South Sudan: Management of Research, Teaching and Innovation in Agricultural Sciences

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1. Introduction

- Agricultural Sciences encompasses:
  - Laboratory research
  - Teaching
  - Innovation
  - Field activities
  - Business and entrepreneurial skills
2. Expectations

• National aspirations
  – nations are reliant on the capacity of their society to find solutions to problems, improve knowledge and transfer this knowledge into innovations that provide economic and social benefit.
  – however, there is considerable variation in national capacity in these endeavors, especially in developing economies.
• Why variations in capacity?
  – War
  – Political history
  – Wealth
3. Building Capacity

• This is closely linked to:
  – National Policies
  – Higher Education
  – Research
  – Innovation
• To build capacity the following are needed:
  – Special Knowledge
  – Special Skills
• These are required at two main levels in a nation:
  – A) Government
  – B) Higher Education (or tertiary institutions)
• A) Government
  – Wide knowledge and skills:
    • in understanding the consequences of decisions on funding levels, the methods of determining the distribution of funding: whether by block allocation or through competition-based mechanisms
    • in awareness of the feasibility and applicability of regulatory and reporting requirements.
    • in the complexities of international financial and intellectual property environments.
• B) Higher Education:
  – A need to know:
    • national and international policy settings,
    • funding and collaborative opportunities,
    • general trends in research, teaching and innovation,
    • institutional capacity, capability and performance.

  – Maintaining and supporting strong institutional governance and oversight.

  – Planning for the development and future operations of the institution, with the support of the staff and the governing body.
– Implementing institutional change, while recognizing:
  • the workforce and infrastructure requirements
  • the alignment of these with the strategic plan.

– Instituting and maintaining a robust research culture and ethos that supports integrity in research.

– Communication with staff, stakeholders, benefactors, communities and governments.
4. The Challenges

- In Government
  - Need to clarify vision to guide policies on science (Agriculture included), technology and innovation
  - Inadequate funding for research and Higher Education in general. In South Sudan no figures; in Africa, only 0.4% GDP spent on research, in other continent, 2.4 % is the average
  - Lack of adequate funding is compounded by lack of diversification in funding: no competitive grants or private sector involvement.
  - Short-term approach in the provision of expertise for agricultural education and development
  - Lack of close partnership between policy makers and local Higher Education in prioritizing agricultural research and innovation agendas
• **In Higher Education**
  – Universities suffer from weak internal governance and management
  – Leaders have inadequate skills to embed knowledge, enterprise and innovation into strategic plans and research programs
  – Unaware of trends (e.g. no current journals)
  – Low stock of scientists and leaders in research
  – Low capacity to innovate
  – Unawareness of the role of intellectual property rights in research and development
  – Inadequate research infrastructure
  – Low quality research outcomes
5. Way Forward

- Leadership training to develop knowledge, skills and capacity for policy formulation, management of research and innovation at both levels
- Means to study trends
- Improve overall institutional governance in Higher Education
- Encourage well-coordinated international and transnational partnership to provide opportunities for quality research that will increase external funding, and improve research infrastructure (both levels)
- Encourage close coordination between the policy makers and those from Higher Education institutions
- Government to increase the level of funding for research and teaching and provide more nuanced distribution system to take in performance and competition (inter- and intra-institutional)
• Institute change in curricula and pedagogical processes in Higher Education
• Develop a vision and strategic plan that is prepared in a participatory mode as a consensus-building process
• Take advantage of transition to embrace change and escape from strictures of tradition and vested interests: “a crisis is an opportunity not to be wasted” (President, University of Maryland, USA).
• Brief References:
THANK YOU