Building Agricultural Capacity in Post-conflict Countries: Case Studies from South Sudan

innovATE Workshop

Peter B. S. Gama, PhD
Department of Agricultural Sciences
CNRES
University of Juba
Agriculture in South Sudan

Overview
Agriculture:
Supply 75% livelihood
Mostly subsistence Agriculture
6 agro-ecological zones (rainfall distributed over 9 months: erratic)
The wide range of climate, rainfall, soils and altitude gives the South Sudan a vast potential for growing wide range of tropical crops, subtropical and temperate agricultural and horticultural crops.
Budget allocation 4% (including salaries)
Pre-conflict

- **Higher education:**
  - University of Juba (1975)
- **Vocational training center:**
  - Yambio Institute of Agriculture (1948?)
  - Yei Crop Training Center (PDU= ERAP, formerly sponsored by ODA)
  - Kagelu Forestry Training Center
  - Amadi Rural Training Institute
- **Research Institutions**
  - Yambio Research Station
- **NGOs**
  - NCA (NPA) Training farmers and Agric. Extensionists
  - Oxfam (UK) Training and assisting agro-pastoralist in livestock
  - Across
  - GTZ
Historical Overview

Post-conflict

- **Higher education:**
  - University of Juba (1975)
  - University of Bahr el Ghazhal
  - Upper Nile University
  - Catholic University of South Sudan (2007)

- **Vocational training center:**
  - Yambio Institute of Agriculture (1956?)
  - Yei Crop Training Center (PDU= ERAP, formerly sponsored by ODA)
  - Kagelu Forestry Training Center
  - Marial Lau Livestock Training Center
  - Amadi Rural Training Institute

- **Research Institutions**
  - Yambio Research Station
  - Yei Rice Research Station (new)
  - Halima Research Station (new)

- **NGOs**
  - NCA (NPA) Training farmers and Agric. Extentionists
  - Oxfam (UK) Training and assisting agro-pastrolist in livestock
  - Across
  - Other several NGOs
Agricultural Dev. in South Sudan

- History of Agriculture in South Sudan
  - Turko-Egyptian Rule 1821-1885
  - Anglo-Egyptian Rule (Condominium Era)
    - Leasing of Ladu Enclave (1898-1906)
      (King Leopard—Belgium Congo)
    - Kagelu Experimental Farm (1937-1948, Hughes Ferguson, Chief Inspector, Div. of Agric.)
      (Horticulture and Forestry)
    - Maridi Experimental Farm (Testing cotton)
  - Azande Agricultural Scheme (Cotton)
  - Yambio Research Station (1948)
  - Yambio Agricultural Institute (1948)
  - Southern Regional Government (1972)
    - 1984-1986: Recruitment of new research staff seconded mainly from the Ministry of Agriculture, Southern Region, and the effective resumption of scientific research work.
  - Establishment of University of Juba (1977)
  - CNRES—Department of Crop Science—(later Department of Agricultural Sciences)
  - CPA Government of South Sudan (2005)
Agricultural Education & Training

• **Higher education:**
  University of Juba
  Catholic University of South Sudan
  University of Bahr el Ghazal
  Upper Nile University

• **Vocational training center:**
  Yambio Institute of Agriculture
  Yei Crop Training Center (PDU= ERAP, formerly sponsored by ODA)
  Kagelu Forestry Training Center
  Marial Lau Livestock Training Center

• **Research Centers**
## Statistics

<table>
<thead>
<tr>
<th>Institutions</th>
<th>Northern Sudan</th>
<th>South Sudan</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pre-conflict</td>
<td>Post-conflict</td>
</tr>
<tr>
<td>HE (Universities)</td>
<td>4</td>
<td>&gt; 20</td>
</tr>
<tr>
<td>Specialized Colleges</td>
<td>&gt;2</td>
<td>Decreased</td>
</tr>
<tr>
<td>Vocational TC</td>
<td>NA</td>
<td>NA</td>
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</tbody>
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Evaluation of Agric. Training / Education

Impact of HE, Research institutions, Vocational Training on:

• Food Security
• Livelihood Improvement
• Job creation
Consequences of Conflict

- Deterioration of HE, VT Institutions
- Disrupt of agricultural activities
- Increase dependency on imported food
- Land use issues
- Natural resource degradation (e.g., deforestation, ...)

Research Institutions (South Sudan)
Yambio Research Station (old 1948)
Yei Rice Research Station (new)
Halima Research Station (new)

19 Research Stations in Sudan
Agricultural Research Needs in Post-conflict Situation

In South Sudan, generally we have agricultural research needs and priorities identified and categorized based on strategic food crops/food security:

A. Crop Improvement via germplasm conservation, breeding for high quality varieties, and GAPs
   1. Cereals;
      a. Sorghum,
      b. Maize,
      c. Pearl millet, and
      d. Finger millet
   2. Legumes;
      a. Cowpea,
      b. Pigeon pea, 
      c. Green gram and 
      d. kidney bean 
   3. Root crops;
      a. Cassava, 
      b. Sweet potato, and 
      c. yam

B. Capacity Building
   1. Human resource development (short and long term training)
   2. Physical infrastructure
   3. Laboratories
Agricultural Policies

CAMP

Comprehensive agricultural master plan (CAMP) and objectives of the CAMP Process

- Formulate a comprehensive agricultural development master plan (with an irrigation component) which will identify the potential of different products all over the country
- Spell out the clear roles of different stakeholders participating in agricultural development programmes in the country
- Strengthen the capacity of the national task team through this process for developing/formulating other related policies and plans for the respective ministries

Budget allocation
Challenges

Role of higher education (HE) in issues pertaining to

1. Agricultural curriculum development in areas of agricultural marketing, value-added technologies, plant genetic resources (germplasm conservation), seed production (seed security), biotechnology and biosafety, mitigation of drought resilience......

2. Capacity building
   Institutional, e.g., well-equipped labs, research facilities
   Human resource, e.g., postgraduate, in-service, technical training

3. Development of master plan (strategic plan) in agricultural colleges
Way forward

• Development of a viable research system (by joining NARS) to address GAPs for strategic food crops
• Increase agricultural funding (from 4 to 10%)
• Technology transfer (innovation)
• Embark on outreach activities
• Linkage
  >International, e.g., CGIAR: ICRISAT, IITA, CYMMYT
  >Regional: ASARECA
  >National: university-university, university-ministry, university-other stakeholders (farmers associations, cooperatives)
Thank You
Comments

• If there is a message that I would like to share with all participants, I would say it is undoubtedly perceived that instilling an innovative thinking should be the driving force of educational development system.

• In building our capacities, the evolving educational institutions should be hubs to discover new scientific knowledge that has a potential of generating and disseminating technologies that would ultimately impact immensely on food security, livelihood improvement and job creation.