ICT infused into Education: Towards a Knowledge Based Society

THE JOURNEY OF THE GOVERNMENT OF THE KINGDOM OF LESOTHO
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Lesotho is a small country in the Southern Hemisphere
- Two million inhabitants
- Mountainous
- High levels of poverty by western standards
- Subsistence farming
- High levels of HIV/AIDS
- Water as revenue source e.g. hydro electric dams & renewable power
- Wool and mohair specialists
- Democratic government
- Agriculture i.e. practice of organic farming & beneficiation thereof
- Literacy rate of +70%; strong schooling culture
- Leading textile exporter through AGOA agreement
Science, Technology and Innovation (STI) play a coordinating role for all STI related initiatives in Lesotho.

According to the ICT Policy for Lesotho (2005), investment throughout the education system must happen and be deliberate by ensuring that educational institutions play a significant role in improving teaching and learning and in ensuring that ICT becomes part of the curricula

Primary and secondary school syllabuses to be formatted for complete delivery, as necessary, via broadband means by 2015

Primary and secondary school teachers to be trained in the effective operation of relevant broadband applications and delivery of approved syllabuses by accessing broadband services by 2018

The ICT Policy for Lesotho (2005) places great emphasis on localization of production and requisite incentives
Putting it all together...

- We put together a task team of about 30 affected stakeholders across government, civil society, & the private sector,
- We developed a concept document depicting our mission and vision.
- Expanded that concept into a Master Plan available for everyone.
THE MASTER PLAN

HIGHLIGHTS
The overall plan aims to enable the shift from the traditional teacher-centered learning environment to a student-centered environment.
KEY PILLARS

▪ **Policies:** Clear and effective policies that encourage and empower teachers and students to use ICT as an integral part of the education process.

▪ **Leadership Development:** Leadership development in Lesotho and among school leaders that help, lead, support and encourage the regular use of ICT in Lesotho education system.

▪ **ICT Infrastructure:** is the scalable ICT infrastructure, broadband and user support required to transform schools into ‘Smart Schools’. ICT infrastructure includes administration, student and teacher devices with appropriate education software, Wi-Fi network, cloud services, broadband connectivity and power. Two critical dependencies are power and broadband availability.
**Curriculum and Content:** Development and acquisition of digital content & e-textbooks, aligned with the curriculum that focuses on project and activity-based learning and is fully integrated with the use of ICT, along with the associated formative assessments. This will require the acquisition of a content distribution platform and eventual shift from print to digital content as infrastructure is deployed countrywide.

**Professional development:** Teachers and other STI stakeholders (e.g. administration, inspectors, researchers, curriculum experts etc) remain key to the successful integration of ICT in education system. As such, the Masterplan envisions a concerted teacher training effort to transform teaching methodology from teacher-centered method to learner-centered method.

**Resourcing and Implementation:** To implement the Lesotho Masterplan will require a budget of approximately R1.3bn (or $100 million) over first 5 years.
- **Broadband Connectivity** – Connectivity is a key element of the overall e-Learning program, since this will provide the means to access curriculum content as well as to provide access to the Internet for study and knowledge deepening.

- **Electric Grid Power** – Having continuous and reliable electrical power is a key element of the overall e-Education program, since this will make ICT more accessible and available to teachers and students.

- **New Curriculum** – A new competency-based curriculum will begin to be delivered in 2019, and will be used to emphasize the importance of mastering incremental, concrete skills and learning new skills of the future.
TEACHER USAGE

- Access to regular ongoing Professional Development (online and offline) for use of ICT in and outside of the classroom.
- Prepare, develop and share lesson plans.
- Anytime/anywhere ICT access and usage.
- Manage classrooms.
- Create and share content with students via class / grade groups.
- Map content to curriculum requirements.

STUDENT USAGE

- Create and share content (individually or within project/class groups).
- Communicate with other students and/or experts around the world.
- Access to age/grade appropriate content via class / grade groups.
- Anytime/anywhere learning.
- On-line & off-line access to content, files, documents, worksheets, notebooks, etc.
KEY SUCCESS FACTOR 1

- On-going Teacher Professional Development.
- Leadership Development.
- Establishment of Teacher Communities of Practice.
- Mentoring.

UNESCO Maturity Model
CURRICULUM EXTENSION

- Introduction of coding and edu-gaming at primary level through to high school, and tertiary levels
- Introduction of electronic workbooks across all subjects
- Introduction of hands-on technical training at upper primary through high school, and tertiary level.
KEY SUCCESS FACTOR 3

LOCALISATION OF PRODUCTION

- The Ministry of Trade already has factory shells
- Reduced electricity tariffs
- Reduced connectivity tariffs

LOCALISATION OF CONTENT

- Intellectual property rights to local authors and experts
- Phased-in automation and gamification of local educational content e.g. the Zambia approach
- Deliberate intent to mass produce 22\textsuperscript{nd} century relevant skills into economy
Projected Required Funds
- M 1.3bn
- US$ 100 million
ENVISAGED FUNDING APPROACH

- Dedicated ICT in Education Fund
  - Funding partners
  - National budget
  - Donor community

- Sustainability model: ring-fenced & re-invested tax gains from initiative to sustain it during and beyond the 5 years
PARTNER ACKNOWLEDGEMENT

LESOTHO

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