The Overarching ICT4D Policy Objective

To develop a modern, efficient and globally competitive agricultural sector

o Policy Statements and Commitments

1. The Government of the Gambia (GoTG):

- *fully aware* of the agricultural and Natural Resources (ANR) being the dominant sector in the Gambian economy, employing about 70 percent of the total work force and contributing close to 22 percent of GDP

- *mindful* of the fact that despite being a critical economic sector, the ANR continues to lag behind other sectors in of the economy in terms of its productivity outputs and lack of its modernization

- *acknowledging* the absence of linkages between the agriculture sector and other sectors of the economy, namely industry, services including in particular the tourism sub-sector is no doubt a major constrain on the development of the agriculture sector and the economy as a whole

- *recognizing* that the ANR sector is still characterized by an undiversified primary agricultural system and subsistence agriculture production methods and practices and it is mainly rain-fed and conditioned by erratic inadequate input supplies, inappropriate technology, low output and productivity growth, low incomes and an acute inability to generate savings for investment

- *further acknowledging* that the other challenges constraining the development of the sector include restrictive and uneconomical land tenure system that restricts farm sizes to small-holds and as such prevent large scale commercial farming that could benefit from investments, economy of scale and the use of technology to improve productivity

- *acknowledging* that the prevailing high population growth rate, environmental degradation and rural-urban migration do negatively impact on the nation's food and nutrition security status

- *fully aware*   that the land tenure system in the Gambia do restrict the development, expansion and the growth of the key sectors of the economy including in particular the agriculture sector

2. The GoTG is committed to taking policy steps and measures to modernize the agricultural sector to substantially improve agricultural value-added and yield and develop a dynamic and vibrant export-oriented agro-business industry

3. The GoTG is committed to putting in place and implementing enabling policy measures, and legal and regulatory provisions to address the bottlenecks and the restrictive practices and norms of the ANR sector and system

4. The GoTG is committed to pursuing policy initiatives aimed at dramatically improving the nation's food production, processing and distribution capacity

5. The GoTG is further committed to putting in place and implementing enabling policy measures, and legal and regulatory provisions to address the bottlenecks and the restrictive practices and norms associated with the land tenure system in the Gambia

Specific Policy Objectives and Strategies	
Policy Objectives	• To aggressively promote the development of a value-added, export-oriented, diversified and commercially-orientated agricultural sector with the potential to ensure the nation's food security, supplies and adequate raw materials for the local industry • To modernize agriculture practices to improve land productivity towards producing to meet domestic demand and for export • To develop and position the agriculture sector as a major foreign exchange earner for the economy • To develop the ANR sector to serve as the main source of employment and income generation for the vast majority of the rural youth and population so as to reduce and curb rural- urban migration of the youth and support the rapid development of the rural sector • To promote and facilitate the process of diversifying the agriculture production to encourage and support the production of a wider range of food and export produce in order to reduce the fluctuations and uncertainties associated with rural household incomes and export earnings

- To develop the agriculture to serve as an instrument for reducing rural-urban income disparities as well as gender induce income disparities

- To improve, mainstream and integrate national and international agricultural research outputs, innovation, methods and best practices into agriculture production and distribution processes and systems in the country

- To promote and facilitate the active participation of enterprising private sector organization in agriculture production, storage, marketing and distribution

- To encourage and facilitate strong linkages between the ANR sector and other sectors of the economy in particular industry and services sectors so as to ensure that the ANR sector on one hand can serve as a rich source of inputs for domestic and internal industrial production and processes and on the other hand, support the production and distribution process and advance its development and modernization by utilizing the exploiting relevant innovation and products of industry and the services sectors

- To promote and encourage the deployment and exploitation of appropriate agricultural technologies and methods to facilitate a viable and sustainable balance between rain-fed and irrigated agriculture production, to ensure the optimal use of agricultural land and surface and ground water resources to support high agricultural yields and productivity

- To encourage and facilitate the introduction of ecologically-driven agriculture technology systems and skills development and training into relevant levels of the educational system to support the process of the modernization of the agriculture sector and its operations

- To actively promote and encourage agricultural research, innovation and R&D work and initiatives to support improvements in methods and operations related to agricultural production marketing and distribution as part of the process of modernizing Gambian's agriculture in the technological age

- Promote the deployment and exploitation of ICTs to support the key activities of the agriculture sector: production, processing, marketing and distribution of agriculture products and services

- Encourage and support the process of the rapid commercialization of the ANR sector to improve its productivity and global competitiveness

- Promote the use of local and international Agriculture research outputs to impact on agriculture operations and productivity

Policy Strategies, Measures and Instruments	• Promote the use of Geographical Information Systems (GIS) applications to support natural resource management and optimal usage to facilitate agriculture production activities and operations
	• Promote and facilitate the development of an agro-business industry within the Gambia
	• Support the strengthening of the development, application and transfer of agro-based technologies to support sustainable agriculture production
	• Facilitate the development of food insecurity and vulnerability information and mapping systems to support the process of assembling, analyzing and the dissemination information food insecure and vulnerable groups and communities
	• Develop agriculture information systems to support the planning, production, storage and distribution of crops, livestock, and fisheries products within the country
	• Promote the development of ICT literacy and awareness within the farming communities throughout the country
	• Improve national agriculture research outputs, relevance and impact on the operations of the agricultural sector
	• Promote the application and transfer of technologies and knowledge, to support improved agricultural production, processing, packaging and distribution
	• Promote and facilitate cutting-edge agriculture-based R&D work to support the development of a modernized and globally competitive agriculture sector

Key Information and Knowledge-based Economy (IKE) Development Impact Monitoring Indicators

- Indicators to measure the extent of mechanization of agricultural production activities
- Indicators to measure the extent of commercialization of agricultural activities
- Indicators to measure expenditure and investment in agricultural research and R&D
- Indicators on the degree of deployment and exploitation of ICTs to support agricultural activities (production, processing, distribution and marketing)
- Indicators to measure the contribution of ICTs to growth and productivity within each of the agricultural sector
- Indicators to measure the extent to which the deployment and exploitation of ICTs has contributed to growth and improvements in agriculture sector contribution to GDP and GNI

Candidate Policy Implementation Agencies

- Ministry of Agriculture
- Ministry of Fisheries, water Resources & NAM
- Ministry of Environment, Climate Change, Water and Wild Life
- Department of Fisheries
- Department of Wildlife
- Department of Agri – Business
- National Agricultural Research Institution

Private Sector Development & Empowerment

o The Overarching ICT4D Policy Objective

To develop and transform the Gambian economy into a private sector led high income economy dominated by trading in ICT products and services

To facilitate the development of the Gambian private sector into that which is dominated by a technology-based knowledge-driven industrial sector and a large commercial services sector with a reasonably large and vibrant, ICT services sub-sector and industry

o Policy Statements and Commitments

1. The Government of the Gambia (GoTG):

- *fully acknowledging* that although the Gambian private sector now generates <u>70 percent</u> of economy output, 70 percent of investment and <u>90 percent</u> of employment, the sector is still largely composed of mostly informal micro and small enterprises, with limited capacity to contribute to accelerated economic development and growth

- *recognizing* that the development and the growth of the private sector is constrained by limited public sector capacity to regulate it effectively, a generally restrictive business environment, poor infrastructure (particularly in power and transport), serious skills shortages and mismatches, and difficulties in gaining access to finance

- *mindful* of the fact that while the Gambian extractive industries sector has to some extent been an important driver of economic growth, such growth has not resulted in equally impressive job creation and poverty reduction

- *further mindful* of the need to take urgent policy actions aimed at transforming and diversifying the Gambia economy in order to promote sustainable and inclusive growth of the economy in the emerging technological age

- *fully recognizing* that despite the implementation of a number of economic development strategies and intervention since independence, the structure of the Gambian economy has not changed considerably over the years.

- *further aware* that the economy continue to be: predominately subsistence agriculture based employing the majority of the working population most of them rurally based; narrow industrial base with the manufacturing sector producing little for domestic consumption and for export and a services sector not growing as fast as should be expected if the economy were to be growing rapidly towards a services dominated economy

- *fully acknowledging* that the development of the industrial sector which contributes only 11 percent to GDP and provides employment to a relatively few Gambians is constrained by inadequate infrastructure (physical, telecommunications/communications, transportation and energy), low domestic and direct foreign investment, as well as shortage of key skills, competencies and specialized expertise needed to support industrial production and manufacturing processes and operations

- *taking into account* the fact that private sector development strategies over the years concentrated on: strengthening the supply response of the economy and enhancing the efficiency of resource allocation by removing price distortions; the liberalization of the economy; implementing policies aimed at enhancing the private sector including reducing the budget deficit in order to generate more private sector activity, tax reforms – as key element in the economic reform package; and provision of incentives for economic activity whilst enhancing efficiency and equity in the economy and expenditure measures aimed at improving public investment in the rehabilitation and maintenance of basic infrastructure and the development of human resources.

- *further acknowledging* that private sector development policies in the past were targeted at expanding the export base of the economy, containing the debt burden at sustainable levels and the preservation of international competitiveness. And that some of the complementary structural adjustments designed to enhance the efficiency of the economy and stimulate private sector activity include the privatization of public sector commercial activities; policy incentives aimed at the expansion of the tourism sub-sector among others

- *acknowledging* that the Tourism sector is one of the fastest growing sectors of the Gambia economy, and that efforts must be made on the part of the Government and other stakeholders within the sector to support the development of the sector through effective policy measures and incentive packages to promote its growth and expansion

- *fully aware* that the Gambian private sector is dominated by a large informal sub-sector that accounts for a relatively high proportion of the nation's economic activities and employs a large

proportion of the working population most of them self-employed with no employees or working mainly in micro enterprises with average two or three employees

- *mindful* of the need to put in place and promote policies and implement measures that support the development of the informal economy and progressively transform the bulk of it into the formal economy

- *taking into account* the fact that the micro, small and medium-size enterprises (MSMEs) dominates the Gambian private sector, in particular the informal private sector of the economy

- *acknowledging* that the lack of access to an efficient economic infrastructure – namely communication, transportation and distribution networks, financial institutions and markets, energy supply systems, etc. to support business activities and to drive the rapid economic development is an impediment to the development of the private sector and is committed to addressing this through policy measures, instruments and measures

- *further recognizing* that inadequate social infrastructure for supporting social services such as health and school facilities, as well as the systems that underpin them, do indirectly impede Gambia's developmental efforts including initiatives targeted at developing the private sector as a means to advancing the nation's socio-economic development aspirations in the emerging information and knowledge age

2. The GoTG is strongly committed a free market mechanism and to promoting a stable macro-economic environment that is conducive for the development of the private sector into an export-oriented globally competitive sector of the Gambian economy

3. The GoTG is fully committed to promoting policy measures specifically targeted at the development and implementation of private sector development initiatives aimed at encouraging and facilitating the deployment and the utilization of technological resources and solutions to support the storage, processing, packaging and distribution of agricultural and industrial products to enhance their competitiveness and marketing potentials on the domestic and international markets

4. The GoTG is further committed to addressing key constrains limiting the development and the growth of the private sector including those relation to: inadequate government regulation, restrictive policies, poor infrastructure (particularly in power and transport), severe skills shortages and mismatches between employers' needs and available workers, trade restrictions, tariff and non-tariff barriers

5. The GoTG is committed creating an enabling environment to facilitate the development of a vibrant private sector serve as both an engine of growth and an agent for development through eroding poverty, strengthening communities and societies, and providing services for all.

6. The GoTG is fully committed pursuing policies targeted at developing for the Gambia a healthy and growing private sector that embraces and promote inclusive growth and offer opportunities for comprehensive development efforts that value human, social and natural capital, efficiently and sustainably use ecosystem goods and services, and build resilience as, industries and people are become increasingly interconnected

7. The GoTG is further committed to promoting policies measures that empowers the MSMEs to enhance their contribution to poverty reduction efforts and the integration of women and other marginalized groups into the economy and society

Specific Policy Objectives and Strategies	
Policy Objectives	• To promote and facilitate efforts aimed at developing a fully-fledged private sector with the potential to contribute substantially to the nation's rapid social and economic development process in general and in particular drive the development of the domestic economy • To pursue a strategy that envisions a globally competitive private sector that will be an engine for sustainable economic growth, generating a decent work environment that offers productive employment for the people of the Gambia • To promote and facilitate the development of competitive financial and investment instruments and products by the financial services sector to provide competitive and affordable credit facilities to both small and large scale agricultural producers, as well as agriculture entrepreneurs and service providers to acquire production inputs, support their production and marketing operations as well as the distribution operations and activities of their products on the local and the international market • To promote and facilitate the development of competitive financial and investment instruments and products by the financial services sector to provide competitive and affordable credit facilities to producers and manufacturers to support acquisition of production inputs and support their production and marketing operations as well as the distribution operations and activities of their products on the local and the international market • To promote and facilitate the development of competitive financial and investment instruments and products by the financial services sector to provide competitive and affordable credit

facilities to MMSEs within the services sector to support various aspects of the operations and service provision to their local and international clients and operators

- To put in place and implement innovative policy measures and incentive packages and instruments to promote and encourage individual savings and the development and provision of credit scheme avenues and opportunities to the business community

- To pursue policy interventions targeted at expanding private sector businesses access to social and economic infrastructure – namely 'hard' infrastructure (transport, telecommunications, water, power systems, and fixed assets needed to provide education, health and sanitation) and 'soft' infrastructure (legal and regulatory frameworks, payments clearance and settlement systems, financial intermediaries and capital markets, collateral registries, credit rating agencies, and skills development)

- To promote various levels of enterprise development through policy interventions that makes it easier for private sector businesses to gain access to finance, building its skills, and helping to add value to its activities

- To promote and facilitate the creation of quality private sector jobs that could contribute to a sustained social and economic development of the Gambia

- To pursue policy initiatives that will continue to promote the Gambia as a stable political and social environment to position the country as an attractive destination for investments with the ECOWAS sub-region

- To pursue an effective private sector development strategy that will contribute to rapid sustainable development and poverty reduction by promoting broad-based economic growth.

- To promote the development of a diversified tourism sub-sector with focus on promoting innovative and competitively marketed technology-driven tourism services that targets introducing and promoting eco-tourism, cultural, inland and community-based tourism as well as conference tourism

- To strengthen the linkages between tourism and other sectors of the economy to facilitate the rapid growth of the economy

- To contribute to sustainable development and poverty reduction by promoting broad-based economic growth, employment and inclusive development through effective private sector development

- To encourage and facilitate the active participation of Gambians in the Tourism sector as providers of tourism services and products so as to promote the establishment and the growth of locally owned tourism businesses and establishments

- To promote and facilitate the employment generation capacity of the Tourism sector so as boast job creation for the youth

- To pursue a policy of creating the requisite and enabling private sector development conducive environment to promote, support and facilitate the development and growth of the Gambian private sector

- To take effective and proactive policy actions and put in place and implement suitable policy initiatives, incentives and interventions targeted at promoting the formalization of the private sector to ensure that a high percentage of business operating in the informal sector migrate to the formal private sector of the Gambian economy

- To aggressively promote, facilitate and improve the job creation capacity and capabilities of the Gambian private sector through the implementation of suitable enabling and targeted policy incentives, initiatives and interventions

- To modernize and improve the competiveness of the Gambia private sector by encouraging, promoting and facilitating the extensive deployment and exploitation of new and emerging technological resources, innovations and solutions to support the various aspects of the operations and functions as well as the production operations and service delivery and provision activities of private sector organizations and establishments

- To promote the development and the enactment of the requisite and supportive regulatory provisions and institutional arrangements that will facilitate the development and the growth of a globally competitive local private sector with the potential to contribute to economic growth, income generation, jobs and wealth creation

- To support and improve the private sector's capacity and capabilities to generate and attract local and foreign direct investments that will drive its rapid development and growth in the technological age

- Promote the improvement of a conducive and enabling investment and business climate

- Implement policy initiatives that champion reducing the attraction of informal-sector activities by supporting improvements to increase the ease of doing business and reduce the cost of business creation, expansion and closure.

- Promote and facilitate the development of the local ICT industry to facilitate the production of ICT products and services and as well as develop local capacity for supporting the manufacturing and assembly of ICTs equipment and products

- Implement initiatives targeted at promoting greater transparency, predictability and

Policy Strategies, Measures and Instruments	accountability in business and investment regulatory frameworks, particularly in tax policy and administration; strong property rights; and sound corporate governance • Facilitate and expand access to social and economic infrastructure by private sector organizations and establishments • Promote enterprise development strategies • Implement initiatives aimed at an efficient and well-regulated public services, effective law enforcement, and transparent procurement practices • Remove regulatory provisions and labour, trade and business obstacles (relating to taxation, stability and security, finance, labor skills development, infrastructure) that reduces competitiveness and constrain the development of the private sector • Develop the local financial market to promote investment to support private sector development • Address structural deficiencies that result in bureaucratic red tape, and lack of transparency, that significantly reduce the credibility of private sector development policies and therefore hinders the Government's development enabling role • Address the factors that inhibits the growth of Gambian's formal financial system and capital market including problems relating to scale, volatility, long-term liquidity, and macroeconomic and regulatory stability • Implement initiatives to deepen and expand financial and capital markets, including those that encourage creation of a diversity of financial institutions and services (e.g. insurance, leasing), development of financial instruments (e.g. bonds, equities, guarantees) that can mobilize term finance, and efforts aimed at increasing local currency borrowing to fund private sector projects • Implement initiatives to improve the nation's financial infrastructure including collateral registries, credit bureaus, credit ratings, and payment and settlement systems, all of which are necessary to foster financial stability and the successful operation of modern integrated financial markets • Implement initiatives to improve innovation, entrepreneurship, knowledge and skills, particularly through providing assistance to more effective vocational training

Key Information and Knowledge-based Economy (IKE) Development Impact Monitoring Indicators

• Indicators to measure the contribution of the ICT production and services sector to economic growth, GDP and GNI
• Indicators to monitor and measure the size of the commercial services sub-sector activities

- Indicators to monitor and assess the knowledge-based activities of the industrial sector
- Indicators to monitor, assess and measure the contribution of knowledge-based industrial sub-sector activities to economic growth, GDP and GNI
- Indicators to measure on a sector-by-sector basis the social, economic and infrastructural impact of the deployment and exploitation of ICTs within the key sectors of the economy: services, industry and agricultural sectors

Candidate Policy Implementation Agencies

- Ministry of Finance & Economic Affairs
- Ministry of Trade, Regional Integration & Employment
- Ministry of Tourism and Culture
- Ministry of Local Government and Lands
- Gambia Investment and Export Promotion Agency
- Private Sector Establishments
- Central Bank of the Gambia
- Gambia Revenue Authority
- Gambia Tourism Board (GTB)
- Gambia Public Procurement Agency (GPPA)

Promoting Technology-Driven Social and Community Services Provision & Delivery

o The Overarching ICT4D Policy Objective

To facilitate a wide-spread deployment and exploitation of ICTs within the society and to support the delivery of health, education, government and social services within the community

o Policy Statements and Commitments

1. The Government of the Gambia (GoTG):

- *acknowledging* that the development of the Gambian's information society and economy will to a large extent depend on the level and the spread of access to ICTs and related technologies, and their resources, services and applications within the community at large

- *recognizing* that the development of the Gambia's information society and economy and to ensure that majority of the population benefit from improved health, education and social services, will necessitate the rapid extension of access to ICTs to all sections of the Gambia population including those in the rural areas where many of the most disadvantaged and remote communities resides

- *recognizing* that ICTs are increasingly being deployed to facilitate the delivery of health and community services in a number of developed and developing countries

- *mindful* that ICTs and other emerging technologies are no doubt providing the Gambia a number of opportunities to facilitate the modernization of the operations of the nation's health delivery system to improve access to the limited health facilities and resources and to provide access to health information and other services to a wider section of the community

- *fully acknowledging* the need to pay particular attention to the special needs of marginalized and vulnerable groups of the society and the need to empower the poor, particularly those living in remote, rural and marginalized urban areas, to access information and use ICTs to support their participation in the economy and society

- *mindful* that in the emerging information and knowledge society, the deployment and exploitation of ICTs within the society and economy can impact on virtually all aspects of the lives of the Gambians

- *recognizing* that access to education, knowledge, information and communications are fundamental to the development, progress and the well-being of each individual

- *mindful* that although ICTs could advance the nation's social and economic development, the benefits may not necessarily spread to all sections of the society unless specific efforts and policy measures are taken in terms of policies and special initiatives targeted at ensuring and enhancing the possible distributive effects of the developmental impacts of these technologies to the community at large.

2. The GoTG is committed to:

   - implementing ranges of community-based ICT initiatives to speed up the process of the deployment, spread, diffusion and the exploitation of ICTs at the community level

   - putting in place specific ICT policy measures and initiatives targeted at the disadvantaged sections of the Gambian population including the visually, mentally and physically impaired and disadvantaged

   - promoting the implementation of a number of special initiatives targeting the setting up of national community-based information access and service centers and facilities to facilitate the public access to information and services and to support the delivery of ranges of community-based government services and support community-based economic activities

3. The GoTG is fully committed to implementing special community-focus and social services ICT initiatives targeted at poverty reduction efforts within targeted rural and urban communities as a means to address specific income distributive issues arising from the developmental impacts of the deployment and exploitation of ICTs within the economy and society.

4. The GoTG is committed to the deployment and the exploitation of ICTs to: support the implementation of telemedicine systems; facilitate development of health information and management systems; to facilitate the spread of health and medical services to rural and under-served areas; and to support medical education and training among others

Specific Policy Objectives and Strategies

Policy Objectives	- To support and facilitate the development of the nations, communications and ICT infrastructure, resources and services to enhance and strengthen social and economic development and the provision of social services in the area of health, education, social welfare, services to the elderly, and community services, etc. - To promote and speed up the process of the diffusion of information and communication technologies within the society and economy - To promote the development of affordable access technologies and services to facilitate public and community access to ICT services and social services - To promote and encourage ICT applications and systems development with local content and indigenous knowledge laying emphasis on the promotion of local languages, national cultural heritage and local knowledge systems and products - To improve the general access to information and services to facilitate business and administrative processes to increase productivity and facilitate social and economic development. - To encourage and support national efforts aimed at promoting local content development - To promote and strengthen the nation's capacity for generating and utilizing indigenous knowledge in all fields - To increase access to tertiary and higher education and services for the physically challenged [*Adapted from the National Tertiary & Higher Education Policy (2014 – 2023)*] - To promote the implementation of telemedicine applications at various levels of the health delivery system in the country - To implement the development and implementation of initiatives targeted at enabling people with disabilities to use ICT services and resources - To deploy ICTs to facilitate improvements in the efficiency of health service delivery, improving cost effectiveness and planning, management and administration of the health delivery service. - To promote and encourage the active participation of women and the underserved communities, as well as physically challenged and vulnerable groups in the Gambia information society - To promote and encourage the development and implementation of various e-government, e-commerce, e-health, e-education, e-agriculture and e-security initiatives aimed at facilitating community access to ICT-enabled services and resources

	• To facilitate and promote ICT literacy in the population at large through the implementation of special initiatives targeting both the formal and informal educational system • To transform Gambia into an ICT literate Nation • To promote and support the setting up of community-based multipurpose telecenters to provide community access to the Internet and its resources • To promote home ownership of computers • To promote PC penetration and the diffusion of ICTs within rural and under-served communities • To promote the development of and access to local content and indigenous knowledge information resources and systems • To encourage and facilitate universal access to ICTs, communications services and media resources and services within rural and urban communities throughout the country • To support local and community-based media and the use of new technologies for facilitating the use of local languages and for documenting and preserving local heritage • To improve affordable Internet connectivity access in the Gambian educational and health institutions and in rural and urban community centers throughout the country
Policy Strategies, Measures and Instruments	• Promote equal and universal access to ICT services and resources to all communities including rural and under-served communities • Encourage and speed- up the diffusion of ICTs within the society and economy • Promote the implementation of health management information systems across primary, regional and tertiary healthcare systems. • Promote the utilization of ICTs support the provision of health education to the public at large • Deploy ICTs to facilitate awareness campaign aimed at combating major national health threats such as HIV/AIDS, malaria and other diseases • Provide access to reliable, reasonably priced, and modern communications and Internet services to rural and urban communities especially to the un-served and the under-served communities and groups • Ensure and facilitate access to e-government, e-health, e-learning, and e-commerce services via community access points and facilities like telecenters and other types of multi-purpose community access facilities

- Implement community-based national ICT programmes and initiatives including telemedicine, multi-purpose community telecenters, teleducation and schoolnets initiatives.

- Promote the deployment and the exploitation of ICTs to support initiatives aimed at improving the quality of health service delivery

Key Information and Knowledge-based Economy (IKE) Development Impact Monitoring Indicators

- Indicators to measure the extent of the deployment and the spread of ICTs within the community
- Indicators to monitor and measure the degree of deployment, and exploitation of ICTs within the educational, and health sector and institutions
- Indicators to monitor and measure the degree of adoption of ICTs to support operations and activities within government and public sector institutions
- Indicators to monitor and measure the degree of diffusion of ICTs within education, health and government institutions
- Indicators to measure the extent of the spread of ICTs (computers, telecom network and services, Internet) within the society and community
- Indicators to measure the extent of the penetration of ICT services and resources within the community and society
- Indicators to measure the level and degree of exploitation of ICTs with the economy and society at large
- Indicators to measure the level of community access and connectivity to ICT services and resources
- Indicators to measure the social and economic impact of ICTs households and communities
- Indicators to measure the impact of the deployment of ICTs on educational, health and social services delivery
- Indicators to measure the extent of the deployment of ICTs within the community at large (rural vrs. urban)

Candidate Policy Implementation Agencies

- Ministry of Health and Social Welfare
- Ministry of Tourism and Culture
- Ministry of Interior and NGO's Affairs
- Women's Bureau
- Department of Medical Services
- Department of Community Development
- Department of Social Welfare
- Public and Private Health Service Establishments

Youth & Women Development and Empowerment

o The Overarching ICT4D Policy Objective

To develop and empower the Gambia youth to play an active role in the development of the Gambian information economy and society

To enhance the role of the Gambian women in the development of the Gambian information economy and society through empowerment, support and facilitation

o Policy Statements and Commitments

1. The Government of the Gambia (GoTG):

- *recognizing* its obligation to ensure that the Youth are empowered to contribute to their own development as well as being able to discharge their obligations and responsibilities to society

- *further acknowledging* that these obligations include but not limited to: creating the enabling environment that can generate opportunities for Youth involvement in decision making that affects them, the environment and society; encouraging the participation of young men and women in community life and development; respecting and accepting the contribution of young men and women to society through the use of their talents, resources, ideas; assisting the young in reaching their goals and full potential; being sensitive to the needs and difficulties of young women and men; providing adequate funding for sustainable development of youth-oriented projects and for educational programs and create equal opportunities to be educated; and recognizing their capabilities and individualities and allow whenever possible their choice of educational fields and careers with recourse to guidance and counseling [*Adapted from the National Youth Policy (2009-2018)*]

- *taking in account* the advances in educational and learning provision technologies

- *further recognizing* the need to create an enabling technology-driven education and training provision environment to facilitate and enhance the learning process in the critical fields of humanities, science technology and innovation at all levels of the educational system with particular focus on the tertiary education

- *fully recognizing* the increasing role that technology is playing in the development of education and training avenues and opportunities

- *recognizing* that the joblessness and under-employment among many young people in the Gambia is providing a fertile ground for the involvement of the Youth in a series of social vices, including involvement in crime, drug and alcohol abuse, prostitution, illegal migration and a general loss of confidence in the system and the larger society [*Adapted from the National Youth Policy (2009-2018)*]

- *recognizing* that the youth are the Gambia's future workforce and leading creators and earliest adopters of ICTs and that efforts should be directed at empowering them as learners, developers, contributors, entrepreneurs and decision-makers

- *mindful* of the fact that the youth are the most important and valuable resource of the nation, more so in the emerging information, knowledge and technological age where the youth are predicted to be critical for the development of the information and knowledge based economy of a given nation

- *recognizing* that the development, deployment and the exploitation of ICTs within the economy and society do provide enormous opportunities for the Youth and Women development and empowerment

- *further acknowledging* the need to put in place policy measures and efforts for ensuring that the information society enables women's empowerment and their full participation in the information society and economy on the basis on equality in all spheres of society and in all decision-making processes

2. The GoTG is committed to aggressively promoting the widespread development, deployment and the utilization of ICTs in all Gambian schools as well as the universities and colleges

3. The GoTG is committed to implementing a number of policy measures including: the establishment of community-based centers for skills acquisition to promote apprenticeship and vocational training across the country; and facilitate access to productive resources for the youth such as land, micro-credit, technology and information through business or technical advisory services [*Adapted from the National Youth Policy (2009-2018)*]

4. The GoTG is committed to taking policy measures to promote the development and empowerment of the Youth in the area of education, training, entrepreneurialship and in key social and economic development and advancement initiatives and activities

5. The GoTG through the *National Youth Policy (2009-2018)* is committed to providing an appropriate framework for promoting the enjoyment of fundamental rights by the Youth and the protection of their social, economic and political well-being in order to enhance their active participation in national development process. [*Re National Youth Policy (2009-2018)*]

6. The GoTG is committed to addressing the identified rural-urban gaps in the quality of educational attainment of the youth by among other policy measures placing emphasis on Technical and Vocational Education and Training (TVET) through its sector policies on Higher Education and Science, Technology and Innovation. [*Re: National Youth Policy (2009-2018)*]

7. The GoTG is committed to a program of Youth empowerment and development with focus on: skills training, enterprise development and employment generation; youth in agriculture development and modernization; education, awareness-raising and advocacy; discouraging and combating illegal migration of the youth; and the capacity development of the Gambia youth in the emerging technological age [*Adapted from the National Youth Policy (2009-2018)*]

Specific Policy Objectives and Strategies	
Policy Objectives	• To promote and pursue policy measures and provisions aimed at the eradication of all forms of discrimination against women and children, the girl child in particular • To continue to aggressively promote the enactment and the implementation women development and empowerment policies and initiatives • To encourage and promote proactive women empowerment oriented policies targeted at: improving the enrolment of female at all levels of the Gambian educational system; the full and equal participation of women in the key productive sectors of the Gambian economy, as well as in the social and political development process and at all levels of decision-making including: local and central government levels and in business entities and organizations and in other public and private sector organizational settings • To provide the opportunities for skills acquisition and access to productive resources for the youth with a view to enhancing the prospects of employment or self-employment [*Adapted from the National Youth Policy (2009-2018)*] • To pursue targeted policies aimed at paying special attention to ensuring that women have equitable access to the necessary factors of production, such as land, credit, finance, technology, improvements in health, education, skills training, poverty and institutional support services • To promote and facilitate the active involvement of Women in the ICT sector and industry • To promote equal opportunity and gender responsiveness in all tertiary and higher education programmes [*Adapted from the National Tertiary & Higher Education Policy (2014 – 2023)*] • To promote efforts and initiatives directed at reducing gender disparities in enrolments in mathematics and other core sciences at the relevant levels of the Gambian educational system [*Adapted from the National Tertiary & Higher Education Policy (2014 – 2023)*]

- To mainstream gender in the creation of opportunities for all to acquire literacy, livelihood skills and the utilization of these skills in order to earn a living and become economically self-reliant members of the community [*Adapted from National Education Policy (2004 -2015)*]

- To promote and facilitate the development, deployment and the exploitation of ICTs to:

  - (i) support TVET programs and projects that are based on real labour market demands with particular focus on increasing the overall employability of youth trainees rather than training them for narrow occupational categories [*Adapted from the National Youth Policy (2009-2018)*]
  - (ii) ensure the development of standards for all the key skills areas demanded by the industry and labour market within the framework of the Gambia Skills Qualification Framework [*Adapted from the National Youth Policy (2009-2018)*]
  - (iii) establish programs to promote youth employment among young women, young people with disabilities, young migrants or returnees, refugee and displaced youth, and street youth [*Adapted from the National Youth Policy (2009-2018)*]
  - (iv) promote the involvement and full participation of the youth in the development and the modernization of the agricultural sector [*Adapted from the National Youth Policy (2009-2018)*]

- To promote and facilitate improvements in the quality of education at all levels of the educational system through the development, deployment and the exploitation of ICTs targeting the provision of appropriate teaching and learning environment in the emerging technological age

- To facilitate access to productive resources for the youth to enhance their active involvement in agriculture through the provision of land grants supported by financial and technical assistance such as credit, farming inputs, extension services and information [*Adapted from the National Youth Policy (2009-2018)*]

- To facilitate the creation of facilities that add value to the agricultural produce of the youth such as reliable market, storage, farmer cooperatives, transportation and agro-processing plants [*Adapted from the National Youth Policy (2009-2018)*]

- To promote the construction of multi-purpose youth centers at the regional level and supported by a chain of modest youth centers with basic facilities at the district level, particularly for regions and districts not currently benefitting from such facilities; [*Adapted from the National Youth Policy (2009-2018)*]

- To encourage and facilitate the nation's universities, colleges and other public and private training and skill development institutions and establishments to develop and roll-out industrial relevant and technology-based training programs and initiatives aimed at providing the Gambia Youth the necessary skills and competences that will enable them engage in gainful employment and create jobs to meet the demands of the emerging information and knowledge-based economy

- To promote skills and leadership training aimed at empowering female youth for self and gainful

	employment as well as greater participation in, and contribution to community and national development [*Adapted from the National Youth Policy (2009-2018)*] • To promote technology-driven and ICT-based Public-Private-Partnership (PPP) initiatives targeted at supporting youth development and empowerment programs • To promote the establishment, improvement and promotion of both in-school and out-of school programs aimed at ending gender-based discrimination and promoting the rights and dignity of the female youth [*Adapted from the National Youth Policy (2009-2018)*] • To enhance the economic development role of the private sector to serve as an instrument for youth development targeting its role in the: creation of opportunities for gainful employment and proper work ethics; provision of training and apprenticeship and/or internship opportunities; promoting entrepreneurial development among the youth; and the provision of the environment for making youth entrepreneurial development a key part of their corporate social responsibility
Policy Strategies, Measures and Instruments	• Promote the greater involvement in girls and women in Science and Technology Education (STE) [*Adapted from National Education Policy (2004 -2015)*] • Eliminate all forms of discrimination that hinder enrolment, participation, performance and retention in tertiary and higher education, especially for the physically challenged [*Adapted from the National Tertiary & Higher Education Policy (2014 – 2023)*] • Take policy measures aimed at removing gender barriers to ICT education and training and promoting equal training opportunities in ICT-related fields for women and girls • Put in place policy measures to promote the active participation of women in developing the Gambia information society and economy and to ensure that information and communication policies at all levels are engendered, and geared toward meeting specific developmental needs of women

Key Information and Knowledge-based Economy (IKE) Development Impact Monitoring Indicators

- Indicators to measure the gender composition of the working population involved in information and communication related activities of the economy
- Indicators to measure the social and economic impact of the within and between communities and gender groups digital divide

Candidate Policy Implementation Agencies

- Ministry of Youth and Sports
- Ministry of Health and Social Welfare
- Ministry of Tourism and Culture
- Ministry of Interior and NGO's Affairs
- Ministry of Basic and Secondary Education
- Ministry of Higher Education, Research, Science and Technology
- Women's Bureau
- Department of Social Welfare
- Department of Youth & Sports
- Department of Community Development
- Department of Information Services
- National Training Authority

o The Overarching ICT4D Policy Objectives

To develop an economy based on the development and the deployment of advanced and reliable national information and communications infrastructure and services

To facilitate the development and the transformation of the Gambian economy into that in which the provision and delivery of goods and services of the key sectors of the economy are to a large extent facilitated by information and communications technologies

To promote the development of an economy in which a reasonable large proportion of the population have access to information and communications technology products and services

o Policy Statements and Commitments

1. The Government of the Gambia (GoTG):

    fully recognizing that the widespread deployment and usage of reliable and advanced information and communications infrastructure is a necessary precondition for rapid and sustainable social and economic development and sustained economic growth emerging technological age

    fully acknowledging that the direct link between broadband penetration and economic growth and that broadband infrastructure, access and services is key to promoting inclusive economic growth and contributing substantially to social and economic development in areas such as job creation, community development, regional development; increased competition, business investment, online services (e.g., e-health and e-learning), among others

    recognizing the need to ensure that the benefits of broadband are not only enjoyed by a fraction of the population; rather that everyone should enjoy them; and that this will be achieved by putting in place and implementing universal access and service (UAS) broadband initiatives targeted specifically at meeting the needs of people in urban and remote areas

    mindful that, despite some major improvements of the nation's communications infrastructure since the initiation of the NICI process in 2004, the Gambian's communication infrastructure development since fall short of requirements in terms of capacity, spread and reach essential for

speeding up the process of the deployment and exploitation of ICTs within the society and economy

acknowledging that access to broadband services is becoming recognized as essential to economic development and growth in the emerging information and technological age

mindful of the need to ensure that the benefits that can be drawn from ICTs can be made available to not only businesses, but also to un-served and under-served populations, and that this can be achieved through adopting universal access and service (UAS) policies

2. The GoTG is fully committed to implementing policy instruments and measures aimed at creating the necessary technology-neutral legal, regulatory and institutional enabling environment to facilitate the rapid development of the nation's telecommunications and communication infrastructure including the development of national broadband backbone networks to improve the coverage, reach and the capacity of the national network infrastructure and services

3. The GoTG is further committed to periodic review of the existing ICT sector development legal and regulatory provisions and frameworks to provide a flexible and dynamic regulatory framework and environment capable of addressing the issue of convergence within the ICT sector and taking into account and effectively responding to rapid technological changes and advances in the global communications industry to promote innovation and global competitiveness and as well as to facilitate and ensure consumer protection and enhance consumer choice and preferences

4. The GoTG is committed to taking the necessary policy measures to create a stable competitive environment to facilitate and encourage the mobilization of the necessary financial and technological resources by the local and foreign private sector operators and establishments to build, rehabilitate and expand the nation's information and communications infrastructure to support the provision of quality value-added communication services and facilitate the process of the rapid development and transformation of the economy towards information and knowledge-based economy

5. The GoTG is fully committed to facilitating the development of a robust, secure, state-of-the-art broadband infrastructure coverage within the Gambia with special focus on rural, remote areas and underserved urban areas

6. The GoTG is committed to adopting a holistic approach to broadband development in the Gambia

7. The GoTG is further committed to putting in place and implementing policy provisions and measures to drive and facilitate widespread broadband access in urban and rural area and communities

8. The GoTG is committed to supporting, facilitating and stimulating national demand for broadband universal access and services to ensure that Gambians derives the associated socioeconomic benefits in respect to (i) education; (ii) health; (iv) work environment; (v) consumption; (vi) job creation and (vii) innovation

9. The GoTG is wholly and thoroughly committed to the development of digital broadcasting ecosystem through an information and media industry with affordable and easy access to diverse information and that, which is adequate in creating a well-informed citizenry for socio-economic development [*Adapted from the Draft Digital Broadcasting Policy – The Gambia* (2016)]

10. The GoTG is committed to promoting the development and strengthening the Gambia's cyber-security capacity and capabilities to support the development of the nation's information society and economy

Specific Policy Objectives and Strategies	
	Promoting Technology-Neutral Legal, Regulatory Regime
Policy Objectives	• To create an effective, dynamic and responsive technology-neutral legal, regulatory and institutional framework and environment to support, facilitate and drive the development, deployment and the exploitation of ICTs within the society and economy • To facilitate and ensure the adoption of international standards, best practices and guidelines by public and private sector establishments and organization to support the deployment and exploitation of ICTs within the society and key sectors of the economy • To promote the enactment of the necessary cyber laws and legislative instruments to govern and regulate cyber-related activities including laws relating to; intellectual property rights; data protection, privacy and security, freedom of access to information; computer and cyber-crime and other cyber-laws, necessary for facilitating the Gambia's full and effective participation in the emerging information age and economy • To promote the development of a sustainable and rewarding digital broadcasting ecosystem supported by a flexible and effective licensing framework [*Adapted from the Draft Digital*

Broadcasting Policy – The Gambia (2016)]

- To promote and facilitate an effective and all-encompassing content development and regulation framework for the broadcasting sector that promotes diversity and universalism [*Adapted from the Draft Digital Broadcasting Policy – The Gambia* (2016)]

- To promote the establishment of a mechanism for consumer protection with potential and capacity for public consultation and awareness [*Adapted from the Draft Digital Broadcasting Policy – The Gambia* (2016)]

Promoting Advanced Broadband ICT Infrastructure Development, and Universal Access and Service (UAS)

- To encourage and facilitate the development of a reliable, and affordable broadband ecosystem for the Gambia, that takes into account providing the enabling legislative and regulatory regime and environment to support developing a sustaining broadband infrastructure and networks to support social and economic development and enhance social equality of access to knowledge and information

- To promote and facilitate the nation-wide provision of ubiquitous, advanced, reliable, and affordable broadband infrastructure and services to support economic development, innovation, education, health delivery, government services provision, job creation, global competitiveness of key sectors of the economy, entrepreneurship and digital and social inclusiveness

- To promote implementation of UAS policy initiatives that acknowledges the need to go beyond ensuring connectivity and services to rural and urban under-served areas and communities to take into account issues relating to: content development, building capacity for people to use and maintain ICTs resources, access to reliable and affordable electricity, the use of appropriate connectivity technology; and the sustainability of connectivity services

- To promote policy measures and actions to facilitate and ensure universal access and service (UAS) to information and communication technologies and services across all communities including the remote, rural and underserved areas and communities of the country

- To facilitate the provision of secure, affordable and reliable broadband services in urban areas and universal access to broadband services in rural, un-served and under-served areas

- To promote the establishment of a broadband Universal Service Fund (USF) to serve as an economic development tool and catalyst for the development and roll-out of broadband services as an instrument for social and economic develop and inclusion

- To promote the development of policy, governance models and capacity to ensure leadership in the design and implementation of broadband strategies for the country

- To promote the adoption and implementation of a technology-neutral USF Policy to encourage the use of the most cost-effective technologies

- To actively promote and facilitate UAS to advanced telecommunication and communication services

- To achieve the delivery of affordable, equitable, good quality, and efficient information and communication services, including broadband services, to everyone

- To strengthen economic development through greater participation of SMMEs and informal businesses within a fair and competitive environment [*Adapted from the Gambia Universal Access and Service (UAS) Policy (2013)*]

- To promote greater private sector participation in the provision of ICTs, including broadband access, and encourage competition in the information and communication sector [*Adapted from the Gambia Universal Access and Service (UAS) Policy (2013)*]

- To promote broadband UAS as a means to minimizing the digital divide between urban and rural areas and between affluent and poor areas

- To promote universal access and service to information and communication technologies and services, including extending access to the rural communities; the vulnerable groups and communities; the elderly, persons with disabilities, children, especially marginalized children and other disadvantaged groups

- To facilitate the development of broadband Internet infrastructure; and national broadband connectivity by way of backbone networks, government-wide broadband networks, and the implementation of public access network facilities

- To promote and facilitate the provision of broadband services within accessibility, availability and affordability ranges

- To promote open universal access regulatory provisions, to facilitate and ensure that owners of communication infrastructure and assets that are thought to be unique, costly wasteful to duplicate, make them available to others at a competitive price

- To promote the infrastructure development and roll-out initiatives aimed at the development of a reliable, fast, scalable and robust advanced and broadband national communications backbone and infrastructure

- To facilitate a national coverage of universal access to advanced high-speed, reliable, affordable and secure broadband infrastructure and services

- To promote access to nation-wide broadband services as a universal service

- To promote equal and universal access to information and communications technologies services and resources to all communities

- To promote and facilitate broadband Internet access in Gambian schools.

- To promote the deployment of broadband Internet connectivity and the development and deployment of a national broadband backbone network to support research and other academic work in the universities and colleges, and research institutions

Developing National Cyber-Security Capability

- To promote for the Gambia a sustainable national cyber security readiness eco-system and capabilities to facilitate efforts directed at addressing and mitigating the nation's cyber-security risks

- To develop the nation's capabilities to rapidly and effectively respond to cyber threats, and reduce the nation's cyber-security vulnerabilities, and minimize damages from cyber-attacks and incidences

- To strengthen the nation's regulatory and institutional framework to support cyber-security initiatives and activities

- To facilitate the development of a secure and resilient cyberspace for the people of the Gambia, businesses and for Government

- To promote cyber-security awareness creation with the public and in the schools and in the universities and colleges

- To promote, develop, foster and maintain a national culture of security and promote national awareness campaign and capacity building to support cyber-security mitigating efforts and initiatives

- To protect and secure the nation's Critical National Information Infrastructure (CNII) including those relating to: National Defence and Security, Banking and Finance, Information and Communication, Transportation, Water, Health Service, Government, Food and Agriculture, Emergency services and Energy

- To periodically assess, identify and address the nation's cyber-security risks, threats, needs and requirements

- To promote the development and the effective dissemination of cyber-security related information and alerts to key national stakeholders and agencies in charge of mission critical security-relevant operations, functions or activities

	• To promote the establishment of cybersecurity institutional governance structures and capabilities [*Adapted from Gambia, National Cybersecurity Strategy*] • To promote the adoption of cybersecurity standards and good practices within government and private sector institutions [*Adapted from Gambia, National Cybersecurity Strategy*]
Policy Strategies, Measures and Instruments	**Promoting Technology-Neutral Legal, Regulatory Regime** • Promote and facilitate a stable and competitive investment climate to attract both domestic and foreign direct investment in advanced communication infrastructure development and expansion • Ensure proper guidelines for the smooth establishment and operation of broadcasting sector licensees [*Adapted from the Draft Digital Broadcasting Policy – The Gambia* (2016)] • Encourage and facilitate unbundling in the broadcasting of service provision from infrastructure with the creation of two independent autonomous institutions, one being a sole signal distributor, and another being content service provider [*Adapted from the Draft Digital Broadcasting Policy – The Gambia* (2016)] • Reorganize and reposition the Public Broadcaster to reflect the new realities of digital broadcasting and place on it the mandate of universal service obligation [*Adapted from the Draft Digital Broadcasting Policy – The Gambia* (2016)] • Review all licenses including frequency licenses and revoke all analogue frequencies by switch off date and allocate frequencies only to signal distributor(s) [*Adapted from the Draft Digital Broadcasting Policy – The Gambia* (2016)] • Facilitate the establishment of a public signal distributor and promote through competitive mechanisms, the establishment of private signal distributors [*Adapted from the Draft Digital Broadcasting Policy – The Gambia* (2016)] • Facilitate and support the acquisition of Set- Top-Boxes for the users to view digital transmission on their current analogue television sets [*Adapted from the Draft Digital Broadcasting Policy – The Gambia* (2016)] • Promote public awareness and education campaigns, and skills development to assist in access and utilization of digital broadcasting systems [*Adapted from the Draft Digital Broadcasting Policy – The Gambia* (2016)]

- Ensure that the public service broadcaster carry programmes prioritizing public services in line with public interest [*Adapted from the Draft Digital Broadcasting Policy – The Gambia (2016)*]

- Ensure that competition rules apply together with sector regulation on facilities sharing, co-location and access to sites [*Adapted from the Draft Digital Broadcasting Policy – The Gambia (2016)*]

- Put in place measures of adequate human capacity development necessary for the development and promotion of content creation in the country [*Adapted from the Draft Digital Broadcasting Policy – The Gambia (2016)*]

- Support the creation of a Universal Services Fund and or Content Development Fund for supporting the broadcasters and creative industries as well as the financing of local content development [*Adapted from the Draft Digital Broadcasting Policy – The Gambia (2016)*]

- Ensure local media production houses are promoted to increase local content [*Adapted from the Draft Digital Broadcasting Policy – The Gambia (2016)*]

- Promote Research and Development (R&D) to enhance content development and the promotion of the conversion of public analogue content into digital format [*Adapted from the Draft Digital Broadcasting Policy – The Gambia (2016)*]

Promoting Advanced Broadband ICT Infrastructure Development, and Universal Access and Service (UAS)

- Put in place a national broadband roll-out strategy to encourage, facilitate and ensure that most Gambia businesses and households as well as MDAs have access to broadband at an internationally comparable minimum speed

- Promote the use of broadband services by MDAs and local government agencies to make electronic transactions, including e-Government services accessible to citizens and businesses

- Develop strategic regulation conducive to effective and sustainable competition, while providing an enabling environment for investment in broadband infrastructure development.

- Strengthen the capacity of the various institutions involved to achieve the goals of universal access, adoption, and use of broadband services

- Promote and facilitate the provision of direct subsidies to end-users to ensure the widespread adoption of UAS broadband

- Encourage and facilitate speedy and timely migration from broadband infrastructure-based competition to broadband service-based competition focusing on quality of service (QoS)

- Develop and promote special investment incentive packages to encourage and facilitate private sector participation in the development of the nation's broadband and advanced communications infrastructure

- Ensure that technology-neutral and unified licensing programs are in place, so that operators are equal in implementing UAS programs, and the incumbent fixed operators are not disadvantaged

- Promote the roll-out and the use of electronic public services with broadband access by households and businesses

- Promote and support the active participation of the nation's universities colleges and industrial research institutions in the generating knowledge to facilitate the update, improvement and support for the development of competitive broadband technology and services in the Gambia

- Actively promote and facilitate mobile broadband coverage in urban and rural settings

- Encourage and facilitate communication services operators and service providers to provide broadband services (as well as voice services) at a discount to eligible subscribers (poor households, etc.)

- Stimulate the ICT market and contribute to its growth through the joint effort of the government and the private sector

- Reduce the costs of broadband access by encouraging and promoting competition

- Provide broadband access through wireless technology

- Established dedicated centers offering broadband access to rural and urban communities

- Facilitate the provision of broadband access to educational institutions (schools, tertiary and higher educational institutions)

- Ensure that liberalization of the market includes key components of broadband service delivery: international gateway, national and regional backbone, and Internet access

- Promote rollout of broadband infrastructure through suitable instruments, such as tax incentives for infrastructure investments; apply government funds as direct investment through PPPs; develop national backbone plans with an enforced open-access policy; and allow or mandate infrastructure-sharing agreements

- Ensure that spectrum policy is in line with UAS goals

- Promote public awareness and the ability to use broadband services through dedicated training, the development of e-learning or e-government services, the development of local content, or subsidies on broadband-related equipment in schools, universities, and community communication centers

- Provide broadband access in hospitals, clinics, and public health centers

- Facilitate broadband access to e-government, e-health, e-education, e-tourism, e-agriculture services nationally

- Facilitate and encourage the development of the private sector to generate enough demand for advanced and reliable information and communication services

- Promote the modernization and expand the nation's information and communications infrastructure and services to improve universal access and quality of service (QoS)

- Promote universal access and service (UAS) to broadband infrastructure and services availability and affordability for all Gambians

- Promote and encourage private sector investment in the deployment and the roll-out of Fibre-To-The-Home (FTTH) infrastructure an connectivity

- Promote mobile broadband for last-mile universal access and service solutions

- Develop the necessary legal, institutional and regulatory framework and structures required for supporting the development of advanced communications infrastructure

- Promote and facilitate private sector investment in the deployment of national backbone infrastructure development and roll-out

- Develop the necessary highly skilled ICT human resources required for supporting the development and maintenance of an advanced information and communications infrastructure and systems

- Achieve greater social and economic development through the use of information and

communication technologies, applications, and services [*Adapted from the Gambia Universal Access and Service (UAS) Policy (2013)*]

- Expand the development of the ICT networks, with a particular focus on broadband networks [*Adapted from the Gambia Universal Access and Service (UAS) Policy (2013)*]

- Empower marginalized communities and persons, including the poor, those who live in rural and remote areas, and persons with disabilities to have an affordable and good quality information and communications network, on an equitable basis [*Adapted from the Gambia Universal Access and Service (UAS) Policy (2013)*]

Developing National Cyber-Security Capability

- Implement effective policy measures and instruments to tackle the security implications of the digital and the information age: targeting national security, law and order, privacy and consumer protection issues as well as the security of government, public and private national and organizational networks and communications systems

- Promote active cybersecurity related information sharing between public and private entities in the Gambia [*Adapted from Gambia, National Cybersecurity Strategy*]

- Set up curriculum on cybersecurity aimed at the educational institutions [*Adapted from Gambia, National Cybersecurity Strategy*]

- Establish National Cybersecurity Coordination Department **(NCCD)** [*Adapted from Gambia, National Cybersecurity Strategy*]

- Set up The Gambia Computer Security and Incident Response Team **(GM-CSIRT)** [*Adapted from Gambia, National Cybersecurity Strategy*]

- Promote cybersecurity career among the Youth including women, including female [*Adapted from Gambia, National Cybersecurity Strategy*]

- Train and educate prosecutors and investigators on cybercrime [*Adapted from Gambia, National Cybersecurity Strategy*]

- Promote the identification of the Gambia National Critical Information Infrastructure (NCII) [*Adapted from Gambia, National Cybersecurity Strategy*]

- Ensure the protection and resilience of the Gambia NCII [*Adapted from Gambia, National Cybersecurity Strategy*]

- Promote the standardization of cyber security systems across all elements of the CNII and

strengthen the monitoring and enforcement of standards

- Develop a national cyber security technology framework specifying cyber security requirement controls for CNII various components

- Take policy steps to guide against cyber-attacks, and cyber-crimes; and take policy steps and measures to safeguard against undermining consumer confidence in online services

- Develop a standard cyber security risk assessment framework

- Strengthen the national computer emergency response teams (CERTs) and develop effective cyber security incident reporting mechanism

- Promote the development of standards for a business continuity management framework

Key Information and Knowledge-based Economy (IKE) Development Impact Monitoring Indicators

- Indicators to measure the degree of the deployment of ICT infrastructure within the country
- Indicators to measure the level of Internet connectivity and usage within specific relevant sectors of the economy
- Indicators to measure the degree and level of deployment of ICT infrastructure and services in rural communities
- Indicators to measure the extent and the level of access to telecommunications and communications services within the social sectors of the economy
- Indicators to assess the degree to which organizations and establishments within key sectors of the economy makes use of ICT infrastructure to facilitate the provision of services
- Indicators to measure the volume of the value or e-commerce and e-trade services and transactions (locally and internationally)
- Indicators to measure the contribution of the ICT services sector and industry to economic growth, and to GDP and GNI
- Indicators monitor and measure the level and the spread of ICT infrastructure
- Indicators to measure the spread and density of various information and communication technologies within the society and communities
- Indicators to measure the extent of the deployment of communications and network systems and technologies within organizations
- Indicators to measure the diffusion rate of ICT infrastructure within key sectors of the economy
- Indicators on the extent of the development, deployment and utilization of ICT infrastructure: telecommunication infrastructure (fixed line, mobile, satellite, national backbone infrastructure); communications and computer networks infrastructure; Internet Infrastructure and international and local bandwidth, broadcasting infrastructure (radio and TV); transport infrastructure, power infrastructure
- Indicators on the impact of the legal and regulatory regime on the ICT4D policy and plan implementation activities and initiatives within the country

- Indicators to measure the contribution of ICT products and services sector to GDP, GNI
- Indicators to monitor and measure household expenditure on ICT products and services
- Indicators to capture changes in consumption patterns of households

Candidate Policy Implementation Agencies

- Ministry of Information and Communication Construction Infrastructure
- Department of Planning (MOA)
- Attorney General's Chambers & Ministry of Justice
- Ministry of Interior and NGO's Affairs
- Ministry of Defense
- Gambia Public Utilities Regulatory Authority
- Gambia Telecommunication Company Limited
- Private Telecommunication Companies
- Gambia Investment and Export Promotion Agency