

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

## **innovATE Workshop**

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# Agriculture in South Sudan

## Overview

### Agriculture:

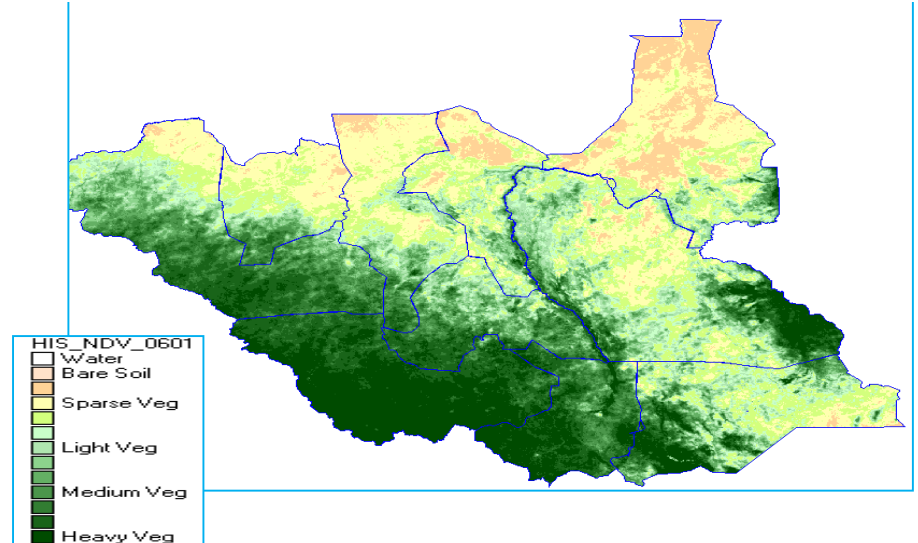
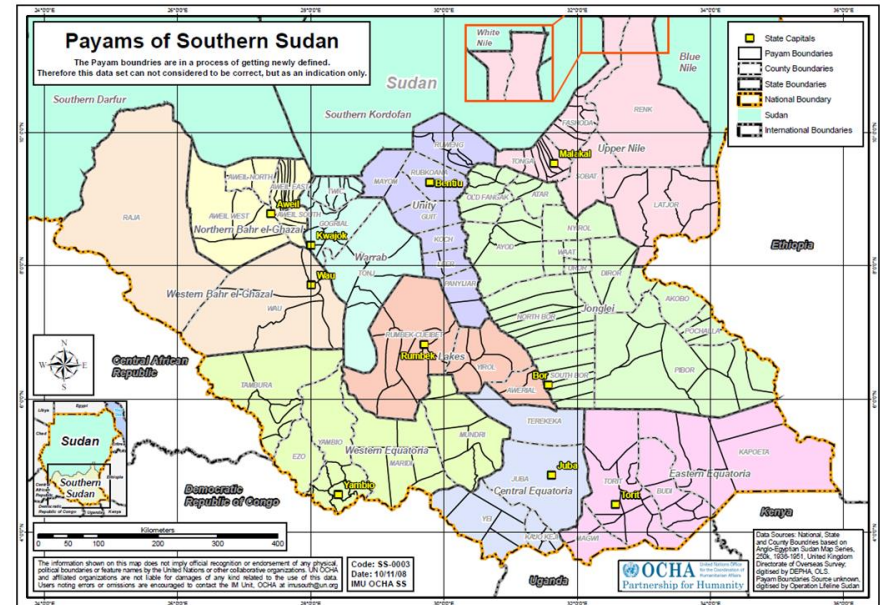
Supply 75% livelihood

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)





# Historical Overview

## 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 Ghazal
  - 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. Extensionists
  - Oxfam (UK) Training and assisting agro-pastoralist in livestock  
Across
  - Other several NGOs



# Agricultural Dev. in South Sudan

## ✓ History of Agriculture in South Sudan

Turko-Egyptian Rule **1821- 1885**

Anglo-Egyptain 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.

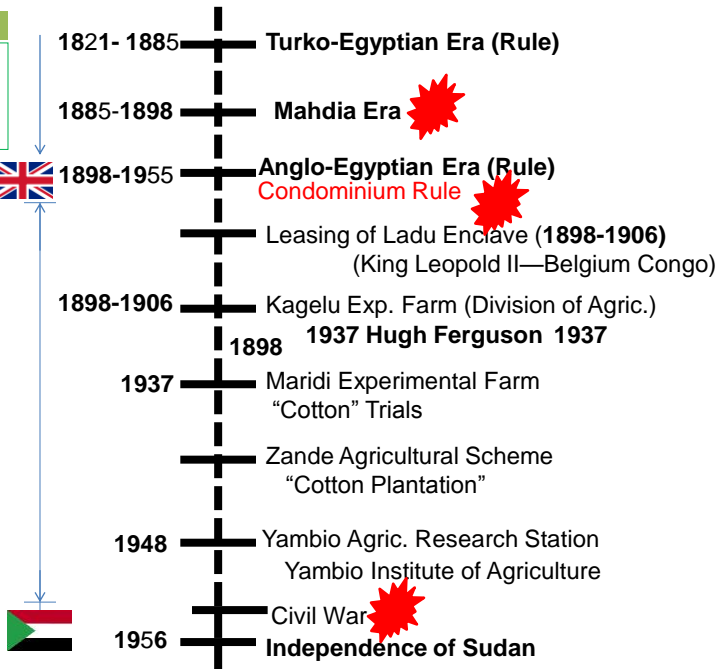
- ✓ Establishment of **University of Juba (1977)**
- ✓ **CNRES—Department of Crop Science—(later Department of Agricultural Sciences)**
- ✓ CPA Government of South Sudan (**2005**)

History: Agriculture Timeline

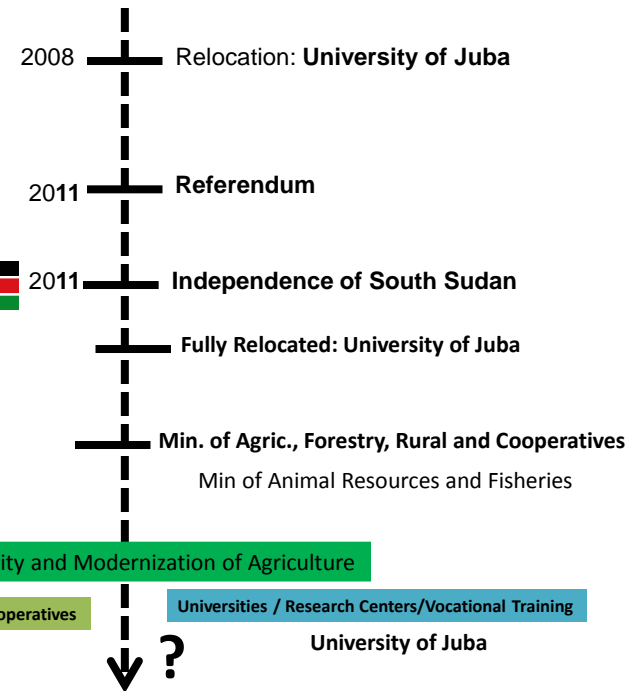
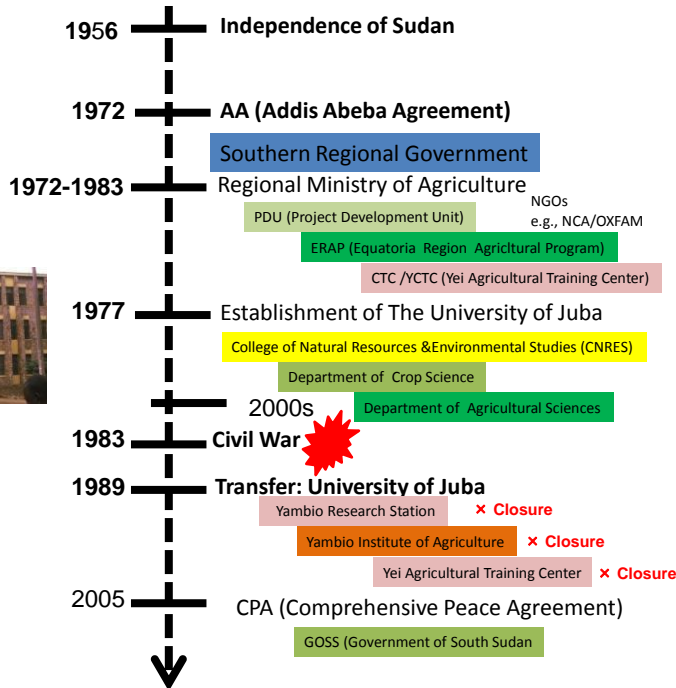
History:  
Agric. Development  
in  
South Sudan



50 Years  
Little Progress



History: Agriculture Timeline





# 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

Institutions	Northern Sudan		South Sudan	
	Pre-conflict	Post-conflict	Pre-conflict	Post-conflict
HE (Universities)	4	> 20	1	6
Specialized Colleges	>2	Decreased	0	0
Vocational TC	NA	NA	4	5



# 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 (Gaps)

## Research Institutions (South Sudan)

Yambio Research Station (old 1948)

Yei Rice Research Station (new)

Halima Research Station (new)

## 19 Research Stations in Sudan



- LEGEND**
- ARC H.Q. and Gezira Res. Station
  - Research Stations
  - ▼ Research Centers



# 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.