Approaches to Innovation Capability building in Least developed Countries: A Role for the Technology Bank

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Outline of the Presentation

- Introduction and Background
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  2)Political will and commitment
  3) Understanding innovation and its major characteristics
  4) Understanding the relationships between science, technology and innovation (STI)
- Approaches to Innovation capability building
- The role of TB in innovation capability building

Introduction and Background

Any attempt to build innovation capability of LDCs must be rooted in four major issues: 1) countries' understanding of the crucial role of innovation in poverty alleviation 2) political will and commitment 3) proper understanding of innovation and its major characteristics, 4) understanding the relationships between science, technology and innovation, and 5) should be based on countries' dev. Priorities.

1)Crucial role of innovation

Innovation has long been accepted as being central to Social and economic development of countries – it contributes to GDP growth and employment generation (SDG 8).

Introduction and Background Cont..

1) Crucial role of innovation cont..

- Innovation enables the productive sectors to produce more quality products with less; and therefore contribute to GDP growth and incomes of individuals through employment generation; especially if this concerns sectors that are rich in employment
  - This largely concerns the growth of the private sector
  - According to Ahlstrom 2010, a vibrant, innovative and inclusive private sector is more important for the wellbeing of a nation than any foreign aid and welfare redistribution programs.
- With globalization, free market and rapid technological change, the role of innovation has further been amplified and has become extremely crucial and urgent!

Introduction and Background Cont..

2) Political will and commitment

- Innovation requires finance, and therefore political will and commitment is crucial

3)The meaning and characteristics of Innovation

- The essence of innovation is novelty.
- It can both be in the process of introducing something new and useful, and the new thing itself.
- It is a concept of very general use – not only limited to technology and economics, but also non technological things such as the new educational curriculum, new social system, etc.
- Innovation in economic context is defined as marketing of new or improved products and widespread use of new or improved processes.

Introduction and Background Cont..

3)The meaning and characteristics of Innovation cont..

- Terminological distinction between innovation and invention:
- While invention refers to creation of something new – in most cases, through scientific research,
- innovation is actual putting of the new thing into the market place or any socially and economically beneficial use
- Inventions and patents, though important in the process of innovation – especially completely new – by themselves cannot change the poverty levels

Introduction and Background Cont..

3) The meaning and characteristics of Innovation Cont..

- Innovation is systemic in nature: The important actors in the innovation system are:
- the producers (firms and farms, who are at the center of innovation), their suppliers, their buyers, their competitors, policy organizations, and research organizations (Nelson, et al., 1993, Lundval, 1992, Edquist 1997).
- Innovation is context specific (what works in one country, does not necessarily work in another).
- So although we may learn from policies of other countries, copying them is not a good idea

Introduction and Background Cont..

4) Relationships between science, technology and innovation (STI)

- We have so far spoken about innovation only, but a major reference, e.g. in policies are the science, technology and innovation (STI) concept.
- This concept has in most cases wrongly been used as one thing, rather than interrelated, but individual aspects of science, technology and innovation, with tremendous negative policy implications.
- The individual component of STI resides in two major different organizations, with different capacity building and funding approaches:

Introduction and Background Cont..

4) Relationships between science, technology and innovation (STI).

- while science takes place in the institutions of higher learning and public research organizations, innovation takes place in the productive sectors, with technology trading somewhere between the two organizations.
- Research organizations designs new technologies/advice the productive sector as the results of their research outputs, and the productive sector use both new and old technologies with inputs from science.
  - The higher the technology, the more it requires inputs from science (largely the reason technologically advanced countries commit a larger share of their GDP to R&D)

Introduction and Background Cont..

4) **Relationships between science, technology and innovation (STI) cont..**

- Unfortunately, with practice in most LDCs, STI has been taken as one thing, largely focusing capacity building on the supply side elements such as Universities and R&D organizations, neglecting the productive sectors (farm, firms, etc) where innovation resides.
- It is also important to understand what has direct impacts – on the lives of the people – in the environment of competition - is innovation, and not science and static technology

Approaches to innovation capability building for LDCs

- Should take into account systemic nature of innovation, focusing on building capabilities of three major elements of the innovation system:

1 Actors in the system

2. Interaction among actors and learning

3. Right institutions, such as policies, rules and regulations.

In an ideally strong innovation system you have strong actors: – producers such as farmers and firms are producing high quality products that are competitive world wide; Research organization are strong; producing right knowledge for innovation; and interaction among actors is strong; including between researchers and producers

-Institutions are effective

Approaches to innovation capability building for LDCs: Status of capabilities.

- Needless to say, all the three elements for most LDCs are weak:
  - Producers are not producing internationally competitive good, and all indicators of innovation (NEPAD, UN, etc) indicates LDCs are at the bottom.
  - Research to a large extent is not aligned to the needs of the producers, and research infrastructure to a large extent poor.
    - Including access to international research outputs and technical knowledge.

Approaches to innovation capability building for LDCs: Status of capabilities Cont..

- There are weak financial facilities in support of innovation
- Linkage among actors are weak (e.g. Tanzanian study)
  - Research organizations are poorly linked with the users of research
  - Producers are to a large extent not aware of the buyers (markets)
  - Supply chains weak.
  - But most of all, institutions are weak (there is to a large extent both market and government failures for innovation)
  - Research capabilities for evidence informed STI policy is weak

Approaches to innovation capability building for LDCs: What can TB Do

- To begin with:

1) Revisit the review of national Systems of innovation in the light of the 3 system elements: i)actors (e.g researchers, firms and farms ii) interactions and iii) institutions
   - Asses the strength of the system in carefully chosen countries
   - Identify causes of the weaknesses
   - Provide recommendations – perhaps with some financial assistance in implementing the recommendations

Approaches to innovation capability building for LDCs: What can TB Do

2)Build capacity for innovation policy making

- Markets for the production and dissemination of knowledge in LDCs are weak, and therefore the involvement of the State in terms of good policies and regulations, very crucial and therefore should be a starting point for capacity building.
  - Especially in problem identification and their causes, and finally identification of appropriate policy instruments that are balanced: Current focus is on the supply side, neglecting the demand side

Approaches to innovation capability building for LDCs: What can TB Do Cont..

However, for the above to work, there has to be political will and commitment beyond the rhetoric:

- Poor countries understandably focus on short term and immediate problems
- But they have to know that, to address such manifestation of poverty for good, they have to also focus on building innovation capabilities
- They should be made to understand that, gains from innovation capability building are long term, but unavoidable to address the issue of poverty, once and for good.
- They have to choose between long term investments, or struggle with poverty for ever.

Approaches to innovation capability building for LDCs: What can TB Do Cont..

3) TB should support such popularization of STI, including the importance of LDCs to commit adequate resources to innovation.

4) The TB also need to act as a voice for the LDC in international arena:

- There is clear power imbalance when it comes to innovation
  - poor countries are still following the concepts and priorities as defined in the North: remember innovation is context specific.
  - The concept of innovation has today become so fluid – can be defined any how with the intention to pass an agenda of a strong partner

Thank you very much for your kind attention

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