

**Consultation Workshop: African Leadership in ICT  
(ALICT) Program 2010- 2013**

**Nairobi, Kenya, 14<sup>th</sup>-16<sup>th</sup> December, 2010**



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**MINISTRY FOR FOREIGN  
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# 1. ALICT and the Knowledge Society

## 1.1 ALICT Background

In the global economic and social landscape countries and regions have become increasingly dependent on knowledge as resource and technological infrastructure (ICT) to access and use knowledge for development. Knowledge and technological infrastructure can be used to enhance efficient use of natural resources, industrial development and to provide services to enhance economic and social development of a country.

The Government of Finland's Development Policy emphasizes knowledge, innovation and ICT as keys to sustainable development. The Policy recognizes that development based on knowledge, know-how and innovation is sustainable economically, socially and ecologically and that a sustainable information society cannot be created merely by exporting technology to developing countries. The countries must be helped to develop a knowledge society strategy suited to their own conditions. The Policy, as well as recent studies by the World Bank and UNCTAD, recognizes that ICT alone will not have the desired developmental impact if the absorption capacity and enabling environment for development is not in place. The Finnish development policy emphasizes that Education and Science and Technology (S&T) and Innovation can create the absorption capacity and trigger socio economic development using ICT as an instrument for development. Both the Finnish Development Policy and the African Union Commission (AUC) Action Plan recognize that for ICT to contribute meaningfully to poverty reduction and growth, a dedicated, coherent and multi-sectoral strategy and leadership capacity is required to develop inclusive knowledge societies in Africa. This principle underpins the Africa-EU Partnership on Science, Information Society and Space, and also the **AUC's Africa Regional Action Plan for Knowledge Economy (ARAPKE)**. The Finnish Development Policy, the **Africa-European Union (EU) partnership on Science, Information Society and Space (Africa-EU P8)** and the AUC's Action Plan recognize that cross-sectoral institutional and human capacities as well as leadership skills for Knowledge Societies must be strengthened in Africa if countries are to develop prosperous, sustainable and inclusive Knowledge Societies.

ICT skills are critical for the new Knowledge Economy if the potential of ICT to contribute to socio-economic development is to be realized. ICT can make the education system more relevant and responsive to society's needs. Therefore, ICT can also contribute to the development of important Knowledge Economy and "new millennium" skills such as critical thinking, information retrieval, analytical capacity, problem solving, communication and the ability to understand and manipulate new media. ICT is particularly suited to the development of such skills due to its ability to promote and enhance communication, collaboration, access to a wide range of information, information processing, simulation and visualization.

Knowledge Societies are based on investments in Research and Development, Science and Technology, and Education. Furthermore, they are based on investments in Innovation or the creation and application of knowledge to produce new goods and services or to advance society in general. Functioning innovation systems are the product of a well-developed higher education and research public sector working closely in tandem with the private sector. This requires that governments and political leaders understand the link between ICT, quality education, Science and Technology and Innovation, and strategies to encourage and sustain this link.

## **1.2 ALICT Partners**

The AUC, the Ministry for Foreign Affairs (MFA) of Finland and GeSCI embarked on a three-year partnership to build the capacities of future and potential leaders in ICT in Africa. The African Leaders in ICT (ALICT) program is a direct response to the Addis Ababa declaration on ICT in Africa which undertook to intensify activities to implement the ARAPKE. The ALICT Program is one of the concrete developments achieved under the 8<sup>th</sup> Partnership (Science, Information Society and Space) of the first action plan of the Africa-EU strategy whose objective is to bridge the digital and scientific divide within African countries and between Africa and other regions. In its first cycle (2010 – 2013) the program will focus on Southern and East African countries.

### 1.3 ALICT Objective

The ALICT program will address leadership capacities on evidence-based policy making and inter-ministerial strategic planning for ICT and knowledge based social and economic development in Africa. It will also support member states' capacities on ICT and Knowledge Societies with a focus on regional and national ICT capacity development emphasizing *change management, strategic planning, policy formulation, program implementation and evaluation*. Furthermore, a curriculum and a multi-stakeholder knowledge exchange platform will be developed to train and build the capacity of 150 future and potential leaders and policy makers in Ministries of ICT, S&T, Education, and Human Resources Development in Southern and Eastern Africa.

### 1.4 The ALICT Consultation Process

One of the underlying principles of the ALICT program is the involvement of partners and stakeholders. The views and opinions of people who will promote and participate in the ALICT program should be included in decisions about program conceptualization and development. To further develop the ALICT capacity building program framework, GeSCI as the implementing agency, facilitated a consultation workshop with key partners and stakeholders on 14 - 16 December 2010 in Nairobi, Kenya.

## 2. Consultation Workshop

### 2.1 Workshop Background

GeSCI has been collecting data to develop a conceptual framework for the ALICT capacity building initiative. The initiative presents a feasibility action program to be conducted over three years (2010 – 2013) for modeling a methodology and multi-stakeholder approach for capacity building and awareness raising of African leaders on the issues of Knowledge Society: ICT, Education, Science and Technology and Innovation. The ALICT concept note entitled [Building Leadership Capacity for ICT and Knowledge Societies for Africa](#) emphasizes the significance of

*Education, ICT, Science & Technology and Innovation as critical pillars for building inclusive Knowledge Societies.*

A **high level regional consultation workshop** with key policy, research and ministry official stakeholders was held from 14-16 December 2010 in Nairobi, Kenya, to help establish the parameters for the ALICT capacity building conceptual framework.

In recognition of the need to assist stakeholders navigate their way through the highly complex area of the Knowledge Society, GeSCI commissioned a series of [four background papers](#) to examine thinking and to build knowledge on issues related to the Knowledge Society and its pillars of ICT, Education, Science & Technology and Innovation. These studies provide recommendations on strategies and interventions to assist African states in building leadership capacities on the vision of the Knowledge Societies. The study series papers were made available to participants prior to the workshop and are now available for public access on GeSCI's [resource center](#) along with over a dozen other presentations from the workshop including four country case studies from [Botswana](#), [Mauritius](#) and [South Africa](#).

## **2.2 Workshop Objectives**

### **2.2.1 Strategic objective:**

- To identify a broad range of stakeholder views and opinions that will inform the development of the African Leadership for ICT conceptual framework and strategy

### **2.2.2 Specific objectives**

- To share a synthesis of inter dependencies between the pillars of the KS as well as the key challenges and opportunities for development towards Inclusive “Knowledge Societies”.
- To exchange ideas and explore issues on ‘how’ topics for building awareness and leadership capacities on the Knowledge Society themes and issues.
- To explore through case studies how some countries are making progress towards building Inclusive “Knowledge Societies”.

- To share views and ideas on the choices and parameters for the ALICT framework and strategy.

### 2.2.3 Expected Outputs

- Raised awareness about inter dependencies between the pillars of the KS and the key challenges and opportunities for development towards “Knowledge Societies”.
- Recommendations on ‘how’ topics for building awareness, promoting policy dialogue and building leadership capacities on the Knowledge Society themes and issues.
- Priorities and parameters for development of the ALICT framework and strategy.
- Workshop report documenting presentations, discussions and recommendations.

### 2.3 Workshop Participants

The workshop participants were drawn from the following institutions:

- Ministries of Education
- Ministries of Science & Technology
- Ministries of ICT
- Ministries of Technical and Vocational Training
- Partner Organizations such as AUC, UNECA, ADEA, Internet Society, UNESCO-IICBA, International NGOs and Development consultants.

Overall, 18 participants attended the workshop representing the above mentioned institutions from seven countries in Africa. Workshop facilitators and panelists were drawn from GeSCI, UNECA, participating countries and consultants. The participants are listed in [Appendix I](#)

### 2.4 Workshop program and format

In preparation for the workshop there was substantial collaboration between GeSCI, country representative, partners and consultants. The workshop was facilitated through presentations,

case studies, group discussions and panel discussions. The program for the workshop is presented in [Appendix II](#)

Before the workshop, a virtual community space for the workshop participants was created on GeSCI's 21<sup>st</sup> Century Learning ning site<sup>1</sup> to provide a forum for further collaboration between the facilitators and workshop participants. Daily evaluations and an overall evaluation were carried out and the details are provided in [Appendix III](#) under workshop evaluations.

### 3. Workshop Proceedings

#### Day 1

##### 3.1 Reaching a Common Understanding

The objective of the first day was to achieve a common understanding of the roles and interdependencies of **Education, ICT, Science & Technology, and Innovation** in national and regional development towards inclusive *Knowledge Societies*.

##### 3.1.1 Opening Session: Introductory Theme of Knowledge Societies for All

Mr. Alex Twinomugisha, GeSCI General Manager, in his opening remarks gave an overview of how the Africa Leadership in ICT (ALICT) program was initiated. He explained how GeSCI is implementing the ALICT program in partnership with the African Union Commission and the Ministry for Foreign Affairs of Finland. He also identified UNECA and ADEA as major ALICT partners. Mr. Twinomugisha reflected that African countries are in a strong position to benefit from the potential of new emerging technologies, particularly mobile technologies. He considered that a prerequisite for making use of the new technology potential was policy change and reform in African countries. Mr. Twinomugisha described these challenges as the

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<sup>1</sup> Ning is a social networking site used by community groups, companies and not-for-profits to facilitate virtual communication using a variety of web 2.0 affordances such as blogging, chat, digital photography repositories and video.

areas where ALICT will try to make an impact while encouraging the scenario for continent based innovation.

**Mr. Moses Bayingana, ICT Expert, African Union Commission (AUC)**, welcomed participants to the first ALICT regional consultation workshop. He described the AUC's Africa Regional Action Plan for Knowledge Economy (ARAPKE) and talked about the African Union and the European Union Partnership on Science, Information Society and Space agenda for development towards sustainable and inclusive knowledge-driven societies. Mr. Bayingana explained the importance the AUC sees in supporting different kinds of knowledge society initiatives in Africa, and, as part of the ARAPKE initiative, ALICT is one of these. The ALICT tripartite partnership between the AUC, the Ministry for Foreign Affairs (MFA) of Finland and GeSCI was signed on Oct 22, 2010. The program scope is to build the capacities of 150 potential education leaders over a period of 3 years.

**Dr. Aida Opoku-Mensah, Director for ICT, Science & Technology, UNECA** presented a key note presentation on the [Challenge to the emergence of the Knowledge Society in Africa](#) . In her presentation Dr. Opoku-Mensah questioned Africa's readiness for the knowledge economy. Although Africa has taken up rapid technological development, there remained many barriers. She considered that the concrete challenges in the African context included the lack of political will and vision among politicians for transformation; weak education systems particularly at Higher Education and Research levels; market imperfections in terms of productivity and growth; access to global knowledge as a global good; the violation of knowledge ownership-intellectual property regimes; socio-cultural issues and ethical concerns. Dr. Opoku-Mensah highlighted a number of suggestions / recommendations for developing the ALICT framework to build the KS in Africa, inclusive of the requirement for human capital development; cooperation between different sectors; development of legal and regulatory frameworks; the importance of Science Technology and Innovation (STI) infrastructure and Innovation financing.

Dr. Opoku-Mensah concluded her presentation with a series of 'how to' questions for delegates to contemplate over the course of the workshop, as in:

- How do we in Africa move to a Knowledge Society or at least a Knowledge-based society?

- How do we restructure, reform or adapt our educational systems towards this kind of society, and in what timeframe?
- Do we have the vision, the foresight and commitment to put in place the necessary building blocks for this?
- How do we envisage the role of stakeholders as well as the executive and legislative arms of governments?
- How much investment and finance is required?

### **3.1.2 Delegate introductions and expectations:**

Workshop participants were asked to introduce themselves and to present their expectations of the workshop [Appendix IV](#)

### 3.1.3 Presentations

Over the three days of the workshop presentations were provided by way of expert input into the consultation process.

On the first day the following presentations were provided:

1. [Background & Context](#), by Patti Swarts, GeSCI.
2. [Building Blocks of Knowledge Based Society](#), by Helena Tapper, GeSCI
3. [Sharing Knowledge Society perspectives: Presentation and interactive discussion: The ICT, Education, Development Perspective](#) by Neil Butcher, Neil Butcher Associates, South Africa (presentation via video link and paper).
4. [Science, Technology, Innovation and Change perspective](#), presentation by Matti Sinko, Advisor, UNECA.

### 3.1.4 Sharing Knowledge Society Perspectives

A number of key themes emerged from the discussions on the first day:

#### 1. *Background and context*

**Dr. Patti Swarts, GeSCI Regional Knowledge Building and Research Manager**, presented the background to the ALICT program. She described the program as a direct response to the Addis Ababa declaration on ICT in Africa which undertook to intensify activities to implement the AUC's Africa Regional Action Plan for Knowledge Economy (ARAPKE). Dr. Swarts highlighted the ALICT program as one of the flagship programs under ARPAKE. She described the program rationale as related to the growing gap between developed and developing worlds due to the relatively lower investments in ICT, Education, and STI in developing countries. In its first cycle (2010 – 2013) the ALICT program will focus on Southern and East African countries. Dr. Swarts described the program goal as focused on developing experts on ICT in Education, STI and Economic development who will become KS leaders and agents for change in their own countries and be catalysts for regional cooperation. She talked of the fundamental purpose to develop new models for capacity building and to build the capacity of African leaders on KS issues inclusive of the establishment of a virtual platform for multi-stakeholder collaboration.

## **2. Building Blocks of Knowledge Based Society**

**Dr. Helena Tapper, ALICT Program Manager**, in her presentation set out to explain the theoretical framework for the workshop and to answer the question: where do we want to go when establishing knowledge based societies in Africa? Dr. Tapper talked about the Africa KS context where many countries have accepted that STI and basing a country's economy on knowledge are key drivers to achieve socio-economic development goals and poverty reduction. She described how the concept of the knowledge society can include many features depending on what angle is taken. One can, for example, analyze the policies (policy level) and their alignment (e.g. ICT policies, global trade policies) or talk about the structural level (policy structure, knowledge structures, economy structure and infrastructure). Dr. Tapper pointed out that by integrating these different approaches, one can identify certain general building blocks that one should try to establish when cultivating a knowledge-based society. These include:

- National policies in STI, Education and ICT
- Funding, public and private sector, foreign direct investment in STI
- Investment in education is the basis (from primary to tertiary level)
- Investment in R & D with country focus
- Building a systemic approach to STI with flexibility and openness (open innovation ecosystem)
- Collaboration with all players (academia, research, private and public sector)
- Building infrastructure (access to knowledge through technology, ICT)

Following the presentation there was an open discussion where participants presented a number of key issues and recommendations.

### **Open discussion summary – key points:**

- Investing in both education and infrastructure are the basis of building a knowledge society, but policy and investment decisions should go beyond just that
- In the African context informal knowledge, innovations and productivity form an essential part of economic activity, therefore the informal sector should be closely integrated in building a knowledge-based society in African countries.

### **Recommendations - action points**

- Besides investing in research and development to support innovativeness, there should also be – as part of the incubation of formal and informal sectors - a focus shift from allocating governmental support for imported products to supporting local productivity and innovations
- The value factor has to be resolved, as well. There has to be a way to protect the intellectual property of an innovation for its creator.

### **3. ICT, Education and Development in the Knowledge Society**

**Mr. Neil Butcher, Neil Butcher Associates, South Africa** in his presentation talked of an explosion in internet access and bandwidth that will be seen in Africa in the next 5 years. He described the many moral and ethical challenges related to this exponential growth in the sharing of data. He remarked that ‘the genie is out of the bottle’ and there would be moral dilemmas presented by the ubiquitous access to information. The explosion in connectivity and electricity is going to precipitate many other changes in the next 5 – 10 years. Mr. Butcher considered that from a planning perspective, ICT interventions and models have been developed without adequate planning in Africa generally. Deployments would have been more successful if there had been adequate infrastructure development in countries.

#### **Open discussions summary – key points:**

- ICT needs to be prioritized at government level and policy needs to be implemented, and not just developed.
- The exponential growth of new technologies, electricity and connectivity are precipitating changes in the next 5 – 10 years that will be far reaching.
- Leaders with the will to prioritize ICT are needed to stay the course even when naysayers are swaying opinion against ICT and despite the vast resources that are still being siphoned out of the system.
- Without ICT, there will be no knowledge based society, and investments are needed in TPD, widening access and infrastructure that can bring about bottom up changes in the system.

**4. Science, Technology and Innovation in the Knowledge Society** based on two ECA papers, [Science and Technology and the Knowledge Society](#), and [Innovation and Change and the Knowledge Society](#).

**Mr. Matti Sinko, UNECA**, in his presentation talked about political leadership being the key to success in creating knowledge societies. The most important quality of this leadership is commitment. Also, comprehensive STI policies are needed, and they should be founded on grass-roots level reality. Therefore policy-makers need knowledge and capacity building on knowledge society related issues.

Mr. Sinko believes that the education emphasis should be on both quantity and quality (content). Also informal learning should be taken into account especially because in Africa learning outside formal institutions plays a major role. He pointed to the need for genuine dialogue between different stakeholder constituencies on facts, costs, benefits, conflicting interests, motives, consequences and alternatives (Triple-Helix: government, universities and private sector). Also dialogue between different segments of the hierarchy should be encouraged. Mr. Sinko emphasized that creating innovation (open) systems is important, but also noted that there is no secret formula for innovation due to the element of creativity. A good example of this is the Linux OS, developed by the young IT professionals.

Mr. Sinko presented data comparing PISA results to GDP growth rate scales indicating that putting emphasis on education and STI correlates with economic growth.

**Open discussions summary – key points:**

- Africa has a history of having the most articulate plans on how to support STI and education, but rarely has there been commitment to follow these plans through.
- African countries seem to usually jump on the easiest solution and/or the “flavor of the month”, creating even bigger problems for the future. This can be only addressed by creating leadership capacities.
- Policy makers don’t have time. They cannot sit in three-day workshops. Thus there is a need to create incentives for them to take part in capacity building programs.

## Group work tasks

### Group task 1: Discussion points on *ICT, Education, Development and the Knowledge Society* issues

The groups were given the task of discussing the following issues based on the presentations and thematic paper:

**ICT4E status:** Are there ICT for Education & Development (ICT4ED) policies in your countries? If so, how are they implemented and by what agencies? What is the current situation in terms of development and investment in ICT4ED in your countries? In what areas are these investments made and by whom (public and private sector)? Is there a shared understanding in your countries about investment in ICT4ED for the future?

**Challenges:** What are the major bottlenecks and challenges in building capacity and making investments in ICT4ED in your countries? How would you change that?

**Leadership:** What kind of leadership do you think is needed to make the changes happen and build ICT4ED for Knowledge based Societies in Africa? How would you build that leadership?

African country status on ICT, Education, Development and the Knowledge Society		
ICT4ED Status – and their implementation	Challenges – and how to address them	Leadership – to make change happen
<ul style="list-style-type: none"> <li>Some policies developed</li> <li>Others are being reviewed in view of changing government structures and changes in ICT.</li> <li>Huge amount of budget is going for education, but not effectively monitored.</li> <li>Govt. Investments are the main ones in infrastructure development, teacher training, ICT awareness by the community + lifelong training.</li> <li>Contribution by private sector exists too.</li> </ul>	<ul style="list-style-type: none"> <li>Ill designed policies</li> <li>Lack of implementation know how</li> <li>Lack of or bad political will.</li> <li>Finance</li> <li>Create awareness in parliamentarians</li> </ul>	<ul style="list-style-type: none"> <li>2 types of leaders presently: those who use ICT and those who don't. Those who don't need to be trained in ICT and be converted to technology.</li> <li>In the long run Leaders will come forth who will be convinced of the importance of ICT</li> <li>Target both formal and informal structures</li> </ul>
<ul style="list-style-type: none"> <li>(Kenya)ICT policy (MoICT – education part not strong), Vision 2030 – linking the three components, ICT strategy at MoE integrated in KESSP. Lack of coherence: ICT policy of MoICT should give general frame.</li> <li>(Kenya) MoE - ICT strategy, KESSP -&gt;</li> </ul>	<ul style="list-style-type: none"> <li>Lack of coherence, corruption, emerging issues (e.g. national disasters), donor dependency</li> <li>Disconnect between industry and academia – research and graduates</li> <li>Development of sector strategy based on national policy, + harmonized</li> <li>National ICT framework should address</li> </ul>	<ul style="list-style-type: none"> <li>Open-minded, innovative, visionary, development minded, country wide</li> <li>Evidence based research how ICT contributes to development, visits, best practices</li> <li>Constant updates and policy briefs to leaders</li> </ul>

<b>African country status on ICT, Education, Development and the Knowledge Society</b>		
<b>ICT4ED Status –</b> and their implementation	<b>Challenges –</b> and how to address them	<b>Leadership –</b> to make change happen
<p>strategies Legislative act of parliament (sometimes acts without policies). By MoE, MoYA, MoHEST, MoICT, MoFin, Min of planning and vision 2030, ICT Board, CCK, KIE, Dir of e-government. All ministries are implementing, some are driving the process (General). By ministries and parastatals, regulators.</p> <ul style="list-style-type: none"> <li>• Minimal investment in ICT in public sector; (PPP) private investment is increasing.</li> <li>• Private/PPP – national fibre backbone. Private – telecom (fixed and mobile). Mainly public – computerization of schools. Public, private – digital village, broadcasting.</li> <li>• Through Vision 2030 – stills need to be more elaborate. Lack of coherence and strategic thinking. Not all sectors are captured in MoICT policy.</li> </ul>	<p>how ICT will contribute to each sector</p> <ul style="list-style-type: none"> <li>• Strengthening coordination between sectors through engage everybody in the development process of the national ICT framework</li> <li>• Providing incentives to support businesses investing in ICT – reduce tax, tax exemption</li> </ul>	

**Group task 2: Discussion points on *Science, Technology and Innovation in Knowledge Based Society* issues**

**STI status:** Are there STI policies in your countries? If so, how are they implemented and by what agencies? What is the current situation in terms of development and investment in STI in your countries? In what areas are these investments made and by whom (public and private sector)? Is there a shared understanding in your countries about investment in STI for the future?

**Challenges:** What are the major bottlenecks and challenges in building capacity and making investments in STI in your countries? How would you change that?

**Leadership:** What kind of leadership do you think is needed to make the changes happen and build STI for Knowledge based Societies in Africa?

<b>African country status on Science, Technology and Innovation in Knowledge based societies</b>		
<b>ICT4ED Status – and their implementation</b>	<b>Challenges – and how to address them</b>	<b>Leadership – to make change happen</b>
<ul style="list-style-type: none"> <li>• Very few policies in place. Some have guidelines, vision, etc. When they exist, they lack operational plans.</li> <li>• Jointly implemented by concerned ministries. Some countries have ministries for Science and Technology. They are supported by donor agencies.</li> <li>• In Ethiopia and Kenya major investment in Science and Technology. Investment in TVET education as well.</li> <li>• Higher Education and TVET by mainly government. Private sector less focusing on ST since it's less profitable than humanities.</li> <li>• In Ethiopia, there is no buy in of the policy from the general population.</li> <li>• Ethiopia yes. Focus on science and technology education in university (70/30)</li> <li>• Niger, no articulated policy.</li> <li>• Kenya: There is a policy under development; there is an institution in charge of the implementation (ex. intellectual property, etc.)</li> </ul>	<ul style="list-style-type: none"> <li>• Investment in mainly public since investing in STI does not have quick return on investment (ex. Education)</li> <li>• Polytechnics being transformed into universities</li> <li>• Lack of incentive/recognition; many graduates are not working in STI</li> <li>• Lack of understanding of the importance of R&amp;D by government and even more by industry</li> <li>• Lack of linkage between university and industry</li> <li>• Lack of budget for R&amp;D at national and institutional levels</li> <li>• Lack of vision for innovation (Believing in the opportunities that exist in innovation for the country/institution)</li> <li>• Create a shared STI vision</li> </ul>	<ul style="list-style-type: none"> <li>• Create leadership that values STI</li> <li>• Leadership that understands and believes in the opportunities of STI.</li> <li>• Leaders that are thinkers, visionaries</li> </ul>
<ul style="list-style-type: none"> <li>• 9 countries have STI policies: Algeria, Egypt, Morocco, Tunisia, Rwanda, Botswana, Mauritius, Mali, Ghana, Mozambique, Lesotho, South Africa, Zambia, and Zimbabwe. In the process are Kenya, Nigeria, Benin, and Gambia.</li> <li>• Rwanda: National Council of S&amp;T from different ministries including private sector and mainstreaming mechanism: to popularize science, coordinate research. Looking at cross-cutting issues. Encouraging teaching of science and streamline curriculum. Scholarship in science and encouraging girls to promote girl education in S&amp;T. Mapping studies to relate to production of local products. Equip labs. Sponsoring orientation of science</li> <li>• South Africa: lot of initiatives, nanotechnology investment, made significant strides in funding mechanism; NCRF, biotechnology, venture capital, innovation as a tool. DTST have external relations to promote activities. Astronomy; CSIR</li> <li>• Ghana: have a policy in pipeline, focus on energy, climate change, oil and gas, nuclear technology. Former policy not really implemented. Ministry developing capacity. T-VET is middle level training and linked to infrastructure development. Energy</li> </ul>	<ul style="list-style-type: none"> <li>• Mindset; disconnect between economic aspirations of countries and S&amp;T;</li> <li>• Scientists don't communicate with policy-makers;</li> <li>• Missing link to African economic transformation;</li> <li>• Political will</li> <li>• Awareness creation/education/communicating science;</li> <li>• enabling environment;</li> <li>• acquiring local and indigenous technology;</li> <li>• e.g m-pesa local innovation</li> </ul>	<ul style="list-style-type: none"> <li>• technology savvy politicians;</li> <li>• critical mass of STI experts;</li> <li>• enabling environment and retaining brains;</li> <li>• using diaspora; effectively;</li> <li>• creating partnerships</li> <li>• training and engaging with political, economic, socio-cultural leaderships;</li> </ul>

<b>African country status on Science, Technology and Innovation in Knowledge based societies</b>		
<b>ICT4ED Status –</b> and their implementation	<b>Challenges –</b> and how to address them	<b>Leadership –</b> to make change happen
<p>run by Ghanaian engineers, food security/agriculture. Have a science fund.</p> <ul style="list-style-type: none"> <li>• Liberia/SL –interested in following in this footsteps.</li> <li>• Benin: still dependent on former colonial power. STI developing at initial stages (can share more info from ECA).</li> <li>• Kenya: lot of training in STI, many institutions developed; Nat Council for S&amp;T, etc. Poor coordination between institutions and innovation not emphasized so comprehensive STI policy;</li> <li>• Ethiopia: STI policy in place; massive emphasis on human development capacity building;</li> </ul>		

## Day 2

### 3.2 Defining a Stakeholder Vision for the ALICT Program

The objective of the second day was to define a stakeholder vision for the ALICT program.

#### 3.2.1 Presentations

On the second day the following presentations were provided:

1. [21<sup>st</sup> Century Learning: Ning space](#), presentation by Niamh Brannigan, GeSCI
2. [Knowledge Society development: Leadership and Change](#) (with reflections from the [thematic paper](#) produced by Edmond Gaible) Presentation by Patti Swarts, GeSCI
3. [Leadership and Change in the Knowledge Society](#) by Patti Swarts

A number of key themes emerged from the discussions on the second day:

#### 1. *21<sup>st</sup> Century Learning: Ning space*

**Ms. Niamh Brannigan, GeSCI Communications Manager**, explained and demonstrated the use of the *ning* spaces, the online platform for the ALICT community and discussions.

#### Open discussion summary – key points:

- Very few participants were using the ning space
- The ning would be used for document repository and validation of the framework iterations

#### 2. *Knowledge Society development: Leadership and Change (with reflections from thematic paper produced by Edmond Gaible)*

**Dr. Patti Swarts** set out in her presentation to initialize a discussion about what kind of leadership we're expecting from the future African leaders, who are to act as change managers. Dr. Swarts talked about the challenges and problems which Africa is facing, describing them as complex and multi-faceted (the dichotomy of world hunger increasing while wealth is growing), global in nature but with their own local manifestations. Focusing on education systems as the foundation of Knowledge Societies, Dr. Swarts talked about how the traditional 'grammar of

schooling' (e.g. dividing people into classes, splinter knowledge into subjects) has changed little in relation to its 19<sup>th</sup> century factory model origins. ICT is an enabler for 'system wide' (content, pedagogy and professional/skill development) and 'system deep' (school, local and country level) change. In reality however, ICT has not fulfilled its potential for educational transformation due to system obsession with performivity and adversity towards disrupting the schooling grammar. There is a need for a 'new grammar' which challenges the existing paradigms of learning while still retaining good elements of the 'old grammar'.

Going back to leadership Dr. Swarts considered that in today's changing world with its multi-faceted challenges, systems require committed transformational leaders who have skills in problem-solving, creative and strategic thinking and technological literacies (21<sup>st</sup> century leadership skills).

**Open discussions summary – key points:**

African leaders have tendencies to use an authoritarian leadership style, which is not suitable for managing transformational change. That's partly the reason why the continent hasn't been able to keep up with the rest of the world.

**Recommendations - action points**

- Knowledge capacities of teachers should be built, so that they can work as facilitators of the students' learning process and not expected to be people who just pour information and knowledge into people's heads.
- In the ALICT consultation, stakeholders should contribute to defining the leadership values and beliefs
- ALICT should engage thought leaders, who don't necessarily have formal positions but still hold great informal political power.

**Group task 3: Discussion points on *Leadership and Change in Knowledge Society Development* papers and issues**

Groups were given tasks to discuss the leadership issues based on the presentations and thematic paper.

**Change:** What is the leadership profile required for changing the traditional ‘grammar’ of policy environments and institutional practices and creating a paradigm shift towards developing a new culture for knowledge society development?

**Capacity building:** What are the major bottlenecks and challenges in building the capacity of African leaders for the knowledge society? What should be the focus of ALICT Leadership capacity building for the KS? Who should be the target groups?

**Competencies & skills:** What competencies and skills would be required by African leaders to manage change effectively and deal with challenges and predicaments in a networked society?

**Frameworks/models:** What elements would you suggest be included in the ALICT capacity building framework to address requirements for new KS leadership models?

<b>Leadership &amp; Change in the Knowledge Society</b>			
<b>Change</b>	<b>Capacity Building</b>	<b>Competencies &amp; skills</b>	<b>Frameworks/ models</b>
<ul style="list-style-type: none"> <li>One who understands the traditional leadership styles and the new leadership styles to bridge the gaps between the two generations.</li> <li>Should be <b>accommodative</b> to the rest of the team and emerging issues.</li> </ul>	<ul style="list-style-type: none"> <li>Resistance to change and being scared of the unknown.</li> <li>Academia not preparing students well to take up leadership.</li> <li>Lack of frequent Review/ evaluation to the curriculum to capture emerging leadership skills.</li> <li>Clear strategy framework/Work plan on developing ICT leadership.</li> <li>Qualitative and quantitative proper curriculum development on the skills to be developed.</li> <li>Critical mass of trained leaders for succession</li> <li>Students, Teachers, Ministries of Education, Finance, Information Technology, Politicians.</li> </ul>	<ul style="list-style-type: none"> <li>Effective communication</li> <li>Technology savvy</li> <li>Good planning</li> <li>Monitoring and Evaluation</li> <li>Foresight and forecasting</li> <li>Creativity</li> <li>Collaboration</li> </ul>	<ul style="list-style-type: none"> <li>Inclusiveness</li> <li>Gender Awareness</li> <li>Demand driven (Homegrown solution)</li> <li>Collaboration and partnerships</li> </ul>
<ul style="list-style-type: none"> <li>Helps in the selection and in knowing what to incorporate in the program</li> <li>Skills and knowledge: ICT, How can ICT contribute to development and improved</li> </ul>	<ul style="list-style-type: none"> <li>Challenges for the leaders: Fear of failing, fear of not being good enough and looking bad/foolish, dynamism too fast to keep up – fast</li> </ul>	<ul style="list-style-type: none"> <li></li> </ul>	<ul style="list-style-type: none"> <li>Capacity building program tailor made for category of leader</li> <li>General leadership capacity building</li> <li>Skills and knowledge –</li> </ul>

Leadership & Change in the Knowledge Society			
Change	Capacity Building	Competencies & skills	Frameworks/ models
<p>quality education, Multi-disciplinary, foresight and forecasting</p> <ul style="list-style-type: none"> <li>• Values, beliefs, ethics, personality: (some of the competencies need improvement of certain skills)</li> <li>• Commitment, ethical, integrity, respectful,</li> <li>• Visionary</li> <li>• Open attitude to innovation and ideas, open to change, open to see opportunities, open to learn</li> <li>• Open-minded, flexible,</li> <li>• Transformer not translator,</li> <li>• Trust in others, teamwork, embrace and leverage the skills and innovation of the team, synergetic,</li> <li>• Build systems that support each member of organization/community to self-express and grow, empower the team, nurture and bring out the qualities of the team,</li> <li>• Allow team to support your leadership,</li> <li>• Encourage people to be leaders (we are all leaders), a leader who creates leaders</li> <li>• Maslow – ensures basic needs of himself, org and society are met and works towards self-actualization</li> <li>• Examples of empowering beliefs:</li> <li>• ‘I empower myself to be able to see</li> <li>• sees how technology can transform’</li> <li>• ‘I embrace change and look for new opportunities’</li> <li>• ‘I am open to see the good in innovation and change’</li> <li>• ‘If I don’t change, I can’t develop’</li> </ul>	<p>pace of change, information overload</p> <ul style="list-style-type: none"> <li>• Challenges for building the capacity: Is capacity building on ICT and leadership a priority to leaders? They have limited time and might not be accessible for the program,</li> <li>• Need innovative approach to be able to reach them</li> <li>• Influence from powerful internationals - conflicting interests</li> <li>• Categorize the leaders and tailor make the program according to their needs</li> <li>• Include skills and knowledge and competencies (values, beliefs,...)</li> <li>• Showing the scenarios where we are going – what if we don’t change</li> <li>• Motivation for change and what is an empowering way to be open to change,</li> <li>• How to be ready for the change, foresight and forecast</li> <li>• Create visionary leaders and leaders who embraces and leverages the visions of the team - what is typical for a visionary person and how do I develop this in myself; which systems support visionary leadership</li> <li>• Categorize the leaders <ul style="list-style-type: none"> <li>- Drivers of the programs in targeted ministries: directors,</li> <li>- Permanent secretaries</li> <li>- Not only officials – rising stars, technical officers</li> <li>- Current and future leaders</li> <li>- Outside government – strong lobby groups, CBOs,</li> </ul> </li> </ul>		<p>ICT4D (cfr point1)</p> <ul style="list-style-type: none"> <li>• Competencies and techniques to stretch them e.g. what is blocking you from becoming a visionary leader and how to transform it</li> <li>• Peer learning, mentorship, coaching, exchange visits, show casing best practices – e.g. documentaries of the case studies,</li> <li>• Bring potential leaders together – face-to-face and virtual</li> <li>• Make the capacity building practical and concrete</li> <li>• Develop selection criteria: e.g. Willing to participate, open to change his/her mindset</li> </ul>

Leadership & Change in the Knowledge Society			
Change	Capacity Building	Competencies & skills	Frameworks/ models
	associations,		
<ul style="list-style-type: none"> <li>• There is a need for Openness, readiness to accept and apply innovation,</li> <li>• Laissez faire style of leadership is often found in policy implementation, but balanced approach is needed to see execution through.</li> <li>• Even excellent policies need change managers. Leaders are needed to see through policies – they need to act as change agents, must be courageous people.</li> <li>• Business as usual approach not necessarily the best as same practices continue irrespective of innovation.</li> <li>• Technical expertise for some leaders is needed. Technology Savvy persons are needed to influence policy making, both in public service and private sector. Ex or current political affiliated leaders are ensured jobs in policy departments rather than accredited (properly qualified) persons. Competent leaders should be able to affect change.</li> <li>• Leadership is not always a person at the top, but all participants in the organization.</li> <li>• Leadership profile required needs to be defined. E.g. Technology transfer in case of India, where IT specialists were allowed to be innovative.</li> </ul>	<ul style="list-style-type: none"> <li>• Challenge: How do you convince leaders in private sector to work in public sector.</li> <li>• Convincing non-independent political leaders to sacrifice own interest.</li> <li>• Technology overload (too frequent "updates" on the other hand), can lead to dysfunctional departments.</li> <li>• Political loyalty can lead to biased decision making.</li> <li>• Technology push downwards cannot create a knowledge society. Training for workers on the ground needs to be added and if not, technology is not used.</li> <li>• Lack of awareness of advantages of knowledge society, or the need of a KS present in leaders and general population. Techno-phobia. Lack of future vision.</li> <li>• Education, training of leaders, buy-in into vision/ mission creation. Develop thought leaders with rigid structures. A Focus on the longer term, futuristic view. Institutional targeting of education, creating change agents</li> <li>• Convert the youth through KS awareness programs (long term).</li> <li>• Interim action towards current parliamentarians, make them passionate about technology. Add constituency link benefits for political office bearers.</li> </ul>	<ul style="list-style-type: none"> <li>• Leaders need to empower others after setting the vision. Keep with the process and progress. Women as a target group for leadership.</li> <li>• Facilitator engager role needed for leaders, especially from private sector. Indigenous private sector involvement lacking in Africa.</li> <li>• Political leaders need to have a vision longer than the next election.</li> </ul>	<ul style="list-style-type: none"> <li>• Concentrate on continuous visioning and foresighting practices for policy making inputs.</li> <li>• Create awareness about democratization of decision making - take lead from countries, democracies or organizations where this has worked.</li> <li>• Open consultation as platform (open space) for the public to air their views, perhaps via existing media.</li> <li>• A review process (take stock/ mapping of current situation) should be part and parcel of the capacity building package.</li> </ul>

**Group 1 commentaries:**

- **Change/leadership profile:** a change manager should be one who understands both the traditional and new leadership styles and is also accommodative to the rest of the team and emerging issues
- **Capacity building:** the major bottlenecks are resistance to change, fear of the unknown, academia not well-prepared, and lack of review/evaluation to the curriculum: target groups encompass every sector of the society (education, finance etc.)
- **Competencies and Skills:** effective communication, technological savvy, good planning, monitoring and evaluation, creativity, collaboration, foresight and foreseeing
- **Frameworks/models:** inclusiveness, gender awareness, demand driven, collaboration and partnerships

**Group 2 commentaries:**

- **Change/leadership profile:** a good profile can help with the selection of the participants for the program;
- **Required skills:** multidisciplinary approach to ICT, foresight and forecasting
  - required values: personality, commitment, ethical, integrity, respectful
  - other qualities: a leader who creates leaders, open to change and innovation
- **Capacity building:** major bottlenecks are fear of failing, too fast pace of change, information overload and lack of interest, resistance from the system; target group: both existing and future leaders ('rising stars')
- **Competencies and Skills:** see point one
- **Frameworks/models:** general leadership capacity building, peer learning, mentorship, bring potential leaders together (face-to-face and virtual)

**Group 3 commentaries:**

- **Change/leadership profile:** there's a need for openness and readiness to apply innovation. A 'laissez faire' style is often found in policy implementation, but balanced approach is needed to see execution through. In change management, the business as usual approach not necessarily the best. Technical expertise, and especially technologically savvy leaders are needed.
- **Capacity building:** the major bottlenecks are the private sector's unwillingness to work with the public sector, corruption, technology overload (too frequent updates), biased

decision making because of political loyalty, lack of awareness, techno-fobia, lack of education and lack of future vision; focus and target groups of ALICT: education, training of leaders, bring KS awareness to youth, make the MPs passionate about technology, trade unions

- **Competencies and Skills:** empower others after setting the vision, able to keep up with the process and progress, capable to assume the role of a facilitator
- **Frameworks/models:** continuous visioning and foresighting practices, create awareness about democratization of decision making, open consultation as platform to the public to voice their views

**Open discussion summary – key points:**

- Anticipation, foresight and foreseeing are not something that is inherent among African leaders. That's why it should be emphasized.

If you have too many technologies to choose from, you shouldn't jump from the latest solution to the next as they come

**Recommendations - action points**

- ALICT should also engage universities and future leaders among the students. Alternatively leadership courses should be injected into the African curriculums ("you cannot learn to be a leader as a grown-up").
- To bring about change one needs at least two people, so the participants of the program should not be left alone, when they go back to where they are positioned.
- The gender imbalance should be corrected to correlate with the natural ratio of women and men, both in leadership (male dominated in Africa) and lower levels (for example among teachers, which is a field dominated by women). This should be done by empowering women with the competences required in leadership positions.

## Day 3

### 3.3 Defining priorities and parameters for the ALICT capacity building framework and strategy

The objective of the third day was to define priorities and parameters for developing the ALICT capacity building framework and strategy.

#### 3.3.1 Presentations

On the third day a panel discussion was conducted around case study presentations provided by workshop participants representing Education and Science and Technology Ministries and Departments from **Mauritius** (Ministry of Education and Human Resources), **Botswana** (Ministry of Communications and Infrastructure), **South Africa** (Department of Science and Technology) and the Internet Society.

Country case studies from Mauritius, Botswana and South Africa

[Mauritius Case study](#) presentation by Edward Kelvyn Ng Wong Hing, Ministry of Education and Human Resources)

[Botswana Case study](#) presentation by Ephraim Balebetse (Ministry of Communication and Infrastructure)

[South Africa Case study](#) presentation by Johan Neethling, (Department of Science and Technology)

[ISOC \(Internet Society\)](#) presentation by Dawit Bekele (ISOC)

A number of key themes emerged from the discussions on the third day:

#### **Mauritius:**

**Mr. Edward Kelvyn Ng Wong Hing**, Ministry of Education and Human Resources, presented the Mauritius case study with an overview of the National ICT Strategic Plan. Mr. Kelvyn explained the status of the plan in 2010 which encompassed a review of primary and secondary curricula inclusive of enhancement of ICTs in Education (<http://www.gov.mu/portal/site/education>); the status of the acquisition of the Teachers' IT License by serving teachers; teacher training for

ICT in Education under Ministry MoU accords with the Microsoft Indian Ocean Islands Limited (Microsoft) and Partners in Learning (PiL) programs; the Design and development of a portal for education and the increased primary school PC penetration.

#### **Botswana:**

**Mr. Ephraim Balebetse, Ministry of Communication and Infrastructure**, presented the Botswana case study in terms of their effort to build Knowledge Society. He clarified the National Vision 2016 to build an informed and educated nation. The vision is to be “Globally competitive, knowledge and information society through effective use of ICT”. Mr. Balebeste outlined some of the national initiatives and major focus areas inclusive of the “**Maitlamo**” initiative with ICT as the key driver for socio-economic development; the **Connecting communities** to provide affordable connectivity to the people and the statistics are; the **Connecting Botswana initiative** as part of a national drive for developing a National Backbone and international connectivity; the e-legislation initiative and the Thuto (e-learning) initiative by the Ministry of Education; ICT for Economic Diversification and development; ICT and health intergration under the e-health initiative.

Mr. Balebetse outlined some of the challenges inclusive of the following:

- Lack of or insufficient political leadership
- Lack of structures to implement the policy
- Lack of stakeholder appreciation or buy-in to drive implementation of Maitlamo
- No strategy to implement the policy
- Ineffective or insufficient efforts to cascade the benefits on Maitlamo to stakeholders
- Brain drain of key executive personnel

#### **South Africa:**

**Mr. Johan Neethling, Department of Science and Technology**, presented a background overview on Science and Technology policy in South Africa (White Paper on S&T 1990s), the First National R&D strategy (2002), the 10-year Innovation plan (2008) and the current ICT Research Development and Innovation (RDI) Roadmap Implementation Framework 2011/12 being drafted. The ICT RDI Strategy involves 18 projects funded over 1-3 years (10-15 % of the money used for research) with CSIR Meraka chosen as implementation agency.

### ISOC:

**Mr. Dawit Bekele**, described the ISOC program for next generation leaders (NGL). He talked about the challenges of today's internet society which are very different from yesterday's whereby the next generation of leaders will need different skills. The NGL employs a certified blended approach to leader development which encourages multi-disciplinary knowledge. Mr. Bekele pointed out that monitoring the application of the knowledge is a critical part of the program quality assurance to ensure that whatever is invested in is not lost.

### 3.3.2 Summary of key discussion points

- Leadership continuity is a major issue. With leadership turnover ICT can become a priority or it can cease to be a priority
- Change must be championed by stakeholders and stakeholders must not wait for their leaders to bring change about.
- The private sector is a trigger for change because policy then has to try to catch up.
- We can't wait for crises to bring about change
- Without effective strategies M&E will not be embedded into any ICT initiative

### Group task 4: Final discussion on 'how' questions

Groups were given tasks to discuss the leadership issues based on the presentations and case studies.

### Group report 1 - How to build awareness of Knowledge Societies

Group discussion summary of priorities and recommendations: Who is the target group for awareness building? African leaders? Participants? Celebrate achievements of program and popularize best practices of member countries.

1. **3 Levels:** Organizational level, society level and individual level:
2. **Individual level:** Facilitate individual in ministries to reach own organization. This should be built into the capacity building program.
3. **Organization level** (Ministries, target organizations through individuals): Build awareness through dialogue on values, importance and possibilities of ICT, Education and development. Can happen through workshops or via the Cascading model (internal

- promotion) to colleagues. Follow up should take place. Build people independent systems. Empower individual to sustain and transform organization
4. **Society level:** Stand-alone awareness campaigns from ALICT.
  5. Electronic media (TV, Internet, Radio), printed media, promotional material.
  6. ALICT to drive the process of creating cooperation and collaboration with partner organizations. [assuming ALICT has succeeded in building awareness)

### **Group report 2 - How to promote policy dialogue and build leadership capacities on the Knowledge Society themes and issues**

1. ALICT needs to reach/address relevant parties
2. Manage to motivate parties/stakeholders to take part in dialogues
3. Have to have relevant agendas
4. Have to have a promise of immediate returns  
and manifest the negative effects from not having dialogues
5. Provide models targeting different situations, different levels and issues (policy/implementation etc.)
6. Setting up regional policy dialogue
7. Promoting regional or wider benchmarking activities and case studies
8. Promote cross-sector linkages e.g. addressing the issues of youth employment

### **Group Report 3 - How to build leadership capacity to obtain and evaluate relevant information for effective knowledge dissemination and practical application**

Identification of the target group. Participants should already be involved in innovation/ICT in their own organization. GeSCI determines the profile of participants and countries call for candidatures and select nominees competitively with their CVs; GeSCI to select the one(s) to attend.

## 4. Vision

The long-term ALICT vision exercise delivered the following aspirations of the participants. These were arrived at through individual reflection and writing of vision statements which were subsequently shared with the group. The statements were synthesized to create a common vision of the impact of the ALICT program in 3-5 years at individual, organizational and environmental levels if the program were extremely successful.

### **Vision 1 – Environmental Level**

Africa is an ICT competent society and an active competitor and participant in the global arena. **Society is knowledgeable** about the role of Education, ICT, Science, Technology and Innovation (STI) as enablers and drivers for socio-economic development. African countries have a standardized and converged ICT infrastructure. **The value** of quality education, Science, Technology and Innovation (STI), Research & Development and competitiveness for Africa **is acknowledged by decision makers**.

The use of ICT to improve the quality of education **is recognized by educators as well as financiers**. National policy and strategy is devoted to supporting organization & individual capacity building plans. **Policy makers are creatively utilizing information and knowledge** to empower the nation. Policy makers are harnessing information & knowledge to create innovate leaders. There is a harmonized interpretation of Education, ICT, and STI role in African countries for development towards a Knowledge Societies.

**Decision-makers are exploiting ICT and Knowledge** to create lifelong learning environments & experiences. Governments increase the Education, STI and ICT budgets and invest in key programs in these areas. There is awareness, focus and pride in **the value of indigenous knowledge** and exploitation of indigenous knowledge for a common good. There is a use of innovation to alleviate poverty and to research and develop new tools to facilitate resource exploitation.

### **Vision 2 – Organizational Level**

The ALICT organization is represented in all African countries and **is recognized** as a university for Leadership in ICT, STI and the KS. The Educational Professional Community and STI camps **communicate on a regular basis** in countries that attend ALICT programs. Organizations **are transformed to overcome** distance as a barrier for intra, regional and international collaboration. Organizations re-examine and **design strategically focused plans** related to ICT for Education & STI. Every major business leadership academic program in Africa has an ICT4D component. Schools are no longer schools but **knowledge centers** where each one comes to learn and to share.

### **Vision 3 – Individual Level**

ALICT has set new standards for Leadership which trickles down from participatory leaders to their organizations and communities. Leaders at all levels (political, administrative and implementation) **are encouraging participative democracy in an open space**. Major African thought leaders are emerging. Highly qualified and visionary leaders **are taking the continent to the next level** technologically, socially and economically. Leaders promote lifelong learning and continuous learning for themselves and other actors within their institutions and societies.

New leaders are sensitive and lead in a friendly dignified manner. Leaders are **spearheading local innovations** which address local issues, reduce poverty and lift up the quality of living of the masses. Leaders, individuals and institutions **appreciate new knowledge and technology** and recognize their use as factors of production and enablers for Education & STI drivers towards building knowledge economies and societies. Leaders are **able to manage change** brought about by adoption of new technologies and disruptions created by new technologies. Leaders are **actively promoting** the use of ICT & STI in society. Leaders have capacity and competence to convincingly sell the Education transformation & investment in STI message among African Leaders. Leaders hold space for other leaders to grow and shine. Each leader has convinced himself/ herself about knowledge & technology as enablers for Education reform & STI development and is inspiring their organizations.

Leaders have **inspired, caused and assisted people** in using knowledge & technology for

improving their standard of living. **Individuals are empowered** to access, share and use information for local and international competitiveness. **A critical mass of young African entrepreneurs are emerging and contributing** to significant GDP growth in their countries.

Participants and the wider ALICT community are encouraged to refine and validate the vision statements online at: <http://www.surveymonkey.com/s/KQQZ2S2>. Validation will close at the end of March 2011.

## 5. Wrap up

Dr. Patti Swarts closed the workshop proceedings with a general overview of the discussions and the way forward. She talked about the three country case studies and the very different experiences of development and demographics that each study presented. The Mauritian example demonstrated the anticipatory nature of what they were doing. Botswana has a small population but a huge country and there are many challenges inherent in that landscape. South Africa has a big population and is a big country. ISOC presented food for thought on their leadership program and how they have overcome their challenges.

Dr. Swarts considered that the challenges were numerous and the case studies demonstrated what could be done if the ideal is balanced with the reality; if the right groups are targeted; and if content is good, well developed, well structured and well delivered.

### Next Steps

- All documentation from the workshop consultation will be uploaded onto the ning.
- The ALICT framework in development will be shared on the ning with iterations uploaded until mid February, after which the final draft framework will go to the ALICT Advisory Board
- Participants are invited to critique and make observations on the documents on the ning space

Dr. Swarts closed the session thanking presenters and participants for their active participation in the workshop discourse whereby their contributions will bring critical input and valuable contributions to the development of the ALICT framework.

## APPENDICES

### Appendix I – Workshop participants

Sl.N o	Country	Name	Designation	Organization
1	Botswana	Mr. Ephraim Balebetse ebalebetse@gov.bw	Department of Information Technology	Ministry of Communication & Infrastructure
2	Mauritius	Mr. Edward Kelvyn NG WONG HING k-ng-wong- hing@mail.gov.mu	Director	Ministry of Education and Human Resources
3	Rwanda	Dr.. Marie-Christine Gasingirwa cgasingirwa@nur.qc.rw	DG - Science, Technology and ICT4E	Ministry of Education
4	South Africa	Mr. Johan Neethling johan.neethling@dst.gov. za	Deputy Director ICT & the Service Industry	Dept. of Science and Technology
5	Ethiopia	Dr. Aida Opoku-Mensah aida.uneca@un.org	Director ICT, Science and Technology	UNECA
6		Mr. Matti Sinko MSinko@uneca.org	Adviser, ICT Policy and Development in ICT, Science & Technology	UNECA
7		Mr. Moses Bayingana BayinganaM@africa- union.org	Expert – ICT (Policy and Project Management)	Directorate of Human Resources Science and Technology , African Union Commission
8		Mr. Dawit Bekele bekele@isoc.org	Manager, African Regional Bureau	Internet Society (ISOC)
9		Dr. Temechegn Engida Merine t.engida@unesco.org	Program Officer, ICT Use in Education	UNESCO Representative from IICBA
10	Tunisia	Dr. Hamidou Boukary	Senior Education Specialist	ADEA

Sl.N o	Country	Name	Designation	Organization
		h.boukary@afdb.org		
11	Kenya	Dr. George A. Ombakho	Director-Directorate of Research Management	MoHEST
12		Dr. John M. Ayisi john.ayisi@yahoo.com	Deputy. Director - Directorate of Research	MoHEST
13		Mr. James Sankale sankale2001@yahoo.com		Ministry of Youth Affairs and Sports (MOYAS)
14		Mr. Kisko N. Mwaria kmwaria@yahoo.com	Directorate of Research	MoHEST
15		Mr. David Ongare dongare@nema.go.ke	Deputy. Director - Environmental Education	NEMA
16		Ms. Inge Vervloesem ivervloesem@gmail.com	Development Consultant	
17		Dr. Peggy Oti-Boateng p.otiboateng@unesco.org		UNESCO Regional Office for Africa, Nairobi
18		Mr. Kennedy Yegon kennyegon@gmail.com	ICT Expert	The African Academy of Sciences
19		Mr. Alex Twinomugisha alex.twinomugisha@gesci. org	General Manager	GeSCI
20		Dr. Helena Tapper helena.tapper@gesci.org	Programme Manager - ALICT Programme	GeSCI
21		Dr. Patti Swarts patti.swarts@gesci.org	Manager - Africa Regional Programme	GeSCI
22	Ms. Mary Hooker mary.hooker@gesci.org	Research Manager	GeSCI	
23	Mr. M K Senthil Kumar senthil.kumar@gesci.org	Country Programme Facilitator	GeSCI	
24	Ms. Niamh Brannigan	Communications Manager	GeSCI	

Sl.No	Country	Name	Designation	Organization
		niamh.brannigan@gesci.org		
25		Ms. Rachel Wambua rachel.wambua@gesci.org	Admin officer	GeSCI
26		Mr. Juho Mikkonen juho.mikkonen@gesci.org	JPO, ALICT Program	GeSCI
27		Mr. Jackson Kimwele	IT Consultant	GeSCI

## Appendix II - Workshop Program

### Workshop Program:

<b>Day 1 – Tuesday 14<sup>th</sup> December</b>		
<b>Objective – day 1</b>	To achieve a common understanding of the roles and inter-dependencies of Education, ICT, Science & Technology, Innovation in national and regional development towards inclusive “Knowledge Societies”	
08:30 – 9:00 Hrs	<b>Registration and coffee</b>	
09:00 – 09:30 Hrs	<p><b>Welcome Session: Introductory theme of Knowledge Societies for All</b></p> <p><b><u>Opening Remarks:</u></b></p> <p><b>Mr. Alex Twinomugisha</b>, Regional Director – Africa, GeSCI</p> <p><b>Mr. Moses Bayingana</b>, Expert – ICT, Department of HRST, African Union Commission</p> <p><b>Ms. Aida Opoku-Mensah</b>, Director – ICT, Science &amp; Technology, UNECA</p>	<p><b>Patti Swarts</b> (Moderator), GeSCI</p>
09:30 – 10:00 Hrs	<p><b>Introductory Session</b></p> <ul style="list-style-type: none"> <li>• Welcome from workshop organizers</li> <li>• A round of introductions from participants and expectations</li> <li>• Clarifying objectives for the workshop</li> <li>• Managing expectations</li> </ul>	<p><b>Helena Tapper</b> (Moderator), GeSCI</p>
10:00 – 10:30 Hrs	<p><b>Background &amp; Context</b></p> <p><b>Presentation:</b> ALICT Project for Leadership on ICT</p> <p><b>Patti Swarts</b>, GeSCI Regional Knowledge Building &amp; Research Director</p>	<p><b>Mary Hooker</b> (Moderator), GeSCI</p>
10:30 – 11:00 Hrs	<b>Coffee break</b>	

<b>Day 1 – Tuesday 14<sup>th</sup> December</b>		
11:00 – 11:30 Hrs	<p><b>Presentation:</b> Building blocks for the “Knowledge Based Societies”</p> <p><b>Helena Tapper</b>, ALICT Program Manager</p>	<p><b>Mary Hooker</b> (Moderator), GeSCI</p>
11:30 – 12:30 Hrs	<p><b>Sharing Knowledge Society perspectives</b></p> <p><b>Presentation and interactive discussion:</b></p> <p><b>The ICT, Education, Development Perspective</b> Neil Butcher, Neil Butcher Associates, South Africa</p>	<p><b>Mary Hooker</b> (Moderator), GeSCI</p>
<b>12:30 – 14:00 Hrs</b>	<b>Lunch break</b>	
14:00 – 15:00 Hrs	<p><b>Sharing Knowledge Society perspectives</b></p> <p><b>Presentation and interactive discussion:</b></p> <p><b>Science, Technology, Innovation and Change perspective</b></p> <p><b>Matti Sinko</b>, Adviser, ICT Policy and Development in the ICT, Science &amp; Technology - UNECA</p>	<p><b>Patti Swarts</b> (Moderator), GeSCI</p>
15:00 – 15:30 Hrs	<p><b>Key issues emerging</b></p> <p>Highlighting key issues on ICT, Education &amp; Development, Science &amp; Technology, Innovation and the Knowledge Society for more detailed discussion in the working groups</p>	<p><b>Helena Tapper</b> (Moderator), GeSCI</p>
15:30 – 15:45 Hrs	<b>Coffee break</b>	
15:45 – 16:45 Hrs	<p><b>Working Groups</b></p> <p>Discussion in smaller groups – digging more deeply into priority issues on;</p> <ul style="list-style-type: none"> <li>- ICT, Education &amp; Development</li> <li>- Science &amp; Technology</li> </ul>	

<b>Day 1 – Tuesday 14<sup>th</sup> December</b>		
	- Innovation and change  Based on the “Knowledge Society” emerging issues from the morning and afternoon presentation	
16:45 – 17:15 Hrs	<b>Report back to plenary</b>	<b>Helena Tapper</b> (Moderator), GeSCI
17:15 – 17:30 Hrs	<b>Wrap up and evaluation of day 1</b>	<b>Mary Hooker</b> (Moderator), GeSCI

<b>Day 2 – Wednesday, 15<sup>th</sup> December 2010</b>		
<b>Objective – day 2</b>	<b>To define a stakeholder vision for the ALICT program</b>	
9:00 – 9:15 Hrs	<b>Introduction to Day 2</b>  Recap on day 1	<b>Helena Tapper / Mary Hooker</b> (Moderator), GeSCI
9:15 – 9:45 Hrs	<b>21<sup>st</sup> Century Learning – Ning</b> <b>Niamh Brannigan</b> , Communications Manager, GeSCI	<b>Mary Hooker</b> (Moderator)
9:45 – 10:30 Hrs	<b>Knowledge Society development: Leadership and Change</b> (with reflections from thematic paper produced by Edmond Gaible)  <b>Patti Swarts</b> , GeSCI Regional Knowledge Building & Research Director	<b>Mary Hooker</b> (Moderator), GeSCI
<b>10:30 – 11:00 Hrs</b>	<b>Coffee Break</b>	
11:00 – 11:30 Hrs	<b>Key issues emerging</b>  Highlighting key issues on Leadership & Change and the Knowledge Society for more detailed discussion in the working groups	<b>Helena Tapper</b> (Moderator)
11:30 – 13:00 Hrs	<b>Working Groups</b>	

<b>Day 2 – Wednesday, 15<sup>th</sup> December 2010</b>		
	Discussion in smaller groups – digging more deeply into priority issues on Leadership & Change and the Knowledge Society emerging from all the thematic discussions	<b>Patti Swarts</b> (Moderator) GeSCI
<b>13:00 – 14:00 Hrs</b>	<b>Lunch break</b>	
14:00 – 15:00 Hrs	<b>Report back to plenary</b>	<b>Mary Hooker</b> (Moderator), GeSCI
<b>15:00 – 15:15 Hrs</b>	<b>Coffee break</b>	
15:15 – 16:15 Hrs	<b>Looking ahead: Creating a vision for Leadership &amp; Change</b>  Group exercise to create a vision for how we would like the ALICT program to be perceived and conducted for Leadership & Change	<b>Patti Swarts</b> (Moderator), GeSCI
16:15 – 16:30 Hrs	<b>Wrap up and evaluation of day 2</b>	<b>Helena Tapper</b> (Moderator), GeSCI

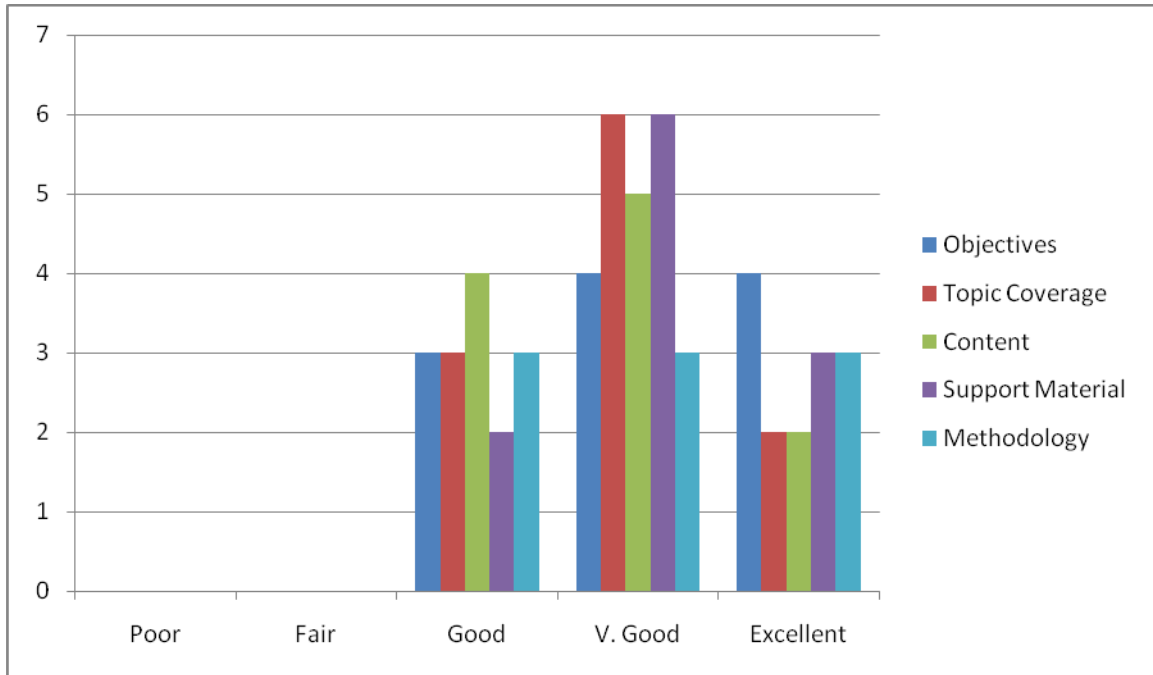
<b>Day 3 – Thursday, 16<sup>th</sup> December 2010</b>		
<b>Objective – day 3</b>	<b>To define priorities and parameters for developing the ALICT framework and strategy</b>	
9:00 – 9:15 Hrs	<b>Introduction to Day 3</b>  Recap on progress to date	<b>Mary Hooker / Helena Tapper</b>  (Presenters), GeSCI
9:15 – 10:45 Hrs	<b>Case studies presentation from the 3 countries (Mauritius, Botswana, South Africa and ISOC - Panel discussions</b>  - How do the countries approach development towards KS?	<b>Helena Tapper</b> (Moderator), GeSCI
<b>10:45 – 11:00 Hrs</b>	<b>Coffee Break</b>	
11:00 – 12:00 Hrs	<b>Working Groups</b>  Separate group(s) to debate the ‘how’ questions <ul style="list-style-type: none"> <li>• How to build awareness on the Knowledge Society</li> </ul>	<b>Patti Swarts</b>

<b>Day 3 – Thursday, 16<sup>th</sup> December 2010</b>		
	<p>and its pillars of ICT, Education &amp; Development, Science &amp; Technology and Innovation</p> <ul style="list-style-type: none"> <li>• How to promote policy dialogue and build leadership capacities on the Knowledge Society themes and issues</li> <li>• How to promote capacity to obtain and evaluate relevant information for effective knowledge dissemination and practical application</li> </ul>	(Moderator), GeSCI
12:00 – 12:45 Hrs	<b>Report back to plenary</b>	<b>Mary Hooker</b> (Moderator), GeSCI
12:45 – 13:00 Hrs	<b>Conclusions/Next Steps</b>  Agreement on what should be the priorities and parameters of the ALICT framework and strategy	<b>Helena Tapper</b> (Moderator) GeSCI
13:00 – 13:15 Hrs	<b>Wrap up and evaluation of day 3</b>	<b>Patti Swarts</b> (Moderator), GeSCI

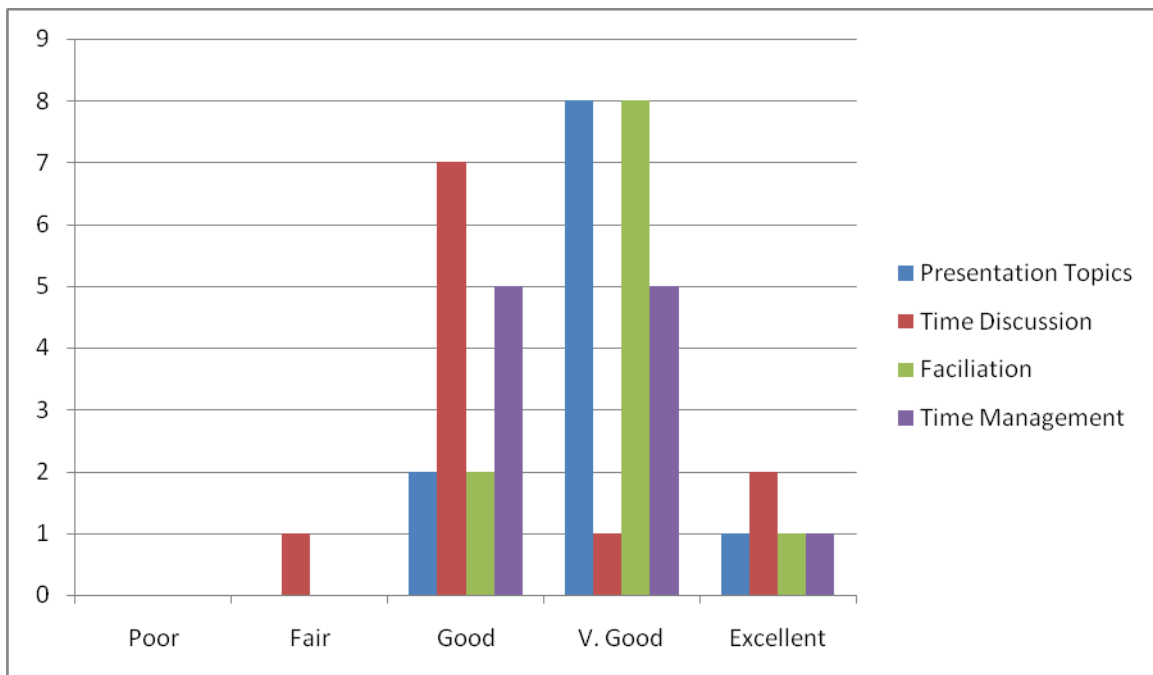
## Appendix III - Workshop Evaluations

### Day 1 Evaluation

#### Evaluation of Session Content



#### Evaluation of Session Presentations



## Day 1- Direct feedback

### What for you were the key learning points on ALICT program during today's sessions?

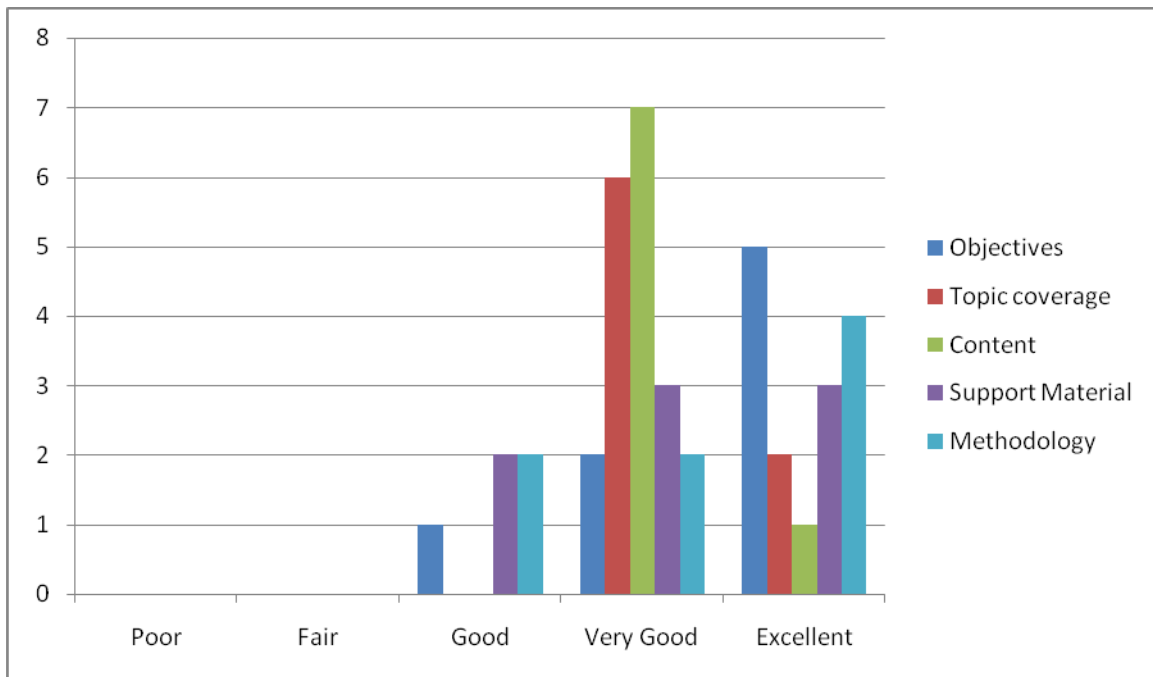
- Good background information
- Leadership central to KS/ Leadership by all (3)
- Investment in science if Africa is to develop
- Defining what we understand by "Leadership" in ALICT content
- Opening the definition of ICT to beyond computers
- STI Building blocks (2)
- Role of national & global leadership/ setting agendas for leaders (2)
- Value of advocacy
- Integration of ICT in Education & Development
- Nearly everything
- Cultural beliefs may inhibit participating in KS
- Policies in place/ regulation & implementation a challenge
- Africa not yet identified – lack of common character
- Target group of the program
- Need for commitment
- Political will
- Yes we can factor
- Open innovations
- Living lab

### What could be improved with regard to content and process in the sessions for tomorrow?

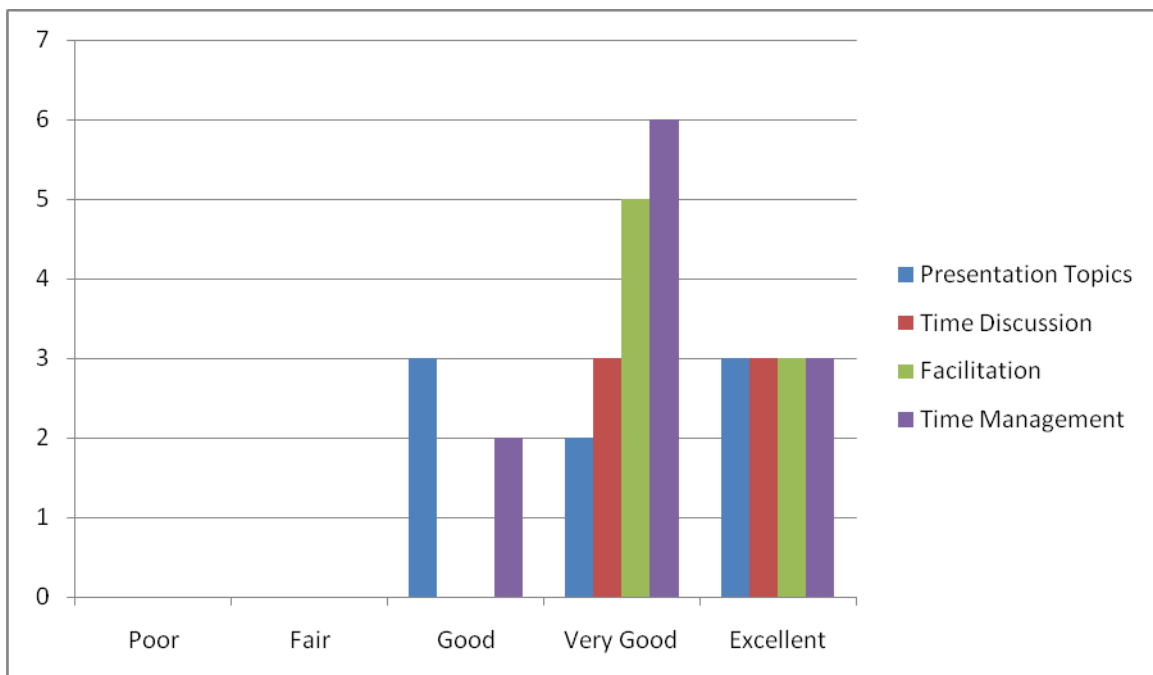
- More hard copies for follow-up
- More time to discuss the main issues identified in presentations/ group work time only allows for superficial discussion/definitions of what do we mean by leaders/ more dialogue with participants (5)
- The relationship between ICT & Education
- Include more of real case scenarios in teaching & learning
- Just keep doing the good job/ all good so far (2)
- Nil (2)

## Day 2 Evaluation

### Evaluation of Session Content



### Evaluation of Session Presentations



## Day 2 - Direct feedback

### What for you were the key learning points on ALICT program during today's sessions?

- The objectives are achievable
- We are all positive about problem solving using ICT
- Effective sharing of experiences and aspirations
- Possible impact of the program
- Challenges to develop an effective all-encompassing capacity building program both in approach and content
- Leadership & change
- Target leaders are not only those in the decision-making position
- Different leadership styles that are needed to practice
- We need to have leaders who have foresight and forecasting
- Breakout session
- There's a strong need to properly structure the ALICT program in line with what people can absorb and feel comfortable with
- A common vision of the ALICT program needs to be realistic and take into consideration the present status in which Africa is.

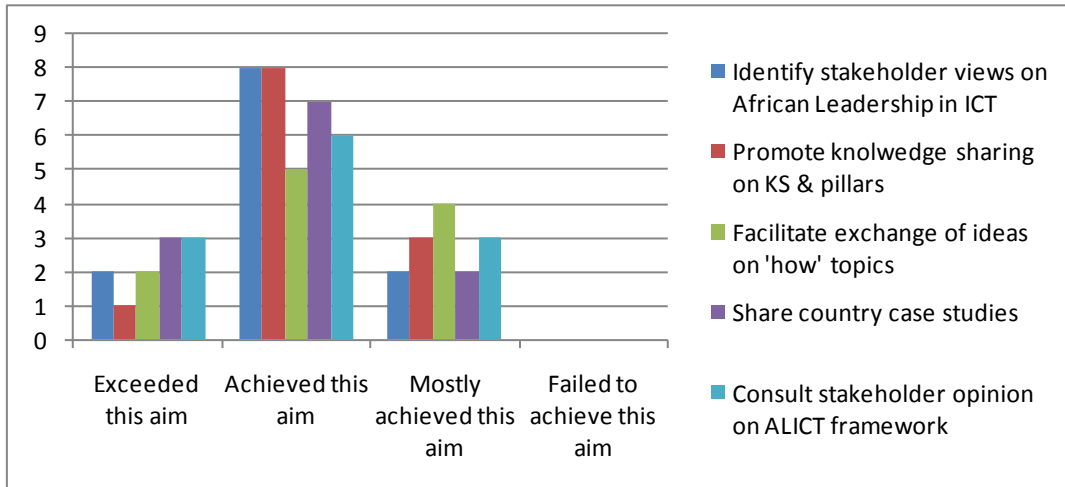
### What could be improved with regard to content and process in the sessions for tomorrow?

- More engaging discussions
- Involve everyone, voluntary and non-voluntary
- More prompting on 'vision declarations'
- I was hoping to go further into visioning (maybe tomorrow)?
- All is ok

### Day 3: Overall Workshop Evaluation

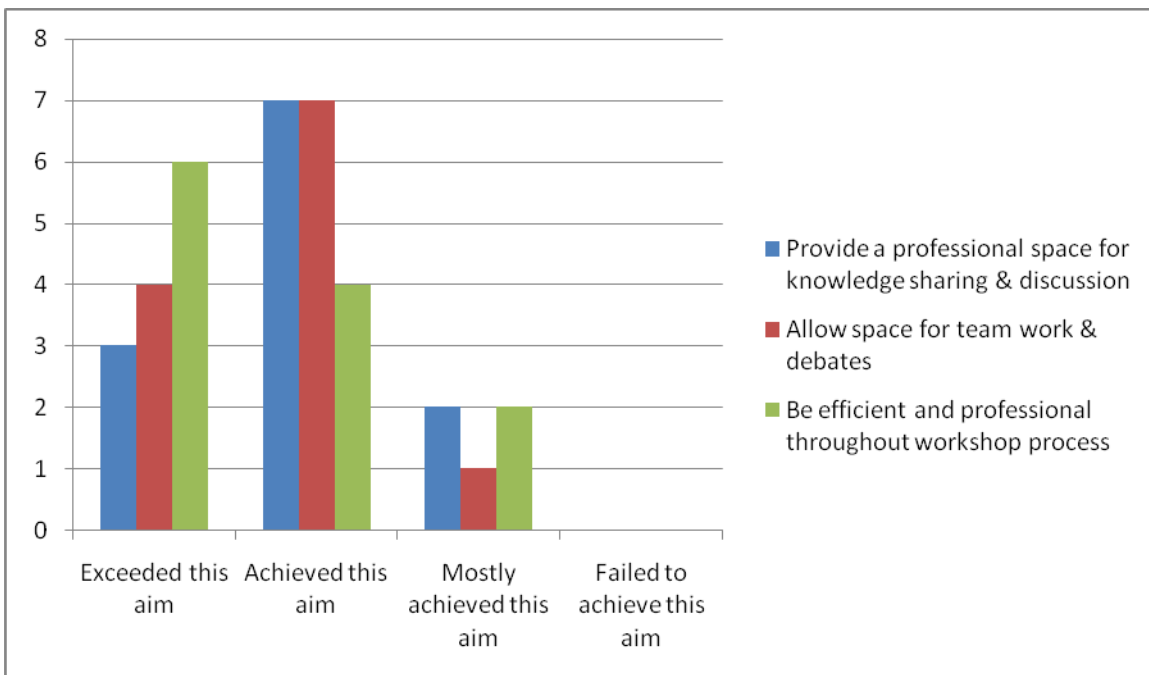
Participant satisfaction with:

- Workshop Objectives – where we aimed to...



Participant satisfaction with:

- Workshop Conduct – where we aimed to...



## Day 3 – Overall Workshop Evaluation

### Day 3 – Direct Feedback

#### What was the best/ most helpful feature of the workshop from your perspective?

- Sharing of experiences and views
- The positive attitude towards implementing KS objectives
- Networking with a common goal
- Really participatory and accommodative
- Inspirational and team building
- The group organization was great
- The use of case studies was instrumental
- Group work and feedback from group work
- Ning space as a resource once back home
- Consultation and collaboration between GeSCI & ECA on ALICT
- Establishing contacts with colleagues
- Country presentations on how they managed to improve on ICT
- Leadership and change
- I was informed on the aims of GeSCI and the ALICT program
- I was able to network with professionals in areas of interest and the realm of ICT
- The opportunity to contribute towards shaping future leaders
- Interactions with other participants
- The brainstorming session on vision
- The possibility of sharing on ning
- Interactive methods to conduct the workshop
- A specific focus on leaders
- Engagement and openness of participants and facilitation team
- Inter-relatedness between KS components and levels

#### Were there any issues arising from the thematic areas which you suggest from institution/ country perspective that we prioritize when we develop the ALICT program?

- Not top priority but important : include how participants Can contribute to dissemination of knowledge to their organizations in the capacity building program & develop materials to facilitate it

### Day 3 – Direct Feedback

- The focus on education ministries
- Focusing on young leaders
- Policy awareness/ dialogue
- Establishing partnership with organizations ; should not start from scratch.
- Think of your target audience, think with them in mind, plan with them where possible
- Ensure that channels of communication between GeSCI and partners are open, and partners are informed of program activities and progress
- Develop a working strategic framework
- Ensure policies developed are adhered to and reworked from time to time
- Benchmarking and country reports (contained in program)
- Definitely ICT infrastructure upon which all S&T and Education delivery can take place
- Consider the use of mobile telephony as a tool for awareness creation and capacity building
- Kenya should really be brought on board
- Teacher training
- Gender issues – promotion of STI to girls and women
- Recognize the role of youth and target them for ICS

### What was missing from the workshop that you believe ought to be included in an ALICT Leadership Program?

- Representation of the vulnerable groups in society
- The opening and closing needed senior representation from Kenya to indicate a buy-in/ commitment
- Countries discussion – countries to prepare papers (on policy issues)
- Background of GeSCI – where you have come from...
- Leadership gum.
- Follow-up workshop on implementation
- There is a need to broaden participation in future workshops to capture information, opinion / ideas across sectors, so as to inform (illegible) GeSCI to opinions in core sectors in ICT
- Partnership building
- Concrete & practical ways on 'how' capacity building would best be organized

### If you could give us one piece of advice for improving the workshop facilitation process what would it be?

### Day 3 – Direct Feedback

- Perhaps integrate the use of ning in the workshop
- Involve some stakeholders from the private sector
- Work at strategies to break monotony (adult participants)
- Kindly keep us informed on the ALICT program so that we may combine and benefit from it.
- Include more stakeholders especially from the relevant ministries and academic institutions.
- May need to do some institutional visit where necessary to confirm progress.
- If time is not a constraint, also more discussion time to enrich outcomes.
- Keep it up! Good work!
- You are superb! Keep on!
- None – well done!

## Appendix IV – Delegate Workshop Expectations

- Come away with a blueprint for developing ICT leadership capacity in Africa
- Blueprint, framework and strategy to agree on a framework
- Information on how teacher education will contribute to the program
- Discourse on how to make this process/program more inclusive
- Reflection on the role of the teacher – as the custodian of knowledge. In particular the role of women who have been overlooked in society yet given the role of teachers.
- How can efforts be coordinated in SSA to establish a Knowledge Society – coordination between regional networks and unions
- Create a partnership and the mapping of the different leadership foci. Who are those leaders and what is the entry point?
- Some concrete strategies for building capacity and raising awareness of what the issues are for leaders. Identify key issues and how to reach key leaders.
- Learn more about GeSCI. Promoting ICT and addressing the capacity building issues as a society.
- Learn about technology solutions that are being applied to achieve the knowledge society.
- Learn about the application of emerging technologies and particularly in introducing this technology in different tiers of society.
- Create awareness and alerting our leaders to the need for resources for this knowledge society to prevent brain drain from Africa. The need to inculcate this in the minds of leaders.
- What do we mean by leader? What kind of challenges do we have?
- Knowledge Society is important for development and during this workshop we can take terms and simplify them for a wider society etc.
- Understanding the issues of the Knowledge Society in the African context.
- Opportunity for mutual learning.
- Understanding of where we are now in ‘the knowledge based society’ and how we address this leadership issue and build investments in knowledge space and how we can do it.

### **Expectations and Priorities focused on:**

- Blueprints for Leadership
- Inclusivity
- The role of Teacher education
- Advocacy and awareness raising

