

*ICT in Education Policy*

**REPUBLIC OF RWANDA**



**MINISTRY OF EDUCATION**

**ICT IN EDUCATION POLICY  
“DRAFT”**

**December 2008**

**TABLE OF CONTENTS**

<b>ACRONYMS</b> .....	<b>3</b>
<b>1.0 INTRODUCTION</b> .....	<b>4</b>
<b>1.1 DEFINITION OF THE SECTOR</b> .....	<b>5</b>
<b>1.2 BACKGROUND INFORMATION</b> .....	<b>5</b>
<b>1.2.1 National Context</b> .....	<b>5</b>
<b>2.0 GENERAL ORIENTATION</b> .....	<b>6</b>
<b>2.1 VISION 2020</b> .....	<b>6</b>
<b>2.2 ECONOMIC DEVELOPMENT AND POVERTY REDUCTION STRATEGY (EDPRS) 2008-2012</b> .....	<b>7</b>
<b>2.3 THE NATIONAL SCIENCE, TECHNOLOGY AND INNOVATION POLICY 2005</b> .....	<b>8</b>
<b>2.4 THE MINISTRY OF EDUCATION ICT POLICY STATEMENT 2006</b> .....	<b>10</b>
<b>2.5 THE NATIONAL INFORMATION AND COMMUNICATION INFRASTRUCTURE POLICY (NICI-2010)</b> .....	<b>10</b>
<b>2.5 REGIONAL / INTERNATIONAL CONTEXT</b> .....	<b>12</b>
<b>2.5.1 Education for All</b> .....	<b>12</b>
<b>2.5.2 Millennium Development Goals</b> .....	<b>13</b>
<b>3.0 SECTOR PRESENTATION</b> .....	<b>13</b>
<b>3.1 STATEMENT OF THE PROBLEM</b> .....	<b>13</b>
<b>3.2 SECTOR CHALLENGES AND OPPORTUNITIES</b> .....	<b>14</b>
<b>3.3 OPPORTUNITIES AND STRENGTHS</b> .....	<b>16</b>
<b>3.4 PRINCIPLES GUIDING THE FORMULATION OF THIS POLICY</b> .....	<b>16</b>
<b>3.5 SECTOR VISION</b> .....	<b>17</b>
<b>3.6 SECTOR MISSION</b> .....	<b>17</b>
<b>3.7 SECTOR OBJECTIVES</b> .....	<b>17</b>
<b>4.0 SECTOR POLICIES</b> .....	<b>18</b>
<b>4.1 ICT IN FORMAL EDUCATION</b> .....	<b>19</b>
<b>4.2 ICT IN NON FORMAL EDUCATION</b> .....	<b>20</b>
<b>4.3 ACCESS AND EQUITY</b> .....	<b>21</b>
<b>4.4 INFRASTRUCTURE</b> .....	<b>21</b>
<b>4.5 CURRICULUM, CONTENT, AND ASSESSMENT</b> .....	<b>22</b>
<b>4.6 TRAINING, CAPACITY BUILDING AND CHANGE MANAGEMENT</b> .....	<b>24</b>
<b>4.7 EMIS IMPLEMENTATION</b> .....	<b>26</b>
<b>4.8 MANAGEMENT, SUPPORT, AND SUSTAINABILITY</b> .....	<b>28</b>
<b>4.9 MONITORING AND EVALUATION</b> .....	<b>29</b>
<b>4.10 MULTI-STAKEHOLDER PARTNERSHIPS</b> .....	<b>30</b>
<b>4.11 RESEARCH AND DEVELOPMENT</b> .....	<b>31</b>
<b>5.0 STRATEGIC APPROACH FOR IMPLEMENTATION</b> .....	<b>32</b>
<b>6.0 CONCLUSIONS</b> .....	<b>34</b>
<b>APPENDICES</b> .....	<b>35</b>

**ACRONYMS**

<b>CLT</b>	Computer Literacy Teachers
<b>DfID</b>	UK Department for International Development
<b>EDPRS</b>	Economic Development and Poverty Reduction Strategy
<b>EMIS</b>	Educational Management Information Systems
<b>ESSP</b>	Education Sector Strategic Plan
<b>GEA</b>	Global Education Alliance
<b>GeSci</b>	Global e Schools and Communities Initiative
<b>GoR</b>	Government of Rwanda
<b>IGE</b>	Inspectorate General of Education
<b>JEI</b>	Jordan Education Initiative
<b>KIE</b>	Kigali Institute of Education
<b>MDGs</b>	Millennium Development Goals
<b>MINEDUC</b>	Ministry of Education
<b>M&amp; E</b>	Monitoring & Evaluation
<b>NEDET</b>	National Electronic Distance Education and Training
<b>NePAD</b>	New Partnership for Africa's Development
<b>NCDC</b>	National Curriculum Development Center
<b>NICI</b>	The National Information and Communication Infrastructure Policy
<b>OLPC</b>	One Laptop Per Child
<b>RITA</b>	Rwandan Information Technology Authority
<b>RITC</b>	Regional ICT Training Centre
<b>RITI</b>	Regional Information Technology Institute
<b>RNEC</b>	Rwanda National Examination Council
<b>SLAs</b>	Service Level Agreements
<b>TVET</b>	Technical and vocational education
<b>UNDP</b>	United Nations Development Program
<b>USAID</b>	United States Agency for International Development
<b>VTC</b>	Vocational Training Centre

## 1.0 INTRODUCTION

Rwanda is a landlocked country in East Africa with 9 million inhabitants and a population growth rate estimated at 3.5% per year. Rwanda has made a significant progress in all sectors in the last 15 years; economic growth rates have averaged at 5.8% per annum during the last decade, making Rwanda one of the fastest growing economies in the region (UNESCO, 2007).

Rwanda, like many other developing countries in Africa, faces the challenge and pressing duty of eradicating poverty, enhancing equity and expanding access to education without compromising quality, and placing the country on a path of sustainable growth and development. Recognizing that the education sector is a key player in addressing these challenges, efforts have been put in place at policy and implementation levels to develop a robust education system characterized by provision of holistic educational benefits to its citizens.

The government's primary objective for education is to provide universal primary education by 2010 and subsequently Education For All by 2015. The government faces major challenges in combating illiteracy and providing human resources for socio-economic development through the education system. The Government has therefore, acknowledged in its education policy pronouncements that technology is an important field in the Rwandese education system and ICT was described as "at its embryonic phase in the education system, even though some initiatives have been started for teaching and learning using ICT facilities... the major bottleneck remains the lack of access to electric power, equipment and trained teachers, and lack of awareness of ICT" (Rwanda Education Sector Policy, 2003, p. 15).

In fact, promoting science and technology with special attention to ICT is one of the main objectives of the education sector policy that put ICT at "the heart of the education system" (Education Policy, 2003, p.22). The 2005 National Science, Technology, Scientific Research and Innovation Policy propose an enabling legal and policy framework and its strategy envisages strong partnership with the private sector and the ICT sector.

The draft Education Sector Strategic Plan (ESSP) 2008-2012 pointed out that the promotion of science and technology in education with special attention to ICT remains at the core of the Strategic Plan, recognizing their essential role to achieve the human development objectives set out in Vision 2020 and the EDPRS.

## **1.1 Definition of the Sector**

The education sector in Rwanda consists of policy makers, teachers, students, parents, and school administrators all seeks to ensure that educational goals are achieved. The goal of education is to ensure that the school age Rwandese, are put through a system that will lead to the development of an all-round human personality, and to the spiritual, moral, social, cultural and economic progress of the community. The sector also contributes to the instilling of deep respect for human rights and fundamental freedoms, peace and understanding, tolerance, and friendship among all nations.

Living in the 21<sup>st</sup> century position ICT as a top driver of the quality education and makes education systems highly dependable on the quality and competences of ICT possessed by all stakeholders of the teaching and learning process. The promotion of ICT in the education system has therefore become at the heart of the education system as stated in the 2003 education sector policy.

## **1.2 Background Information**

### **1.2.1 National Context**

The Ministry of Education (MINEDUC) data for the 2007 academic year indicates that the Government of Rwanda has made tremendous progress towards access and equity in education. The net enrollment rate has steadily risen from 92% in 2004 to 97% in 2007. The primary completion rate has risen from 42% in 2004 to 75% in 2007, the *Tronic Commun* completion rate has almost doubled in the last 3 years (from 14% in 2004 to 23% in 2007), while the upper secondary completion rate has risen from 8% in 2004 to 12% in 2007. The number of students in Higher Education increased from 3,518 in 1994 to 37,000 in 2006. The number of primary teachers qualified to teach has almost increased 50% (23,112 in 2004 to 31,112 in 2007). Pupil: teacher ratios are 71:1 for primary schools and 30:1 for secondary schools.

Finally, the primary school enrolment increased from 1,636,563 pupils in 2003 to 2,019,991 pupils in 2006. This represents more than 7% annual increase in primary school enrolment (UNDP, 2007).

## **2.0 GENERAL ORIENTATION**

Rwanda aspires to develop a knowledge-based and technology-led economy. In many of its development policies, human resource development is highlighted as one of the pillars of national development. The importance of education and training is underscored as a lynchpin in achieving sustainable national development. This calls for an education system capable of producing citizens who have values, knowledge, skills and competencies that would enable them to be entrepreneurial in their own learning, thinking and doing.

### **2.1 Vision 2020**

The Vision seeks to transform Rwanda into a middle-income country by the year 2020. This transformation will not be achieved unless Rwanda “transform from a subsistence agriculture economy to a knowledge-based society.” (Vision 2020,p.3). This aspiration for transformation is based on several pillars including the reconstruction of the nation, transformation of agriculture, development of an efficient private sector, and promotion of regional economic integration. In addition to that, the Vision acknowledges the comprehensive human resources development, encompassing education, health, and ICT skills, aimed at public sector, private sector and civil society and “infrastructure development, entailing improves transport links, energy and water supplies and ICT networks” (Vision 2020, p.4) as two important pillars for transformation.

Next to the Vision pillars, there are the three cross cutting areas of gender, natural resources and environment and culture, and science, technology and ICT. These areas not only affected by the economic transformation but also play an important role in achieving the Vision’s development goals. It is stated that Rwanda have to “facilitate the creation of high and intermediate technology enterprises and develop access to ICT down to the administrative sector level, in accordance with the national ICT plan” (Vision 2020, p. 20).

## **2.2 Economic Development and Poverty Reduction Strategy (EDPRS) 2008-2012**

Rwanda's Economic Development and Poverty Reduction Strategy (EDPRS) provides a medium-term framework for achieving the country's long term development aspirations as embodied in Rwanda Vision 2020, and the Millennium Development Goals. It provides a road map for government, development partners, the private sector and civil society and indicates where Rwanda wants to go, what it needs to do to get there, how it is going to do it, what it costs to get there and how it will be financed.

The objective of the ICT Sub-sector is to promote investment in, and the growth of the Information and Communications Technology industry. Efforts will be made to widen access to ICT among the population, and to promote ICT for e-Governance, education and capacity-building, and for use by the private sector. To this end, the number of telecentres will be increased substantially and the cost of connecting to a telecommunications network will halve by 2011. It is hoped that the number of additional jobs created each year in the ICT sector will rise from 7,000 in 2008 to 20,000 in 2012. This ambitious programme will be overseen by the regulatory authority whose institutional capacity will need strengthening over the period of the EDPRS.

The education sector will contribute towards economic development and poverty reduction by making education more relevant for social and economic progress. This will be achieved by the establishment of a curriculum that promotes development skills including life skills and social cohesion. A tighter link will be established between the content of education and training programs offered and the needs of the labour market. Education's contribution to poverty reduction will also include equal access to the most vulnerable groups in society, ensuring a reduction in regional disparities and an increase in gender parity. Districts will develop district education plans that include local strategies for 9 year basic education, early childhood development, technical and vocational education and training, girls' education, adult literacy and school management. Priority areas in education are the strengthening of school management, improving the administration of local education services, and developing the capacity of the central ministry to monitor and evaluate progress in, and changes to, the delivery of education services.

Finally, it is clearly stated in the Strategy that there must be an updated science, technology and ICT in education policy in place in 2008.

### **2.3 The National Science, Technology and Innovation Policy 2005**

The Policy objective is *“To integrate Science, Technology, Scientific Research and Innovation in a framework that shall include capability building, technical transfer initiatives, and the promotion of innovation, in the context of the issues facing Rwanda. Science, Technology and Scientific Research shall be catalyst to underpin all public and private sector activities to enable Rwanda’s Vision 2020 to be realized.”* (p.9)

This policy states the importance of science and technology at every level of human resource development shall be emphasized including primary, secondary and tertiary education. Specific strategies to achieve this include the following:

**Primary Schools:** The strategy includes the provision of a Science Corner in every Primary School to cultivate the interest in mathematics, science and technology at an early age and help provide good grounding in scientific thinking. It shall also require a review and implementation of improved teaching methods for primary science.

**Secondary Schools:** The strategy includes the provision of a high quality science and technology education, in schools equipped to also undertake practical lessons. This shall ensure that students retain an interest and gain a solid foundation in Mathematics, Science and Technology that shall prepare them for further education and equip them with the scientific skills to assist in Rwanda’s development.

**Vocational Schools:** The strategy includes maximizing the availability of access to vocational training through the provision of a high quality Vocational Training Centre (VTC) in each of the 30 districts of Rwanda. The VTC shall also include a business enterprise unit to match the students of the school with employment opportunities, and also to work in partnership with local business enterprises.

**Technical Schools:** The strategy is to construct a high level technical School in each of the 5 provinces of Rwanda. Again the Technical Schools shall include business enterprise units to develop entrepreneurship and innovation skills, match the students of the school with employment opportunities. Also to work in partnership with local business enterprises.



## **ICT in Education Policy**

**Higher Level Technical and Professional Institutions:** The objectives for the Higher Technical and Professional Institutions are to: train the teachers and lecturers that shall support the development of Science, Mathematics, Vocational and Technical school training as detailed above; and also to train high level professional technicians, engineers, architects, medical professionals, veterinary professionals, agricultural professionals etc. These shall take a lead in the ongoing development of Rwanda towards the goals of Vision 2020. The strategy shall also include the development of links with “best in field” technical and professional institutions internationally to ensure that Rwanda stays abreast of latest technology and thinking

The Policy considers ICT's importance *“lies less in the technology itself than in its ability to create greater access to information and communication in underserved populations” (p. 26)*

The science and technology policy in ICT states that a focus shall be applied to information technology, especially in the fields of intelligence systems and decision making. The strategies to achieve this include:

- The use and integration of science, computer literacy shall be promoted and popularized in schools and in our various workplaces;
- Training efforts shall be intensified especially in technical and scientific fields to advance absorption and understanding of the technologies. This initiative must proactively influence Rwanda's local capacity to use, adapt, service, apply and to introduce new programs, products and services.
- Publications, studies, investigations and reports shall be promoted in the ICT sector.
- A network of Science and Technology resource centers, with supported libraries, shall be established at strategic locations throughout the country to provide access to students, teachers and researchers; they shall be linked with other Science and Technology information sources such as Government departments, colleges and secondary schools.

## **2.4 The Ministry of Education ICT Policy Statement 2006**

This ICT policy statement was designed to guide the process of the deployment and exploitation of ICTs within the ministry of education to support its organizational activities and operations within the framework of the national ICT-led development vision. The ultimate purpose is for more effective creation and delivery of educational products for improved teaching and learning in Rwanda. The Policy Statement listed four major focus areas of ICT in the Ministry of Education including:

- Preparing all sectors of the education system to understand the investment in and value of technology.
- Preparing schools to accept technology, procuring and installing the technology.
- Implement Education Management Information System (EMIS) and providing ongoing technical support.
- Developing and Managing content and integrating the Curriculum”.

## **2.5 The National Information and Communication Infrastructure Policy (NICI-2010)**

*“Communications technology has fundamentally change the way people live, work and interact socially, and we in Rwanda have no intention of left behind or standing still as the rest of the globe moves forward at an ever increasing pace. Some might say that we are overarching but with a positive outlook, strategic work and support from our partners, I am fully confident that we can exploit the potential of ICT in order to achieve our vision of a modern economy for Rwanda and a secure and prosperous future for all”* His Excellency Paul Kagame, President of the Republic of Rwanda

The NICI Plan Phase 1 (2000-2005) focused on a total of 59 programs out of which Education and Human Resource development related programs were 24. The major ICT in Education programs during 2000-2005 were;

- Acquisition of Computer Equipment for Educational Institutions
- Computers in Schools – “Operational ICT Knowledge for the Youth”
- The National SchoolNet Project

## ***ICT in Education Policy***

- National Public Awareness Program on ICT
- Develop a National IT Curriculum for Primary and Secondary schools
- Train a Critical Mass of Computer Literacy Teachers (CLTs)
- Train Military Personnel in ICTs
- National Electronic Distance Education and Training (NEDET) Program
- Set Up the Regional Information Technology Institute (RITI)

The GoR has achieved reasonable success in terms of deploying the ICT infrastructure in Higher Education Institutions as well as in schools. The GoR has created an awareness of ICT among the masses including training of 25% of secondary school teachers on basic IT literacy through the Regional ICT Training Centre (RITC).

In NICI plan phase II (2006-2010), the government is committed to implementing specific planned actions aimed at achieving the objectives and goals of the following policy action items:

- Policy action item1: Use ICTs for formal education
- Policy Action Item 2: Use ICTs for informal education
- Policy Action Item 3: Improve formal education in ICTs
- Policy Action Item 4: Improve informal education in ICTs
- Policy Action Item 5: Raise public awareness of ICTs
- Policy Action Item 6: Help educational institutional improve their business processes
- Policy Action Item7: Promote research and development

As part of this phase, the GoR is focusing on IT/ICT based intervention among 10 sectors wherein ICT in Education is given the top priority. In addition to completing any unfinished tasks of phase I, the major initiatives for phase 2 are:

- EDU-2.01: Train Primary and Secondary School Teachers on ICTs in Education
- EDU-2.02: Scholarship Management Program
- EDU-2.03: Rwanda National Library Network
- EDU-2.04: Develop New e-Learning Content
- EDU-2.05: Implement Education Management Information System

## **ICT in Education Policy**

- EDU-2.06: Survey Educational Software
- EDU-2.07: Convert Existing Computer-Based Training and e-Learning Content to Kinyarwanda

It is stated in the policy that the implementation of these major initiatives will make a substantial impact on the development of the key sectors of the economy in the long term. *“The development of the Rwanda information ad knowledge economy will depend heavily on how much their resources are invested into promoting the deployment, utilization and exploitation of ICTs in the Educational Systems”* (p.81)

### **2.5 Regional / International Context**

#### **2.5.1 Education for All**

The Ministry of Education has supported the Dakar Framework for Action, adopted by the World Education Forum in Dakar, Senegal in April 2000. The government not only adopted the six points for implementation, but added the seventh point in order to show its total commitment to those goals. These are to:

- a) Expand and improve comprehensive early childhood care and education, especially for the most vulnerable and disadvantaged children.
- b) Ensure that by 2015 all children, particularly girls, children in difficult circumstances and those belonging to vulnerable people, have access to complete free and compulsory primary education of good quality.
- c) Ensure that the learning needs of all young people and adults are met through equitable access to appropriate learning and life skills programme.
- d) Achieve a 50 per cent improvement in levels in adult literacy by 2015, especially for women, and equitable access to basic and continuing education for all adults.
- e) Eliminate gender disparities in primary and secondary education by 2015, and achieve gender equality in education by 2015, with a focus on ensuring girls full and equal access to and, and achievement in basic education of good quality.
- f) Improve all aspects of the quality of education and ensuring excellence of all so those recognized and measurable learning outcomes are achieved by all, especially in literacy, numeracy and essential life skills.
- g) Prevent the propagation and limit the expansion of HIV/AIDS infection within and outside the school environment.

### **2.5.2 Millennium Development Goals**

Rwanda is one of the developing countries which hope to abide by the goals set by the Millennium Summit Meeting in September, 2000 in which 147 leaders agreed to a global impact to give due priority to the issues of poverty and development. Among the quantifiable targets that were agreed at the meeting were the issue of a) Achieving universal Primary education, and b) Promotion of gender equality and empowerment of women.

With regards to MDG2, Rwanda has done well in providing education to its citizens. Thus the literacy rate for 15-24 year old increased from 57.4% in 2000 to about 77% in 2006, while the net enrolment rate at the primary school level increased dramatically from 72% in 2000 to 95% in 2006. At current rates, Rwanda will achieve its primary school enrolment MDGs well ahead of 2015.

The Government also adopted strategies which ensured the elimination of gender disparity in primary and secondary schools by 2015, the enrolment of girls is currently 50% in primary schools. The gender gap in primary education reached zero in 2005. Similarly, the gender gaps in literacy as well as representation in parliament are close to being eliminated. Rwanda is now third in the world in terms of representation of females in parliament, with 49% of members of parliament being females.

## **3.0 SECTOR PRESENTATION**

### **3.1 Statement of the Problem**

While all the local policies and strategies explicitly talked about education and the critical role of ICT in education, there remains, up to this date an absence of a policy for ICT in education that regulates, governs, and shapes the interventions and initiatives that are taking place and for those needed in this sector. Without such a policy, the efforts of integrating ICT in the education system will continue to be scattered and will not serve the Vision 2020 to create workforce that can thrive and contribute in moving Rwanda to a knowledge based economy and society.

## **ICT in Education Policy**

It is critical to keep in mind that, as stated in NICI-2010, developing Rwanda's information and knowledge economy will depend heavily on how much their resources are invested into promoting the deployment, utilization and exploitation of ICT in the educational system. This investment makes it crucial to put in place a policy for ICT in education that guides policy makers, implementers, local and global partners in their efforts to contribute in building and supporting ICT in Rwanda's education system.

### **3.2 Sector Challenges and Opportunities**

During August of 2008, a very important workshop took place in Kigali to develop a Strategic Implementation Framework for creating a shared vision and understanding of how to best support the efforts of MINEDUC in the area of ICT in Education and the Education Sector Plan. Participants of this workshop included MINEDUC officials, representatives of ICT private sector companies, local and international donor agencies, Rwandan academic institutions and the Global Education Alliance (GEA) (see Appendix II). The workshop identified four main areas for improvement including:

- Creation of a clear overall ICT in Education Policy
  - Support MINEDUC in the development of their ICT in Education Policy
  - Support review of Education Strategic Sector Plan (re. ICT in Education Policy)
- Teacher Capacity development
  - UNESCO ICT competency framework for teachers
  - Pre-service teacher training
- Infrastructure development
  - Affordable connectivity for education
- Content development
  - Procurement of e-learning content
  - Contextualization

During the workshop, participants identified the key challenges that hinder the effective delivery of ICT in education in Rwanda. These challenges include:

1. Lack of clear policy on ICT and education
2. Capacity building

### **ICT in Education Policy**

3. Project management and delivery
4. Resources

Based on these key challenges, the workshop identified these areas and their specific interventions where prioritized in order of importance as follows:

<b>Short-Term</b>	<b>Medium-Term</b>	<b>Long-Term</b>
Policy development and review of strategy	Infrastructure for teacher training	New content for Rwanda
ICT competencies for teachers	Procurement support and maintenance of infrastructure	Evaluation of classroom performance
Affordable connectivity	Pre-service training for teachers	Cisco/Microsoft academies
Procurement of existing e-content	Contextualization of content	

As shown above, creating a clear policy for ICT in education is the top priority for the effective delivery of ICT in education in Rwanda. To begin with, the following factors are listed under the lack of clear ICT policy:

- Lack of alignment among initiatives
- Lack of proper planning and consultation
- Prioritization
- Saying “yes” to everything
- No clear understanding of what ICT in education is
- Different education agencies not talking to each other
- Ownership
- Decentralization of program implementation
- Need for clear implementation plan
- Total cost of ownership

### **3.3 Opportunities and Strengths**

Despite the challenges hindering the effective delivery of ICT in education, there are several strengths existing in Rwanda that are critical to the effective delivery of ICT in education. These include:

1. **Political will and support:** The top leadership of Rwanda represented by His Excellency the President stands and drives the ICT initiatives in Rwanda. Also the ministers and senior education administrators are committed enough to bring and introduce ICT in all walks of life in Rwanda. This support is very critical and should be seized to move on in putting an ICT policy in education.
2. **Readiness:** Rwanda is not starting from scratch; there are several ICT initiatives in the different sectors in general and in the education sector specifically. To name some, NePAD e- Schools initiative, OLPC pilot initiative, GIS based Learning, and Educational Management Information System (EMIS).
3. **Commitment to increase the staff at MINEDUC:** Concrete efforts are on to identify and recruit additional staff to manage existing and planned ICT in Education initiatives. MINEDUC is also exploring the possibility of using short-term contract staff in the interim.
4. **Multi Stakeholder Partnerships:** MINEDUC has partnered with many leading organizations that are working in the area of ICT in Education and continue to bring in new partners to support the ICT in Education initiatives. These partners bring with them resources but also a wealth of experience. Recently, the selection of Rwanda by the Global Education Alliance is a golden opportunity that builds on the long experience of the GEA in bringing the public and the private sectors together. This partnership with the Alliance will bring more interests from the donors to support the ICT in education.

### **3.4 Principles Guiding the Formulation of this Policy**

The Education Sector Policy enumerates the following principles to guide the development of the sector:

- a) Education will be characterized by the imparting of good values and attitudes in Rwandan culture including those that promote gender equality and equity as well as those from outside which are relevant to national development.



## **ICT in Education Policy**

- b) Development of skills such as life skills, practical and entrepreneurial skills shall be emphasized at all levels of education system.
- c) Quality and relevance of content matter shall be given maximum attention, even as access to education increases.
- d) Improvement of efficiency and cost-effectiveness of all activities in the education sector by improving management and administration capacities shall be a matter of priority.

In addition to the above, sustainability and scalability are also important principles to guide this sector. The Ministry of Education will ensure that the new policy on ICT in Education incorporates these principles in its strategies for implementation and to help in achieving efficiency and effectiveness.

### **3.5 Sector Vision**

The vision of the sector is; ***“A nurturing, effective teaching and learning environment to build human capacity and produces well rounded exposed critically thinking Rwandans, leveraging innovation for a knowledge based economy”***

### **3.6 Sector Mission**

The mission of the sector is: ***“Creating a shared understanding for integrating ICT at all educational institutions, at all levels, to support the development of better teaching and learning to equip students and learners with 21st skills”.***

### **3.7 Sector Objectives**

- Building a common shared understanding for what ICT in education means among all stakeholders.
- Defining synergy between different implementers of ICT in education.
- An enabling mechanism for prioritization of initiatives of ICT in education.
- Harmonization of efforts between the centralized and decentralized levels of the education system.
- Outlining the policy statements needed to achieve the vision.

## **ICT in Education Policy**

- Leveraging Public Private Partnerships and support of Development Partners.
- Defining the demarcation lines between owners of the policy and the implementers.
- Strengthening Rwanda's effort to export ICT in education models to Africa in general and to the East African Community in specific

### **4.0 SECTOR POLICIES**

To ensure having a comprehensive policy document, this policy statements have been categorized according to the eleven main areas outlined below:

- ICT in Formal Education
- ICT in Non Formal Education
- Access and Equity
- Infrastructure
- Curriculum, Content and Assessment
- Training, Capacity Building and Change Management
- EMIS Implementation
- Management, Support and Sustainability
- Monitoring and Evaluation
- Multi Stakeholder Partnerships
- Research and Development

Based on the vision set forth in this document, and taking into consideration the challenges facing ICT integration in education, each of the policy areas were thoroughly investigated and discussed among a task force of ministry officials, representatives from the autonomous and affiliated educational institutions (NCDC, KIE, RITA, KIST, RNEC, IGE), development partners (DFID, GESCI, USAID) and the private sector, to come out with the appropriate policy statements to address the challenges and provide guidance into the achievement of the policy goals, while maintaining alignments with the Rwanda Vision 2020, the NICI-2010 plan, EDPRS 2008, ESSP 2008-2012 and the education policy 2003.

## **4.1 ICT in Formal Education**

### **4.1.1 Description and Statements**

Among some of the most pertinent reasons for using ICT in the classroom is the ability to better prepare the current generation of students for a workplace where ICT tools such as computers, Internet and other related technologies, are becoming ever more present. It is therefore seen, that technological literacy and the ability to use ICT, effectively and efficiently, have become prerequisites for having a competitive edge in an increasingly globalizing job market. The GoR therefore recognizes the importance of using ICT, ubiquitously in all venues of formal education, including Technical and Vocational institutions and Higher Education institutions, and across all educational disciplines. Therefore the policy will be focusing on:

- 4.1.1.1 Ensuring that all primary, secondary and TVET school teachers are instrumental in using ICT hardware and software in their teaching and learning practices.
- 4.1.1.2 Raising students, teachers, and parents awareness of the value of ICT.
- 4.1.1.3 Availing the required ICT to all formal education levels.
- 4.1.1.4 Enabling all students, at all educational levels, to use ICT in their learning as a tool and as a methodology.
- 4.1.1.5 Enabling all teachers and administrators to use ICT as a management tool to support the educational process.
- 4.1.1.6 Using ICT to support the emergence of teaching and pedagogical student centered approaches and encouraging research and collaborative learning.
- 4.1.1.7 Facilitating access to a wider range of knowledge for students and teachers to support the teaching and learning process.
- 4.1.1.8 Using ICT as a tool to improve quality of education in all subjects at all levels and support the effort of the Inspectorate General of Education in improving the quality education.
- 4.1.1.9 Promoting the use of open and distance learning techniques at all levels of education as needed.

## 4.2 ICT in Non Formal Education

### 4.2.1 Description and Statements

One defining feature of ICT is its ability to transcend time and space thus, ICT provides opportunities for self learning and distance learning without bounding to a time or place. Online course materials, for example, may be accessed 24 hours a day, 7 days a week and ICT-based educational delivery (e.g., educational programming broadcast over radio or television) does not need the learners and the instructor to be in one physical location. Additionally, certain types of ICT, such as teleconferencing technologies, enable instruction to be received simultaneously by multiple, geographically dispersed learners (i.e., synchronous learning). Furthermore, educators and learners no longer have to rely solely on printed books and other materials in physical media housed in libraries (and available in limited quantities) for their educational needs. With the Internet and the World Wide Web, a wealth of learning material in almost every subject and in a variety of media can now be accessed from anywhere at anytime of the day and by an unlimited number of people. ICT also facilitate access to resource persons—mentors, experts, researchers, professionals, business leaders, and peers—all over the world.

ICT, therefore, enables citizens to have learning and development opportunities throughout their lives, anywhere, anytime irrespective of age, gender or geographic location, thus supporting the country's aspiration to build knowledge based economy. Therefore, the policy will be focusing on:

- 4.2.1.1 Promoting the use of community learning centers, community information centers, community libraries, and open and distance learning centers to improve literacy and provide learning opportunities to all Rwandans and expand activities to include the use of video, radio and TV for learning.
- 4.2.1.2 Creating and leveraging partnerships with private and community-based organizations to provide learning opportunities to all Rwandans.
- 4.2.1.3 Leveraging ICT infrastructure in schools to encourage and support after school programs to target in school students, out of school leavers, and local community to develop life and ICT skills, and provide other lifelong learning opportunities.

## **4.3 Access and Equity**

### **4.3.1 Description and Statements**

In its Vision 2020, the GoR commits to reaching “Universal Education for All” and to achieve gender equality and equity, which are among the most important Millennium Development Goals. Additionally Rwanda considers education as a fundamental human right and an essential tool for all Rwandan citizens – women, men, girls and boys – to realize their fullest potentials.

Furthermore, since the number of children in Rwanda, with special educational needs comprises a much larger proportion of the school-age population than would normally be expected, due to the war and genocide, special provision is needed either within the ordinary school system or in special facilities.

This policy recognizes ICT as a cross cutting area, that can effectively support Rwanda in achieving its Millennium development Goals, particularly those aimed at equality and equity to all Rwandan citizen, irrespective of their gender, geographic location or special educational needs. Therefore, the policy will be focusing on:

- 4.3.1.1 Using ICT to provide educational opportunities to all Rwandan citizens regardless of gender, age, geographical location, or special educational need.
- 4.3.1.2 Providing the basic ICT model to all schools and community centers regardless of gender, age, geographical location, or special educational need.
- 4.3.1.3 Providing access to ICT in learning centers for people in very remote, rural, and economically disadvantaged areas.

## **4.4 Infrastructure**

### **4.4.1 Description and Statements**

In order to ease the integration of ICT in education, Rwanda recognizes that determined, well planned and focused effort is required to provide adequate ICT infrastructure to all Rwandan educational institutions across the whole the country. The provision of computers, internet, digital equipment, telecommunications, in addition to access to radio and TV, will require essential infrastructure (technical, physical, and human resources) to be made available in Rwanda’s educational institutions, taking into consideration proper space, connectivity, security, overall environment and particular emphasis on resolving

## **ICT in Education Policy**

the main challenge residing in the lack of electricity. Such infrastructure is expected to provide support and service to all stakeholders in education, including students, teachers, parents, local communities, administrators and managers.

The current status is that ICT infrastructure is lacking, therefore, a strategic plan to roll-out ICT has to be put in place and carried out over a well paced period of time aiming to achieve nationwide coverage. Furthermore, taking Rwanda's strategy of access and equity into consideration, efforts will be made, from the start, to provide the needed infrastructure to the remote and underserved areas using technological solutions that are suited to local needs and conditions. Therefore, the policy will be focusing on;

- 4.4.1.1 Providing schools and community centers with the essential infrastructure requirements to facilitate the adoption of ICT within the education system.
- 4.4.1.2 Developing infrastructure in close collaboration and coordination with relevant ICT stakeholders and partners, to optimize synergy and cost effectiveness.
- 4.4.1.3 Recognizing the lack of electricity challenge, alternative energy solutions will be explored especially in rural areas.
- 4.4.1.4 Defining a replicable, scalable, and sustainable technology model to be introduced in schools.

## **4.5 Curriculum, Content, and Assessment**

### **4.5.1 Description and Statements**

For successfully integrating ICT in education, curriculum revisions need to be continually conducted, along with training on ICT and ICT enabled teaching and learning. As ICT is a cross cutting tool, it not only sufficient to teach it as a subject, cross disciplinary instruction whereby ICT is integrated as a pedagogical tool for teaching and learning is encouraged. Teaching using ICT, requires concerted efforts to shift teaching methods towards a more learner-centered and interactive methods, whereby the teacher takes more of a facilitator role and moving away from the direct instructional Chalk-&-Talk approach.

ICT can also play an integral part in elevating the quality and relevance of the used curriculum at all levels, thus optimizing the efficient use of ICT in education. Therefore, curriculum reviews must be supported by interactive, culturally aligned, competencies driven and student centered electronic content, whereby on the short to medium term, Rwanda can tap into existing content and effectively integrating it in the teaching and learning practices, meanwhile, working on the

## ***ICT in Education Policy***

development of Rwanda electronic material. ICT curricula (existing or new) are encouraged to be used in a blended learning approach, whereby educators would use them as supplementary materials for better teaching practices. Educators are therefore prompted to conduct their own research and to create their own digital materials to be used in the classroom, and maybe apply project based learning to the learners, requesting them to conduct research and prepare digital materials for their assignments. Electronic content is not limited to electronic curricula, but can be simple digital content using flash, or digital camera or even a mobile phone.

In whatever format electronic content is used or created, it has to be well-aligned with the curricular goals and objectives of the national education policy and objectives. Accordingly, guidelines need to be developed to promote and encourage the development of high-quality e-content and local content, and establish appropriate mechanisms for regulation, while ensuring that the content is made uniformly available in all learning institutions through the use of appropriate ICT. Needless to say, enough hardware in schools to support the e-curriculum movement is crucial.

On the other hand ICT can be used in assessment, by developing means and services that can provide the Rwandan National Examination Council with the competitive edge it needs to align with the East African Community and to provide transparent, interactive and more customer driven services. Therefore, the policy will be on focusing on:

- 4.5.1.1 Providing computer science curriculum for primary and secondary school students.
- 4.5.1.2 Promoting blended learning approach and establishing appropriate mechanisms and guidelines for regulating the development and use of electronic content.
- 4.5.1.3 Exploring the options of obtaining the copy rights of existing electronic material on the medium term.
- 4.5.1.4 Creating and developing Rwanda's specific national e-learning content, in all subjects, on the long term to be used as supplementary material, and revising the curriculum accordingly.
- 4.5.1.5 Enabling teachers to use open educational resources, create electronic content, and share knowledge experiences and practices using technology.
- 4.5.1.6 Creating centralized digital library/ repository (Rwanda Educational Portal) of digital learning material to be accessed by all schools.
- 4.5.1.7 Developing content and training manuals for pre-service teachers on using ICT in teaching and learning.

## **ICT in Education Policy**

- 4.5.1.8 Ensuring that learners and educators are empowered to deal with internet related risks, such as protection of privacy, content verification and avoiding harmful content.
- 4.5.1.9 Developing guidelines for ethical use of ICT and creating awareness to all stakeholders including learners, teachers, and parents.
- 4.5.1.10 Using ICT to build the competitiveness of the Rwanda National Examination Council (RNEC) at the East African Community and globally, and deliver services more effectively and efficiently.
- 4.5.1.11 Using ICT as a tool to design tests and collaborate with international bodies to build standardized tests and item banks.
- 4.5.1.12 Aligning the examination and testing tools with the revised digital curriculum and incorporating ICT based student assessment tools.

## **4.6 Training, Capacity Building and Change Management**

### **4.6.1 Description and Statements**

The GoR, acknowledges in its education policy that teachers are the main instrument for bringing about the desired improvements in learning and states that the education sector consists of policy makers, administrators, teachers, students, and parents, and other relevant stakeholders all are responsible for contributing to the task of ensuring that educational goals are achieved

Naturally, the use of ICT in teaching, learning and managing educational institutions compels the emergence of a new set of skills, attitudes and pedagogical approaches that require continuous training programs to build sufficient capacity among teachers, developers, educators and administrators. Such training will take place in the form of pre-service, in service and continuous professional development opportunities on areas of ICT literacy, content development, pedagogical teaching approaches using ICT, Educational Management Information System (EMIS) capacity building and maintenance of ICT facilities to make sure they are available at all times to all users.

In delivering the training, and given the wide applicability of ICT for training and professional development, ICT-enabled training methods will be fully explored, including distance education, e-learning, and blended learning. Training will be offered on a continuous basis to enable staff and other stakeholders to keep up to date with technological and pedagogical developments. Therefore, the policy will be focusing on:



### ***ICT in Education Policy***

- 4.6.1.1 Providing pre-service training of teachers on effective utilization of technology (software and hardware) to be used in their teaching and learning.
- 4.6.1.2 Providing effective ICT literacy training programs for all teachers at all levels that promotes change and ensures quality. Such programs will be aligned with a structured system of incentive.
- 4.6.1.3 Providing in-service professional development opportunities for teachers to enable the use and creation of digital content and pedagogic integration of technology in teaching.
- 4.6.1.4 Providing professional development opportunities for school inspectors on the integration of ICT in the teaching and learning process.
- 4.6.1.5 Supporting head teachers to establish the ICT vision in their schools, and leveraging available technological infrastructure to better manage the school and foster modern teaching and learning paradigms.
- 4.6.1.6 Training curricula developers on creating/ developing digital learning material.
- 4.6.1.7 Training educational administrators on ICT projects; planning, management, budgeting, resource management, and Monitoring & Evaluation.
- 4.6.1.8 Developing general standards, guidelines, and certification requirements for trainers and training centers.
- 4.6.1.9 Developing a cadre of technical expertise to manage and maintain ICT facilities at all levels and to optimize uptime.
- 4.6.1.10 Using the UNESCO ICT Teacher Competency Standards (UNESCO ICT-TCS) Modules to plan appropriate training for teachers.
- 4.6.1.11 Developing a mechanism to manage quality of training; ensures its effectiveness, and manage change.

## **ICT in Education Policy**

- 4.6. 1. 12 Utilizing ICT to scale innovations that came out of the trainings and be able to share it with all relevant stakeholders mainly innovations for teachers.

### **4.7 EMIS Implementation**

#### **4.7.1 Description and Statements**

The Policy regarding the implementation of the Education Management Information System is a top priority of Government of Rwanda and MINEDUC. It is informed by the statements and action items explicated in key GOR and MINEDUC policy statements and strategic plans including: NICI, MINEDUC ICT Policy Statement, Joint Review Education Sector 2008 Action Steps, M&E Framework (2008), and EDPRS.

It is also informed by MINEDUC's explication that the EMIS is the one location for information to be collected, shared. Therefore the policy focuses on:

- 4.7.1.1 Implementing Capacity Building to optimize the use of EMIS for improved communications and information sharing within MINEDUC and with its external stakeholders.
- 4.7.1.2 Making the necessary budgetary provisions associated with the capital and operational costs of EMIS implementation and sustainability efforts.
- 4.7.1.3 Providing pre-service and in-service professional development opportunities for school educators to use EMIS to improve classroom management and to improve the teaching and learning process.
- 4.7.1.4 Providing pre-service and in-service professional development for school administrators in the utilization of EMIS for planning, management, budgeting, resource management, monitoring and evaluation and asset management.
- 4.7.1.5 Providing professional development for school inspectors in the use of EMIS to monitor learning achievement and to monitor school compliance related to Educational programme implementations.
- 4.7.1.6 Working in close collaboration with the EMIS providers and stakeholders to optimize the support of the capacity building in the use of the EMIS for continuous monitoring and evaluation, and to build capacity in the use of indicators and benchmarks for assessment.

### **ICT in Education Policy**

4.7.1.7 Extending the usage of EMIS to monitor programs, not only related to student academic development, but to other services being implemented for the holistic development of the Rwanda's students, including health, girl-friendly programs, services for OVC's.

4.7.1.8 Capacity Building in EMIS at the Central, district, sub-district and institutional level in data collection, updating, verification, analysis, reporting, dissemination and use of indicators for planning at their respective levels.

**Comment [ds1]:** This policy area was added by Agile Learning Company and sent to the consultants after the workshop. It was not discussed in any of the workshops.

## 4.8 Management, Support, and Sustainability

### 4.8.1 Description and Statements

GoR considers ICT as a beneficial tool, not only for teaching and learning, but also as means for communication, institutional management, data gathering and project implementation across the board. Consequently, in addition to investments that will be made in ICT educational equipment and content, further investments will have to be made in management of ICT tools such as Enterprise Resources Planning, such as EMIS and protection and security measures such as Anti virus software, as well as training and maintaining a high caliber staff to use, manage, and maintain such kind of tools. Occasionally, innovative means for securing the continual functioning and maintenance of such ICT facilities will have to be explored, whereby the GoR may resort to outsourcing part of the maintenance and engage with service providers in high quality Service Level Agreements (SLAs)

Furthermore, Rwanda recognizes that the responsibility and concern with ICT extends to all stakeholders and not limited to the ICT directorates. Therefore, all educational institutions at all levels and departments have to be involved and kept abreast with the proper setup and utilization of ICT facilities, and will have to receive enough education on such projects to be able to take part in the implementation and utilization process as well as synergizing efforts and capitalizing on the each others achievements for a holistic impact on education.

Finally, investment in ICT requires funds and budget allocations, and therefore the GoR will take the necessary actions to plan and budget for such projects, and will look into innovative means for securing and optimizing their requirements through public private partnerships. Therefore, the policy will be focusing on:

- 4.8.1.1 Optimizing the use of ICT for improved communications and information systems in administration, management and professional development. Providing the necessary training and capacity building to support this optimization.
- 4.8.1.2 Making necessary budgetary provisions associated with the capital and operational costs of ICT facilities.
- 4.8.1.3 Adopting a strategy for technical support and maintenance with adequate staff and budgets to service the needs of the centralized and decentralized levels of education.

## 4.9 Monitoring and Evaluation

### 4.9.1 Description and Statements

The implementation of this policy requires systematic Monitoring & Evaluation (M&E) by all stakeholders. On one hand, M&E will be used to research and develop ICT integration, to learn from past experiences, to improve implementation and service delivery, to assess and allocate resources, and to assess results. It will also enable the MINEDUC to coordinate all activities, while offering a means for accountability to key stakeholders. Therefore, the policy will be focusing on:

- 4.9.1.1 Working in close collaboration with key stakeholders to establish instruments and mechanisms for continuous monitoring and evaluation, for all existing and new programs. Such system will include criteria, indicators and benchmarks for assessment of implementation and impact of ICT in education.
- 4.9.1.2 Involving all educational entities in the capacity building and tools development and enhancement for the Ministry's personnel involved in M&E.
- 4.9.1.3 Conducting regular impact assessment studies at the policy, strategy, and initiative levels.
- 4.9.1.4 Creating processes and systems that promote information sharing, equity, transparency, and accountability to all stakeholders in the implementation of this policy.
- 4.9.1.5 Using ICT to support the efforts of the Inspectorate General of Education in monitoring the performance of education process and institutions.
- 4.9.1.6 Integrating EMIS in all stakeholders activities for monitoring and evaluation.
- 4.9.1.7 Conducting regular reviews and assessment of the value added and impact of the multi stakeholder partnerships on the education system at all levels.

## 4.10 Multi-Stakeholder Partnerships

### 4.10.1 Description and Statements

As education is a national priority, it is also fair to say that the responsibility of providing high quality levels and systems of education should not be solely reliant on governments. There are many stakeholders that share the responsibility and have much to offer to the education system, as the output of any country education system, is a direct input into its workforce and has major repercussions on its economic development.

On the other hand global and local corporations are increasingly becoming aware that the challenges facing the world education systems have a direct impact on the future of their corporations. Sustainability and competitive edge of these companies relies heavily on the recruitment and retention of high quality individuals equipped with the 21st century skills. Although many of these corporations conduct their own, on-the-job training, however they still depend heavily, on the solid foundations these individuals had at the primary, secondary and tertiary education, thus rendering these corporation as direct consumers of the outcomes of the education systems.

Therefore, many public private partnership models have started to emerge around the world, involving Global private sector, local companies, civil societies, community, and higher education institutions to work together on improving the outcomes of the education system.

Recognizing the value of such partnerships, and valuing the opportunity that lies from the possible support from global corporations, and development partners, the Rwanda Government will engage in various modes of collaboration and partnerships. Such partnerships, can be with global partners, local partners and development partners, and can be in the shape of joint project implementations, capacity building and etc... Therefore, the policy will be focusing on:

- 4.10.1.1 Engaging local, regional and global partners in efforts to improve/integrate ICT in education and to avail research and innovations to improve the education system.
- 4.10.1.2 Creating an enabling environment conducive to global partners' investments and support to the education system and the local partners to bring about socio-economic development to the country.

## **ICT in Education Policy**

- 4.10.1.3 Creating local, regional and global partnerships among educational institutions to foster peer to peer research and collaboration.
- 4.10.1.4 Promoting twining between public and private educational institutions to transfer and exchange best practices.
- 4.10.1.5 Involving the local community, universities, and the development organizations in the efforts to support the integration of ICT in education.
- 4.10.1.6 Encouraging the private sector companies to adopt schools as part of their corporate social responsibility to bring about school improvement.
- 4.10.1.7 Adopting a partnership approach to the financing of ICT in education.
- 4.10.1.8 Creating a win-win relationship between the Government and the private sector thus ensuring sharing of costs and benefits.
- 4.10.1.9 Allowing and encouraging strategic partners to showcase their solutions and technologies that are aligned with the ICT in Education policy.

## **4.11 Research and Development**

### **4.11.1 Description and Statements**

ICT and education are two inter-related sectors and both are highly evolving and developing in all countries around the world. It is therefore pertinent that the GoR keeps its education system abreast with the latest world developments, and to try to make available the innovations and developments in the world of education. Global ICT companies also recognize the importance of supporting the education sector and are therefore, developing strategies to support the development of this sector worldwide.

Accordingly, one of the important areas this policy takes into consideration is developing mechanisms, systems and procedures that continue to research and identify gaps and possible areas of improvement and innovations, and reflect back on the education sector at large, thus making it a dynamic evolving system for the benefit of the Rwandan learners. Also universities are encouraged to conduct their own research and collaborate with industry/ business and schools to support such developments.

Simultaneously, recognizing that a lot of the experiences and lessons learnt come from the field- from the educators and the learners, the GoR will seek ways to capture participatory feedback from all concerned stakeholders at all levels and

## ***ICT in Education Policy***

develop means of disseminating and analyzing it to improve learning outcomes. Therefore, the policy will be focusing on:

- 4.11.1.1 Conducting needs assessment and establishing a mechanism for continually identifying best practices and gaps and researching into innovative solutions, to improve the education system.
- 4.11.1.2 Creating a venue to facilitate a participatory approach enabling grass-root research and quality improvements.
- 4.11.1.3 Engaging independent third party research consultants to analyze long term strategies on ICT in education initiatives.
- 4.11.1.4 Enhancing the higher education institutions research and development capabilities to be at the cutting edge of technology.

## **5.0 STRATEGIC APPROACH FOR IMPLEMENTATION**

The Ministry of Education shall have jurisdiction in primary, secondary, professional, technical education, and higher education. It shall also have oversight responsibility for policy implementation, and monitoring and evaluation. It shall have the power to delegate responsibility, review roles and responsibilities of supporting institutions or organizations that have a stake in ICT in education in Rwanda. The following are the prerequisites for a successful and proper integration of ICT in education:

- The policy will be made public to all stakeholders.
- An ICT in education Coordination Unit will be established at MINEDUC to oversee the integration of ICT in the education system and shall have the following roles and responsibilities:
  - Overseeing the implementation, revision and proper incorporation of the policy
  - Develop detailed cost strategic implementation plan that takes total cost of ownership into consideration.
  - Monitoring and evaluation
  - Harmonizing and streamlining implementation efforts between all stakeholders and implementers, to avoid redundancy and maximize impact.
  - Developing and executing communications plans that targets all stakeholders, implementers and beneficiaries at all levels.
  - Interfacing and coordinating efforts with the private sector.
  - Liaison with ICT coordinators in other ministries and agencies.



### ***ICT in Education Policy***

- The Unit will be adequately staffed with qualified individuals in the areas of technology, education, educational technologists, project managers, and researchers. This Unit will be directed by a senior qualified individual who is capable of driving the implementation and strategies under this Unit and will report to the Permanent Secretary of MINEDUC
- The unit shall be strategically positioned at MINEDUC, and will be overseen by an Executive Committee. The executive committee will have representation from most relevant stakeholders from the governments, such as MINEDUC, Ministry of Infrastructure, and Ministry of Economy and Finance, and from the private sector at local, regional and global levels. The committee will oversee the implementation and progress of the unit, and will provide strategic direction.
- The unit will be empowered to have authority to follow up and coordinate efforts among all implementers.
- The development and global partners will support the structure of the Unit.
- The implementation of this policy will be via a partnership approach involving the community, private and public organizations, and development partners.
- The implementation of this policy will be aligned to all relevant national, sectoral and sub-sectoral ICT programs in Rwanda, as well as related regional and international initiatives.

## 6.0 CONCLUSIONS

It is expected that the ICT in education will set a clear road map for the integration of ICT in education and will:

- Increase access to basic education for all, both formal and non formal, using ICT as one of the major tools for learning, teaching, searching and information sharing.
- Improve quality of basic education and promote independent and lifelong learning, especially for secondary and tertiary education.
- Contribute to the availability of workforce with the ICT skills needed for employment and use in a knowledge based economy; to ensure that Rwandans can compete and cooperate in an increasingly interconnected world and to take a leading role in the East African Community.
- Guide the drafting of ICT competencies, aligned with international competencies, with regard to knowledge, skills and attitudes that can be achieved at the end of the primary, secondary, and tertiary education through the use of ICT in the classroom. These competencies are grouped into three categories: e-learning process, operational skills, and social and ethical competencies.
- Ensure that Rwanda has in place, an ICT driven process that supports an evidence-based decision making with respect to resource allocation, strategic planning, and monitoring and evaluation of the educational policy implementations.

**APPENDICES**

**Appendix I Steps Followed in Developing this Document**

- A. The Global Education Alliance (GEA) chose Rwanda as its first pilot and launched the collaboration in the spring of 2008
- B. MINEDUC and GEA Organized a workshop in Kigali in August 2008 to develop a strategic implementation framework for creating a shared vision and understanding of how to best support the efforts of MINEDUC in the area of ICT in education.
- C. The most needed intervention been identified during the workshop was to develop and ICT policy in education
- D. The GEA in consultation with MINEDUC hired Mr. Haif Bannayan and Dr. Osama Obeidat from the Jordan Education Initiative (JEI) to work with MINEDUC in developing an ICT in education policy
- E. JEI consultants read the following documents:
  - i. Education Sector policy - 2003
  - ii. Vision 2020
  - iii. Economic Development and Poverty Reduction Strategy (EDPRS) - 2008
  - iv. The National Science, Technology and Innovation Policy - 2005
  - v. The National Information and Communication Infrastructure Policy (NICI - 2010)
  - vi. Education Sector Strategic Plan (draft) - 2008
  - vii. Teacher Development and Management Policy in Rwanda - 2007
  - viii. School Curriculum Revision Plan - 2003-2008
- F. With the support of MINEDUC, JEI consultants Organized a two-days workshop with the following objectives
  - i. To reach a consensus and buy-in on the following:
    - 1. Definition of ICT 4 Education
    - 2. Define a Vision and Objectives
    - 3. Policy areas to be covered in the policy document
  - ii. Drafting policy statements related to each identified areas

## ***ICT in Education Policy***

- G. The workshop was attended by the following:
- i. Eugene Ekarangwa: Head of ICT-MINEDUC
  - ii. Immaculee: KIE
  - iii. Iris Uttersport: DfID
  - iv. Jack Murinda: Executive Director-Open Learning Exchange
  - v. Loweis: KIST-RITC
  - vi. Mutzintare Solange: RITA
  - vii. Peter?- Private IT sector
  - viii. Senthil Komar: Country Programme Facilitator - GeSci
  - ix. Buttigirot Seth: NCDC-ICT Manager
- H. The JEI consultants met with the following stakeholders, in chronological order, in order to present to them the findings of the two-days workshop and getting their input on the work been done:
- i. Claver Yisa: Secretary General, and Director of Policy and Planning-MINEDUC
  - ii. Daphrose Gahakwa: Minister of Education
  - iii. Management Team Meeting: MINEDUC
  - iv. Technical Working Group Meeting: MINEDUC
  - v. John Rutayisire: Director of Rwanda National Examinations Center (RNEC)
  - vi. Charles Gahima: Director of the National Curriculum Development Center (NCDC)
  - vii. Albert Nsengi and Eustochie: Rwanda Education Commons, USAID
  - viii. Conference call with Jaime Oberland, Joe Kitts, and Steven Ehrenberg: USAID - African Bureau and AED
  - ix. Musabeyezu Narcisse: Director of the General Inspectorate of Education (GIE)
  - x. James Curry: President and CEO-Agile Company
  - xi. The Rector: Kigali Institute of Education (KIE)
  - xii. Nkubito Bakuramuta: Executive Director - RITA
- I. The consultants prepared draft “0” and shared with the local and global stakeholders.
- J. The consultants had a conference call with the GEA and global partners.

### ***ICT in Education Policy***

- K. A two-day workshop was organized to discuss draft “0” of the policy.
- L. The JEI consultants revised draft 0 to draft 1 and send it back to MINEDUC and the GEA for international consultations and discussions.
- M. It is expected that draft 1 of the policy will be discussed in January 2009 during a national workshop.

## **Appendix II The Global Education Alliance (GEA)**

Building on the successes of the Global Education Initiative (GEI) country initiatives (Jordan, Egypt and the Indian State of Rajasthan), and with the aim to further propagate Multi-Stakeholder Partnerships in Education (MSPEs) at the senior-most levels, the GEI is now facilitating systematic cooperation between governments, the private sector, international organizations, and international donor communities through the work of the Global Education Alliance (GEA). Launched at the World Economic Forum Annual Meeting 2007 in a private session organized in cooperation with the office of Gordon Brown, current Prime Minister of the United Kingdom, this model of unprecedented collaboration resulted in an agreement to support the Education for All Fast Track Initiative (FTI) principles and practices, building on the partnership model developed by the GEI through the Partnerships for Education process.

In 2008, the GEI selected Rwanda under the Global Education Alliance (GEA) model. Under the local Rwandan leadership of the Ministry of Education and UK's Department for International Development (DFID), and with the support of the Jordan Education Initiative, the Alliance is helping Rwanda develop the ICT Policy in Education and design the coordination unit that will carry out the implementation of the policy.