



# ICT infused into Education: Towards a Knowledge Based Society

THE JOURNEY OF THE GOVERNMENT OF THE KINGDOM OF LESOTHO





## LESOTHO COAT OF ARMS



- Honourable Professor Ntoi Paul Rapapa, Deputy Minister of Education & Training, Lesotho
- Professor of Mathematics & Physics
- Former Chief Executive Officer of Lesotho Water & Electricity Authority
- Chair of Higher Education Quality Assurance Committee of the Council on Higher Education
- Board member of the National Manpower Development Secretariat
- Member of Lesotho Parliament



## BACKGROUND



**LESOTHO**

- 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



## OPPORTUNITIES



- 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



## THE CONTEXT



LESOTHO

- 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 every one

# THE MASTER PLAN

HIGHLIGHTS

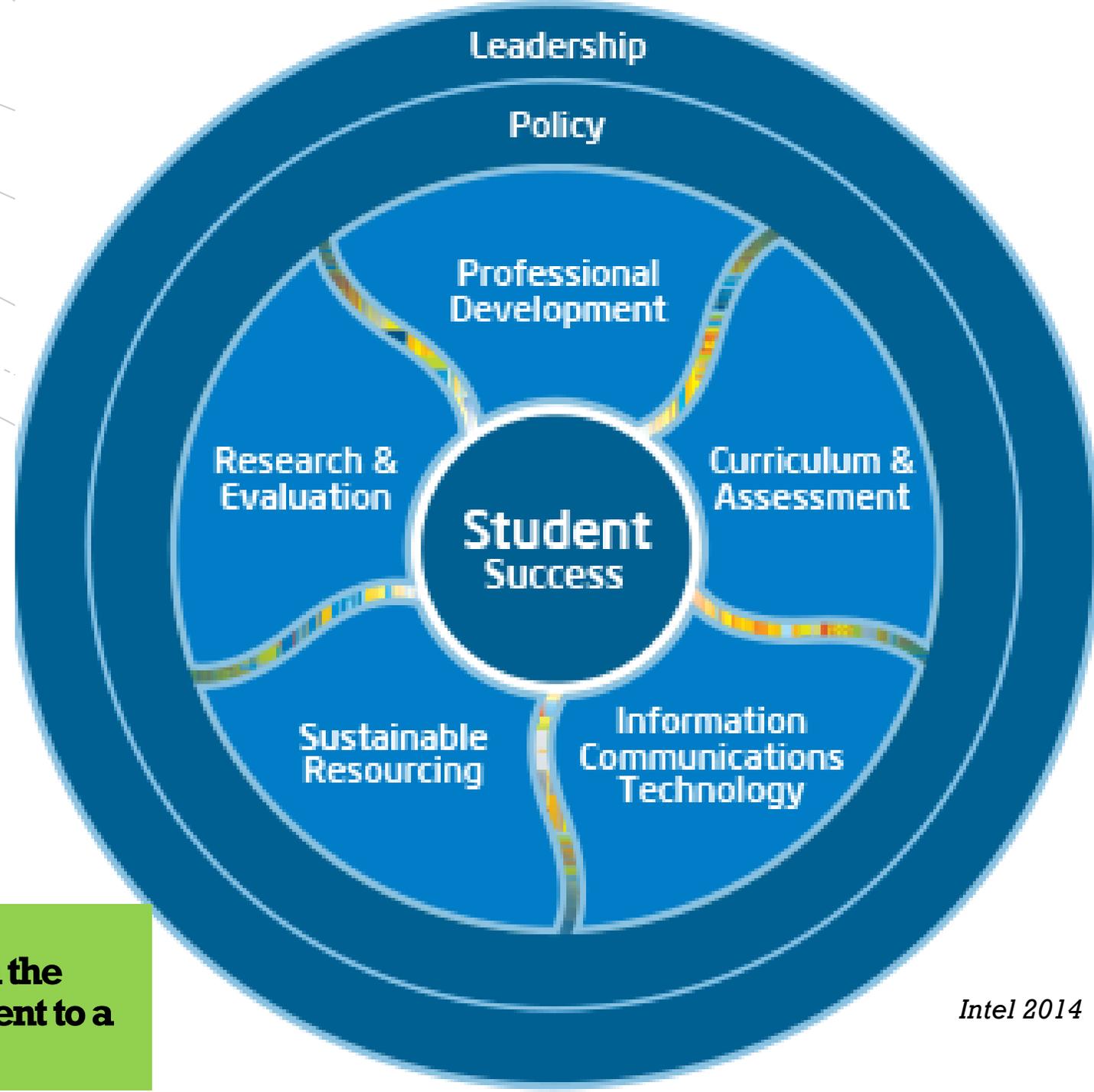


## THE MODEL



LESOTHO

**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.



## KEY PILLARS [CONTD.]



- **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.



## KEY DEPENDENCIES



LESOTHO

- **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.



## USEAGE MODELS



## 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 USEAGE

- 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.



# TEACHER PROFESSIONAL DEVELOPMENT

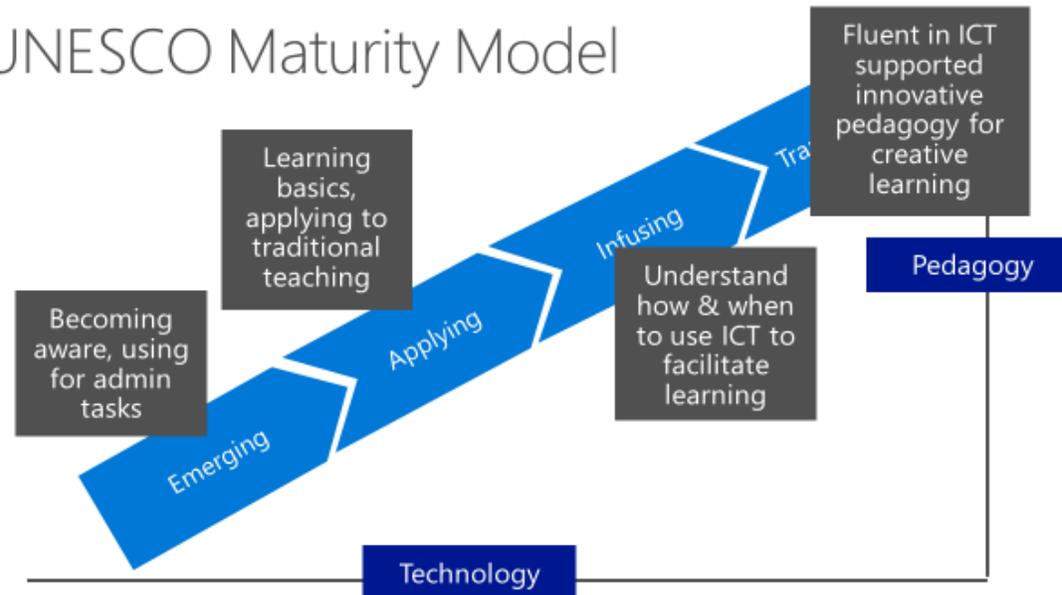
## KEY SUCCESS FACTOR 1



LESOTHO

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

## UNESCO Maturity Model





## CURRICULUM EXTENSION

### KEY SUCCESS FACTOR 2



- 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.





## LOCALISATION OF PRODUCTION

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

### KEY SUCCESS FACTOR 3



LESOTHO

## 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<sup>nd</sup> 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



sustainable education

*Making a difference for 15 million students*

Sustainable@EDU  
2015-2030

<http://www.millenniumedu.org>

millennium@edu  
sustainable education

