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ICT for Education

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Deputy Minister of Education, Zambia

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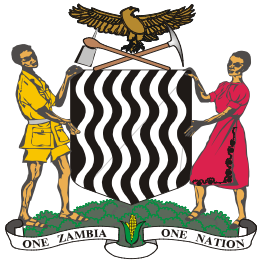

KEYNOTE SPEECH AT THE INNOVATION AFRICA SUMMIT

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PRESENTAION OUTLINE

- **INTRODUCTION**
- **NATIONAL ICT INFRASTRUCTURE PROJECTS**
- **ICT INITIATIVES IN THE EDUCATION SECTOR**
- **IMPLEMENTATION CHALLENGES**
- **WAY FORWARD AND CONCLUSION**

INTRODUCTION

- In the **Second Decade of Education for Africa (2006-2015): Draft Plan of Action**, the AU recognizes that education is a critical sector whose performance directly affects and determines the quality and scale of Africa's developmental agenda

- Also notes that education forms the basis for developing science, technology and innovation which are catalysts for harnessing resources, industrialisation, and for participation in the global knowledge economy

INTRODUCTION cont.

- Information and Communication Technology (ICT) is a critical tool in preparing students to acquire the required skills and competences as it makes them continuously adapt to work of constant technological innovations

- ICT makes it easier for students to access knowledge, and is an engine for growth and tool for empowerment

- ICT is also an enabler for both innovation and education, without which a knowledge society cannot be realized, supported or further developed.

INTRODUCTION cont.

- ICT enables learning anywhere, anytime, and anyhow, and knowledge is not constrained by geographic proximity, offering immense possibilities for sharing, archiving, and retrieval of knowledge

- Thus, ICT widens access to education

- However, the growth of ICT networks alone will not build a knowledge society. Thus, ICT should be a facilitator for major education and development reforms

NATIONAL ICT INFRASTRUCTURE PROJECTS

- Fiber optic backbone installation by Copperbelt Energy Company (CEC); by Zambia Electricity Supply Corporation (ZESCO); and by ZAMTEL covering a good part of the country (especially along the line of rail). The fiber will also connect Zambia to other countries;
- Internet Service Providers (ISPs) have invested in wireless connectivity and increased both the speed and internet bandwidth;
- ZICTA and mobile service providers are putting up towers for mobile communication through out the country especially in rural areas.

NATIONAL ICT INFRASTRUCTURE PROJECTS cont.

- Zambia Information and Communication Technology Authority (ZICTA) has laid fiber for the Zambia Research and Education Network (ZAMREN) to link all universities, colleges and research institutions through fiber and Schools will also later be connected;

- ZICTA has put up community tele-centres to provide ICT services to communities;

ICT INITIATIVES IN THE EDUCATION SECTOR

- ICT is being used for teaching and learning in schools and colleges and the ministry has embarked on the connecting institutions of learning project that will network 150 schools and all colleges of education;
- Electronic and mobile learning (e-learning and m-learning) being used in colleges with mobile phones used to send assignments and other teaching and learning materials;
- The Ministry is using a mobile laboratory e-learning bus to sensitise the learners, teachers and the community on ICT and e-learning activities;
- Developed portals where teaching and learning materials are uploaded eg ischool projects and eGranary project

ICT INITIATIVES IN THE EDUCATION SECTOR cont.

- Using ICT networks the ministry has expanded its sphere of operations beyond national borders by partnering with schools in other countries;
- The ministry's website can be accessed from anywhere and people can get some of the services they want electronically;
- The ministry has trained teachers to develop e-content in Open Education Resource (OER) who are now developing the content for schools;

ICT INITIATIVES IN THE EDUCATION SECTOR cont.

- The Ministry has signed an agreement with Microsoft that has culminated into getting software for the schools at concessional prices;
- The Ministry/Microsoft partnerships has also facilitated the establishment of Microsoft centres at 50 schools where training and examinations in ICT will be conducted;
- Using a blended Interactive Radio Instruction (IRI) methodology by radio to conduct lessons combined with face to face;
- Introduced a post graduate diploma in ICT Policy and regulation;

ICT INITIATIVES IN THE EDUCATION SECTOR cont.

- Educational Broadcasting Services (EBS) has developed video based learning materials in Science and Mathematics to offset the shortage of teachers in these subjects;
- Multichoice has provided DSTV instructional TV bouquets to selected schools and colleges where learners and teachers could download educational materials at their own time;
- Two Universities (UNZA and CBU) are connected to facilitate sharing of teaching and learning sessions;
- Tele-Education being conducted at Mulungushi University under the African Virtue University project connecting it to universities in India;

IMPLEMENTATION CHALLENGES

- Developing countries Africa inclusive generally face challenges in terms of capacity, human and financial resources to harness the potential of ICT successfully and effectively;
- Connectivity, hardware and software costs are very prohibitive;
- There is weak legal framework to curb cyber crime coupled with inadequate legal champions in ICT;
- Access to ICT facilities is limited with very low capacity (skills) for the teachers to handle the technology;
- Lack of ICT curriculum for both in-service and pre-service teachers who are key in ICT integration;

IMPLEMENTATION CHALLENGES cont.

- Due to inadequate investment in ICT coupled with inadequate collaboration, it is tending to bring out social disparities between rich and poor ie. has created a digital divide;
- Education change has not transformed school systems into learning organizations as the system is still stuck to old and conventional teaching methods in most schools;
- There is a deficit of power (electricity) especially in rural areas, such that it makes investment in technology difficult;
- Mobile service providers have done very little to utilize their networks for teaching and learning;

IMPLEMENTATION CHALLENGES cont.

- There is very little investment in e-content development as there are very few developers of such materials;
- Digitilisation of teaching and learning materials has brought challenges of intellectual property and copyright;
- Technology integration has brought challenges of standards and inter-operability besides issues related to support;
- Introduction of new technologies has also created a backlash from those expected to change how they work;

WAY FORWARD AND CONCLUSION

- Governments need to invest in ICT integration and avoid the project approach to enhance sustainability;
- Integrate ICT into the education curriculum at all levels. To this effect, Government has reformed the curriculum and created a technical and academic pathways;
- Need to have a national backbone to make connectivity cheaper;
- Need to invest in human resource. Train the teachers to handle ICT as they are key in integrating ICT into the sectors;

WAY FORWARD AND CONCLUSION cont.

- Africa is endowed with a lot of water and sun shine. There is need to invest in alternative sources of power to supplement what currently exist. ZESCO is currently putting massive investment in the energy sector to improve supply;
- Need to strengthen the ICT policies, implementation and legal frameworks and identify champions to spearhead them;
- Need to explore and invest resources in electronic and mobile learning as this has the potential to enhance access and efficiency;
- Build an ICT centre of excellence to champion ICT, e-learning and e-government affairs;
- Government has embarked on the link Zambia road project to tar 8000 km to improve road network and access to schools;

WAY FORWARD AND CONCLUSION cont.

- Establishing ICT incubation centres and technology parks to promote entrepreneurship and development of local ICT companies by the youths graduating from tertiary institutions;
- Need to transform our education systems to provide the 21st century kind of teaching and learning environment where learners are creators and agents of change;
- Government is upgrading some colleges into universities to train mathematics, science and technology teachers;
- Government is constructing schools including girls' technical schools

I THANK YOU ALL