SCIENCE TECHNOLOGY AND INNOVATION FOR THE ACHIEVEMENT OF THE SUSTAINABLE DEVELOPMENT GOALS IN KENYA

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1. INTRODUCTION

- Science, technology and innovation are our best hope for achieving SDGs within a reasonable time frame
- Innovation in the financial sector in Kenya has moved the country from 4% of the population having bank accounts to more than 80% of adults operating a mobile money account in less than 15 years
- Kenya is committed to the achievement of the SDGs and to Science, Technology and Innovation for development
- A clear roadmap for STI for SDGs will help us communicate the vision, set targets, design the strategy and harness resources

2. POLICY AND INSTITUTIONAL ENVIRONMENT

- The important, harmonizing legislation is provided by the Science, Technology and Innovation Act No. 28 of 2013
- It is operationalized by the Science, Technology and Innovation Regulations of 2014
- The law created three key institutions:
    - National Commission for Science, Technology and Innovation (NACOSTI) – responsible for regulation, promotion and coordination of STI
    - National Research Fund responsible for funding coordinated research and innovation for national development
    - Kenya National Innovation Agency (KENIA) responsible for improving the quality of life of all Kenyans by stimulating and supporting the development and exploitation of technological innovations for socioeconomic development
- These form the backbone of Kenya's research and innovation system

2. POLICY AND INSTITUTIONAL ENVIRONMENT CONT…

- There are other important research and innovation institutions in Kenya's public and private sector, for example
  - Kenya Institute for Public Policy Research and Analysis (KIPPRA) which performs research and analysis to underpin sound public policy e.g. http://kippra.or.ke/paradox-of-a-poor-continent-rich-in-natural-resources/
  - Kenya National Academy of Sciences which stimulates scientific research and networking and dissemination of scientific findings e.g. http://www.knascience.org/index.php/component/content/article/83-upcoming-events/172-srda-2018
  - Innovation hubs especially in the ICT Sector such as iHub, Mlab, Nailab etc. useful innovations have been developed such as Ushahidi, BRICK computer etc.
  - Fablabs and university Science Parks in public and private sector. An example is GearBox http://www.gearbox.co.ke/

2. POLICY AND INSTITUTIONAL ENVIRONMENT CONT…

- There are also important research institutes which support specific sectors, especially in health and agriculture, for example:
  - International Livestock Research Institute (ILRI) which performs livestock research
  - Kenya Agricultural and Livestock Research Organization (KALRO)
  - Kenya Forestry Research Institute (KEFRI)
  - Kenya Medical Research Institue (KEMRI)
- These institutes have produced important innovations which have transformed products and practices in Kenya and beyond
- Important research and innovation has also been achieved in Kenya's 22 public and 27 private universities

3. STAKEHOLDERS

- Since the SDGs are for everyone, all Kenyans are SDG stakeholders and article 10 of the Constitution of Kenya 2010 promotes wide consultation towards the development of inclusive public policies, programmes and services. Technologies such as Social Media can facilitate the cost effective collection of public views and feedback
- Public and Private Sector Universities, Research Institutes, Fabrication Laboratories (Fablabs,) Innovation Hubs and Industries are the primary stakeholders of scientific research and innovation
- NACOSTI, NRF and KENIA are important for motivating focused efforts and coordinating diverse actors
- The Ministry of ICT is also increasingly providing leadership towards coordinated responses to emerging ICT technologies such as Artificial Intelligence, Blockchain and Internet of Things (IoT)

4. EMERGING TECHNOLOGIES, TRENDS AND ISSUES

- There are emerging technologies which hold promise for human progress, but also raise serious social and ethical concerns. Examples are GMOs, Stem Cell Research, Bitcoin, IoT and Artificial Intelligence
- There is limited capacity available in a developing country to comprehensively analyze these technologies and their existing and potential impacts and outcomes – and to design, effective, knowledge-based policies
- Kenya's experience is that innovation often outpaces policy; it is not always wise to develop policy too soon and sometimes a "sandbox" enables innovation to develop without being hampered by premature policy
- A multidisciplinary approach which incorporates social scientists as well as technologists and basic scientists would be desirable towards addressing SDGs

4. EMERGING TECHNOLOGIES, TRENDS AND ISSUES CONT…

- The "psychological infrastructure" is also important, that is:
  - There is a need to unpack the SDGs, all the way from creating awareness among young Kenyans in our basic education system up to enlightening scientists working in the research sector
  - More rapid progress will be achieved if the Government specifically motivates scientists and researchers to address the SDGs, especially those which are aligned with our current national priorities – in Kenya: affordable housing, food security, universal healthcare and manufacturing for job and wealth creation
  - Research that brings together groups of scientists from different geographies would also be interesting and useful
  - Roadmaps will assist us to cost-effectively achieve progress

5. POLICY RESPONSE

- The STI legislation forms an important harmonizing framework
- As new technologies and issues emerge the Government of Kenya convenes task forces to consider the issues and make recommendations e.g. currently there are task forces on "Blockchain and Artificial Intelligence" and "Data Protection" convened by the ICT Cabinet Secretary
- The Constitution requires wide stakeholder consultation during policy formulation processes both by the Ministries and eventually by Parliament
- Kenya is open to technological development and we are cautious in our policy development
- The various research institutes regularly hold forums and there is lively discussion on all issues through social media including civil society groups such as KICTANET.

6. STRATEGY TO "LEAVE NO ONE BEHIND"

- The Constitution of Kenya 2010 has a strong Bill of Rights which defines the responsibility of the Government and people of Kenya towards each other and especially towards all disadvantaged groups

- The strategy of the Government is very inclusive and the use of words such as "universal", "affordable", "security", emphasizes the commitment of the Government towards meeting the needs of all Kenyans

- Therefore the philosophy of the SDGs and the STI for SDGs roadmaps is very coherent with Kenya's policies and strategies

7. WAY FORWARD

- The Government of Kenya appreciates its inclusion in the first group of countries to work towards developing clear and effective roadmaps towards the use of STI for the achievement of SDGs and appreciates the commitment and hospitality of our hosts: The Government of Japan, UNDESA, World Bank Group, UNCTAD and the Japan Science and Technology Agency

- The learning from this meeting will be used to move Kenya closer towards developing a roadmap

- We trust that all partners will work together to ensure progress and success.

THANK YOU FOR YOUR ATTENTION!