INTERSESSIONAL PANEL OF THE UNITED NATIONS COMMISSION ON SCIENCE AND TECHNOLOGY FOR DEVELOPMENT (CSTD)

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Contribution of South Africa

to the CSTD 2017-18 priority theme on 'Building digital competencies to benefit from existing and emerging technologies with special focus on gender and youth dimensions'

2017-2018 Inter-Sessional Panel of the UNCSTD
'Building digital competencies to benefit from existing and emerging technologies, with special focus on gender and youth dimensions'

1. *Can you give examples of digital competencies projects/policies in your country and how they have contributed to benefit from existing and emerging technologies? What are the main challenges confronted while trying to implement these projects/policies in your country or region?*

The National Integrated ICT Policy.

Information and Communications Technologies (ICT) environment is dynamic and rapid technological development is changing how we communicate and access information and services. Separate frameworks have guided the development of the Telecommunications & Postal Services sector since 1994. These include White Papers on Broadcasting Policy, Telecommunications Policy and Postal services policy. These policy frameworks focused on addressing historical inequalities in access to basic services, while ensuring that all South Africans benefit from new services and access to new technologies and that ICTs are actively used to meet the development goals of the country. These policy frameworks reinforced the constitutional principle of equality and equal access to all communication services by all South Africans.

Government has already identified the communications sector as a critical growth sector. The National Development Plan (NDP) recognises that the ongoing development of quality communications infrastructure, services, content and applications, is key to the rapid economic, social and cultural development of the country.

Broadband

Broadband is an enabling infrastructure for building the knowledge economy and information society and for accelerating the socio-economic growth and development of South Africa. Although the National Broadband Policy was approved by the Cabinet in June 2010, the Department of Telecommunications and Postal Services (DTPS) embarked on developing a revised National Broadband Policy and Broadband Strategy for the country which was submited to Cabinet for approval in the 2013/14 financial year.

The revised Broadband Policy aims at ensuring universal access to reliable, affordable and secure broadband infrastructure and services by 2020 and stimulates sustainable uptake and usage of ICTs. Furthermore, the Policy prioritises the need to implement interventions aimed at strategic positioning of broadband infrastructure as a catalyst for social and economic growth and enhance universal access. To this end, Government encourage and support investment in broadband backbone network infrastructure and increasing the uptake and usage of broadband services.

Context from the different spheres of Government

The autonomous nature of provincial (regional) government and local government (municipalities and Metros) result in a fragmentation of implementation. The skills and capabilities at local government level are low, thus constraining the implementation of policies at community level. Operation Phakisa (hurry up) strategy development processes have been implemented. In the case of rural development, the imperative for alignment and coordination between the different levels of government was identified. At the national level, no less than 16 departments are responsible for rural development, indicating the need for ongoing coordination and alignment that is driven from the top and the bottom of the system. The use of ICTs to monitor and evaluate the progress of developmental initiatives at community level to inform decision-making at all government levels, has been developed as one of the outcomes of the Agriculture, Rural Development and Land Reform Phakisa process.

List of relevant Policy: The National Integrated ICT Policy White Paper (Oct 2016)

i. https://www.dtps.gov.za/images/phocagallery/Popular_Topic_Pictures/National_Integrated_ICT_Policy_White.pdf
ii. Section 9.1.6 – Wireless Open Access Network – one of the implementation principles is: Effective participation by targeted groups including women, youth and persons with disabilities.
iii. Section 12.13 Economic empowerment – "Government will ensure that the Equity Equivalent Programme also addresses the empowerment of women and youth."
iv. Section 12. 14 Skills development - In order to meet the goals set out in this policy, South Africa needs to increase ICT skills across all spheres of society. SA Connect103 provides for interventions within the basic education and post-school sectors, in government and adult e-literacy as well as youth development and sectoral programmes.

2. *Can you provide examples of digital policies/projects/initiatives to benefit from existing and emerging technologies specially focused on gender and youth? How have the policies benefited women and youth? What are the particular challenges confronted in implementing these projects?*

a. The use by women in a deep rural area of ICT access provided by a Digital Doorway (www.digitaldoorway.org.za) to obtain agricultural information has been researched. The Digital Doorway was funded by the Department of Science and Technology and the Department of Rural Development and Land Reform. The key challenge is to assist the women to be able to access and use the available information to make better farming decisions. This requires personal attention, training and facilitation processes aimed at building their self-confidence and skills.

b. See:https://www.csir.co.za/videos/equipping-next-generation-young-small-scale-farming-entrepreneurs
c. The above incubator in (b) provides a bridge for young school-leavers into the small-scale agricultural world through the assistance of an incubator that is

extensively digitally enabled for co-operation and relevant support content purposes.

d. Challenges are experienced in the paradigm shifts required.

E-Skills institute

The purpose of E-Skills Institute is to provide strategic direction for advancement of e-Skilling graduate and society in general in order to function effectively within the emerging information society through the:

- Positioning of the e-Skills Institute as a leading catalytic multi-stakeholder, collaborator aimed at growing e-Skills in the country in order to aggregate and shape e-Skills training to meet the objectives of the MTSF and SDGs;
- Development and establishment of an architecture for an integrated, multi-entry curriculum development;
- Overseeing of the conceptualisation and implementation of multi-disciplinary service delivery, industry development and proof of concept projects; and
- Ensuring of student capability to converse in the international business environment.

3. *How can the science, technology and innovation community contribute towards overcoming these challenges? Can you give any success stories in this regard from your country or region?*

a. A socio-technical system approach has to be followed where local capabilities to use ICTs are facilitated with the goal of self-sustainable use in mind. Local operational support systems are required to keep ICT services running and this requires the development of viable business models. In the ICT4 for Rural Education project in the Eastern Cape this process is underway at the moment and a local model has developed where the parents of a school are paying for a school ICT technician. The fundamental problem of asset

management and replacement funding has not been solved yet since this depends on commitment of scarce provincial human and financial resources. A process to assess the readiness required from the local system (community level and regional level) to adopt and sustain the change introduced via an external initiative has been developed. Research is underway on how to build the self-sustainability of systems such as these via the development of network of internal and external relationships assisted by the social mapping processes using the kumu.io web-based mapping system.

b. The challenges are more in the behavioural and poverty-mindset domains than in the technology domains. The work that needs to be done in the digital competencies domain concerns the interface between (digital) technologies and behavioural change. See the WEF eMBeD initiative: http://blogs.worldbank.org/developmenttalk/embedding-behavioral-insights-development-projects-update?CID=POV_TT_Poverty_EN_EXT

4. *Could you suggest some contact persons of the nodal agency responsible for digital competencies projects/policies, particularly those related to gender and youth, as well as any experts (from academia, private sector, civil society or government) dealing with projects in this area? We might contact them directly for further inputs or invite some of them as speakers for the CSTD inter-sessional panel and annual session.*

a. Merryl Ford , Mario Marais and Sifiso Dlamini from CSIR. (mford@csir.co.za, mmarais@csir.co.za, sdlamini@csir.co.za)
b. Isabel Meyer from Impact Advantage (iameyer@me.com)
c. Johann (Rensie) van Rensburg: jvrensbu@csir.co.za or rensie@intekom.co.za

5. *Do you have any documentation, references, or reports on the specific examples on digital competencies to benefit from existing and emerging technologies in your country or region?*

a. I Meyer, M Ford, M Marais and S Dlamini (2017) *Systemic levers for change towards sustainable institutionalisation of ICT in schools*. in P Cunningham and M Cunningham (eds), Proceedings of the IST-Africa 2017 Conference, 31 May to 2 June, Windhoek, Namibia IIMC International Information Management Corporation, 2017. ISBN: 978-1-905824-56-4. http://hdl.handle.net/10204/9500

b. M. Marais and J. van Biljon, (2017) *Social Mapping for Supporting Sensemaking and Collaboration: the Case of Development Informatics Research in South Africa*. in P Cunningham and M Cunningham (eds), Proceedings of the IST-Africa 2017 Conference, 31 May to 2 June, Windhoek, Namibia IIMC International Information Management Corporation, 2017. ISBN: 978-1-905824-56-4. http://www.ist-africa.org/Conference2017/outbox/ISTAfrica_Paper_ref_144_9348.pdf

c. I Meyer and M A Marais (2015). Design for Sustainability: Countering the Drivers of Unsustainability in Development Projects. *Journal of Community Informatics.*11(3). Available at http://ci-journal.net/index.php/ciej/article/view/1169/1161

d. L Stillman, M Herselman, M Marais, M Pitse Boshomane, P Plantinga and S.Walton (2012). Digital doorway: social-technical innovation for high-needs communities. *Electronic Journal of Information Systems in Developing Countries* 50(2), 1-19. Available athttp://hdl.handle.net/10204/5472,https://www.ejisdc.org/ojs2/index.php/ejisdc/article/view/880