Institutional Technology Transfer Policies and Strategies in East Africa: Lessons from Universities and R&D Institutions in Uganda

Background Paper

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Launching Workshop towards the implementation of the research project on Institutional Technology Transfer Policies and Strategies in East Africa: A survey of Practices and from Universities and R&D Institutions

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Presentation Outline

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Introduction

- Science, technology and innovation (STI) main drivers of national economic growth and sustainable development.
- Technology Transfer (TT) is critical to the advancement of STI. R&D institutions and universities can play an important role in the transfer of technology.
- While Uganda has passed policies and laws on STI at the national level, very little is known about policies and strategies at the institutional level.

Objectives of the study

- Provide insights into institutional technology transfer policies and strategies of universities and R&D institutions in Uganda

- Document best practices & strategies that have been successfully used by the institutions

Methodology

Two methods:

- Desk review of literature
- Bulk of the work was undertaken through a series of interviews with teaching staff and research managers of universities and R&D institutions
- The study was based on selected institutions: 4 universities which include both public and private and 2 R&D Institutions

Socio-economic Background

- Uganda one of fastest growing economies in SSA with sustained growth averaging at 7.8 since 2007 (World Bank 2008) FY 2010/2011 6.7% growth

- Population currently at 33.7 million (annual population growth rate is at 32% among the highest growing populations in world)

- Agriculture - main economic activity contributed 22.9% of GDP in 2011(accounts for over 75 % of labour force) (UBOS) Other priority sectors manufacturing, energy, oil and mineral development, tourism, infrastructure, education, health, water and sanitation. STI sector positioned top in complementary sectors in NDP

Socio-economic Background cont'd

- Raising unemployment (Out of 12 million Ugandans in the working age group, only 6.4 million were actively working in 2002.)
- STI Sector still under developed: expenditure share in R&D as a percentage of GDP is 0.1 %
- Industrial sector is under developed.
- R&D mainly confined to teaching institutions and government research centers with limited applicability to production and delivery of services.
- one researcher per a 1000 members of the workforce , one R&D personnel per a thousand of the labour force compared to 18 R&D personnel per 1,000 of the labour force in the OECD countries

This shows why STI is key in addressing socio-economic challenges

NATIONAL POLICY FRAMEWORK ON STI AND TECHNOLOGY TRANSFER

STI is one of the development priorities of Uganda's development agenda. It is well articulated in:

- Uganda's National Development Plan (NDP) 2010/11-2014/2015
- National Science, Technology and Innovation Policy 2009 and National STI Plan 2012/13 - 2017/18
- Other sector Specific Policies

National Development Plan (NDP) 2010/11-2014/2015

- Vision of the country is to attain *'A Transformed Ugandan Society from a Peasant to a Modern and Prosperous Country within 30 Years'* This cannot be attained by without utilisation of STI
- NDP has explicitly recognises the strategic role of STI in achieving economic transformation (paras 345, 353).
- It calls for accelerated use of applied technology, research and innovation (para 346) Full chapter on STI

NDP and Technology Transfer (TT)

Two strategies to implement objectives under STI sector have a direct bearing on TT

1. Scale up the adaptability of new & available science knowledge and technology
2. Strengthen collaboration between academic institutions and industry

Others: The need to increase funding for R&D but no articulations on funding for TT

National STI Policy and Plan on Technology Transfer

Provides specific policy framework in the area of STI (it is very comprehensive: gives the role of STI in every sector)

In accordance with NDP, Policy provides mechanisms to increase capacity in STI, to improve national productivity and competitiveness

Direct and explicit objectives on TT (obj. ii on building STI sector capacity to generate and transfer technology)

2 major Strategic Actions specific to TT:

- Creating a system to facilitate the transfer, promotion and development of technologies.
- Strengthening collaborations between R&D Institutions and other stakeholders such as industry

National STI Plan 2012/13-2017/18

- provides the development of TT office at the UNCT to facilitate technology identification, transfer and diffusion
- Office is not yet functional
- Promotes interaction between universities, technical institutes, industry and R&D institutes

Technology Transfer Policies and Strategies of R&D Institutions and Universities

Both Universities & R&D Institutions in Uganda have no explicit policies on TT

- Issues of TT can be found in Strategic Policy docs e.g University Plans, Policies on Research & Innovation, and Policies on Intellectual Property management.
- Current trend on developing IP policies
- What do these policies cover?

Strategies on TT of Universities

Main strategies: Mainly informal mechanisms

- Publications,
- dissemination workshops,
- exhibitions,
- outreach extension programmes.

R&D Institutions

Two institutions: NARO overall national agricultural R&D

UIRI only manufacturing R&D

- No explicit policies as mentioned above

Strategies employed

- Licensing: NARO enters into agreements with seed cos to multiply and promote seed which is used by farmers
- Informal mechanisms: farmer exhibitions. Exchange visits btn NARO and Universities, adaptive trials,
- To create awareness new technologies are displayed in form of charts posters, media talk shows
- Benefits of Informal mechanisms and limitations
- Collaborations with other institutions (project based)

Challenges

- Ownership of Intellectual Property Rights:

The key question that arises is should the institute have patent rights or the scientist.

- Insufficient funding to STI Sector
- Weak Collaboration linkages between Universities, R&D institutions and private sector
- Low absorption and adaptation of locally made technology
- Human Resource Capacity in STI

Conclusion

- No explicit policies on technology transfer.
- Institutions mainly use informal mechanisms and practices for transfer technology with the main object of learning and community development and less focus on commercialisation.
- Findings also show a trend where institutions are focusing more on intellectual property management as the only formal strategy for technology transfer.
- Good policy statements on TT in National Policies have remained on Paper.

Thank You