



Government of Southern Sudan  
Ministry of Agriculture and Forestry



# International Symposium on Higher Education in Agriculture and Environmental Sciences in Southern Sudan

*“ Agricultural and NRM Development and human resource needs in  
Southern Sudan ”*

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# The Agro-Ecology Setting of Southern Sudan

- Total Area :- 640,000 km<sup>2</sup>
- Population :- Not yet announce
- 95% of population depends on subsistence agriculture of which 80 - 90% earns less than US\$1 per day.
- Amount of rainfall varies by region ranging from 500mm per year in the north to about 2,000mm in the South .
- There are six agro-Ecological zones *Green Belt in the South and Southwest , Hills and mountains in the Northeast, to the Savannah plains in the North and to the Ironstone Plateau in the West .*
- Suitable agro –climatic and ecological conditions for producing a diverse range of *agro-pastoral and forestry products including rain fed and irrigated food crops cash crops ,livestock ,fish ,forestry and agro - forestry products .*
- *Crop production is heavily dependent on rainfall and fluctuations in rainfall performance results in fluctuation in production .*



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## **Food and Agriculture Policy Framework**

- **MAF's Vision :-**

- Food security for all the people of Southern Sudan ;enjoying improved quality of life .environment and economic prosperity .

- **MAF's Mission :-**

- To transform agriculture from traditional/subsistence system to achieve food security through science – based ,market oriented ,competitive and profitable agricultural system without compromising the sustainability of the natural resources for generation to come .



# **Problem analysis of current agriculture in Southern Sudan**

## **Deterioration of the natural Environment :-**

- **Rain fall patterns including drought and floods .**
- **Loss of Forests cover and structure and desertification .**
- **Population and effect on forest resources .**
- **Land use ,acceleration of erosion and weathering of soil .**
- **Water Resources and withdrawal including Water pollution from urban and Industrial wastes , degradation of water quality from increased use of pesticides and fertilizers .**
- **Adverse Effects of Human Activities on Rainfall pattern which cause changes in vegetation cover, Land use type, overgrazing, and deforestation .**
- **Urbanization profile .**



## Environmental Difficulties in South Sudan

- ❖ Water pollution from oil industrial wastes in Unity & Upper Nile States .
- ❖ Wildlife population threatened by excessive hunting .
- ❖ High degree of Poverty in rural areas communities.
- ❖ Deforestation, overgrazing , soil erosion , reduction of organic matter and depletion of various soil elements.
- ❖ Encroachment of desert (desertification) . e.g. Dust storms
- ❖ Natural hazards e.g.. Floods /drought , Pest and diseases



# Challenges to Agriculture and Food Security

- Southern Sudan is the Region on earth where Food production in the past 50 years has been consistently predominant by subsistence farming Systems .
- ***In Southern Sudan ,80% of cereal production is produced by traditional farmers while only 20% is from the mechanized farmers .***
- Many factors contributed to that including Insecurity, harsh climate and limited resources .
- The farming methods are traditional farmers using hoes, axes, Pangas, slashes, rakes, sickles and ordinary knives for farm activities



# Main Challenges to Agricultural and NRM Development

- Traditional Agricultural Farming Practices methods.
- Weak Institution & manpower capacity .
- Budget allocated to MAF by GOSS is less than 1% of the total GOSS Budget for the YR 2008.
- Lack of Micro- finances support to small scale Farmers and Forests Industries: honey, gum production, lulu oils.
- Limited Infrastructure development including States and Counties Agriculture Offices, roads and Feeder Roads.
- Lack of Strategic Food reserve stores, markets information Systems, Markets and trade facilities from production areas to markets Centers .
- Lack of processing technology and market facilities .
- Lack of agricultural data & information flow .
- The question of Land .



# 1. Traditional Agricultural Farming Practices methods



## 2. Weak infrastructures , Institutions & human Resource Capacities .

West Equatoria State Ministry of Agriculture Animal Resources Yambio



## Warrab State Ministry of Agriculture ,Animal Resources in Kuajok



## North Bahr el Ghazal State - Aweil South County Agriculture Department in Malek Alel



## West Bahr el Ghazal - Wau West County Agriculture Department in Raja



## West Bahr El Ghazal - Wau County Agriculture Department in Bazia



## West Bahr el Ghazal State Ministry of Agriculture ,Animal Resources in Wau



## West Equatoria - Tambura County Agriculture Department in Tambura



### 3. Deforestation, overgrazing , soil erosion and desertification



#### 4. Poor Infrastructure including Roads ,feeder roads ,Storage , Pest & Diseases Control



## 6. Traditional method of Agro-processing



## QUESTION OF LAND FOR PRODUCTION

Roadmap to address land use & land tenure System is needed



## WATER FOR PRODUCTION

Management System of natural resources & utilization of forests, water conservation , catchments to be used in irrigation and development of agricultural sectors ,utilization of a wetlands and wildlife resources



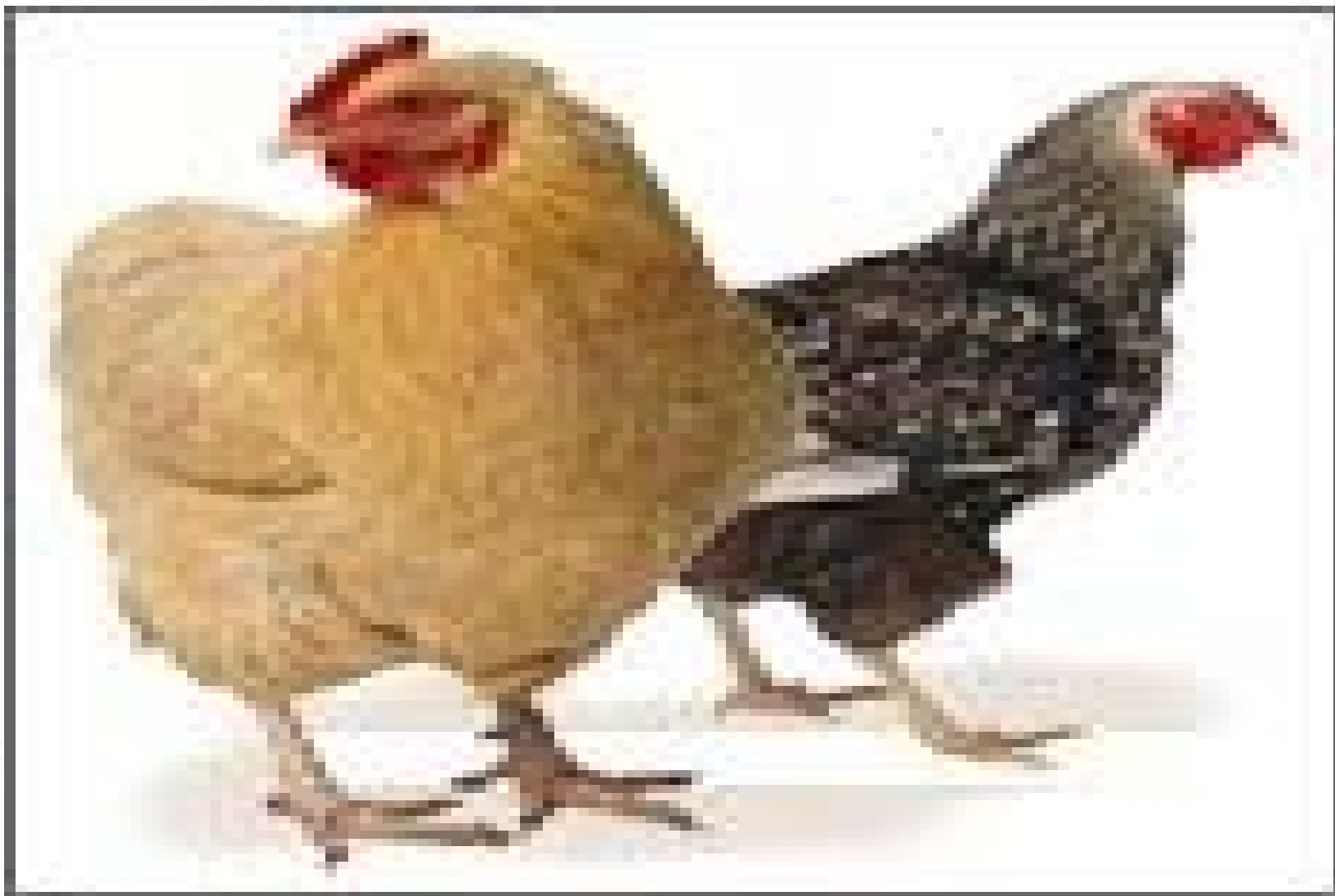
# INTEGRATED AGRICULTURE CROPS, AND LIVESTOCK



# Investment in Fisheries Production and Marketing



## Investment in Poultry Production and marketing



# Commercialization of Livestock ( Cattle ,Sheep and Goats )



## INVESTMENT IN INCOME GENERATING ACTIVITIES & MARKETING



# GOVERNMENT OF SOUTHERN SUDAN

## MINISTRY OF AGRICULTURE AND FORESTRY Programs Priorities

- Institutional Development to strengthen MAF/GOSS, States and County Agriculture Departments (CADs) including Physical , Institutional and Human Capacities Building.
- Strengthening Coordination and Communication Systems within MAF/GOSS , States and Counties Agriculture Departments.
- Development of Agriculture and Forestry Extension Systems and support Agricultural support Services within Budget constraints.
- Technology Development and Transfer into the six agro-ecological zones across the Ten States.
- Provision of micro-finance credits and loans to the agriculture/forestry smallholders.
- Improving Agro- processing facilities in the ten States through Public / Private Partnerships.



# Agriculture and NRM Development Programmes

## 1. SUDAN PRODUCTIVE CAPACITY RECOVERY PROGRAMME (SPCRP)

- SPCRP a 4-year programme financed by the European Commission.
- SPCRP is contributing to the recovery of both human and physical productive capacities.
- Geographical Coverage South:- ( W. Bahr el Ghazal, Northern Bahr El Ghazal, Warrap, Lakes, Western .Equatoria States )
- SPCRP's activities are grouped into two major components:-

### A. Capacity Building Component :-

- To build human, organisational and
- physical capacity of public and
- private institutions.

**B. Support to Rural Livelihoods:** - include two sub-components:

#### ➤ Model projects: -

- 4 in Southern Sudan; Aweil rice, Nyal /Shambe and Terekeka Fisheries Project ,Bahr el Ghazal Livestock Production and Marketing Project .

#### ➤ A Micro-project programme.

## A) SPCRP Capacity Building Component

- **A Capacity Building** Component to build human, organisational and physical capacity of public and private institutions.

### Key Results :-

- **UNOP is contracted to build Capacities of (5) MoAARIs and (14) CADs** for SPCRP and (5) MoAARIs and (14) CADs Offices aimed to Built and Strengthened to Operate Effective Rural Development in Agriculture, Forestry, Livestock, and Fisheries .
- Construction of MAARI Offices started in May ,2008 and CADs Offices in September - 2008 will be completed and handed over to GOSS/MAF and States in 31<sup>st</sup> December ,2008 .
- Key **Agricultural & Livestock Services** supported & strengthened
- **Institutions Strengthened** & Operating Effectively to Lead, Coordinate, Monitor.
- Support the Provision of Agricultural Services and Implementation of SPCRP and National Projects - **Ongoing** .
- Purchase of (27) Vehicles and (28) Motorcycles – **Completed**
- **Provision of Office Equipment.**
- ❖ Each state: will be provided with Office Equipment & Furniture and communication - **Ongoing**

## B) SPCRP South Sudan Programme – **Support to Rural Livelihoods**

**Support to Rural Livelihoods** : include two sub-components:

### **1. Model projects:** - (4) Projects in Southern Sudan;

- Aweil Irrigation Rehabilitation Project (Northern Bahr El Ghazal State ) **(€5.0 million)**
- Bahr El Ghazal Livestock Marketing project : (Western Bahr El Ghazal , Warrap, Lakes, Northern Bahr El Ghazal States ) **(€4.2 million)**
- Nyal-shambe-Terekaka Fisheries Production and Marketing project : ( Unity, Lakes and Central Equatoria States ) **(€4.0 million)**
- Tambura - Wau Market Access Project (road) ( Western Equatoria and Western Bahr El Ghazal States ) **.(€6.2 m)**

### **2. A Micro-project programme . .(€2.0 m) .**



## 2. SUPPORT TO AGRICULTURE AND FORESTRY PROGRAMME (SAFDP)

- **SAFDP/ MDTF** : a 5-year programme financed by the WORLD BANK AND GOSS .
- **SAFDP/MDTF** : is contributing to the **recovery** of both human and physical productive capacities.
- **FAO will provide Technical assistance** for implementation of SAFDP as pilot participatory farmers group –based extension tools such as Farmer Field Schools
- Geographical Coverage:- ( Central Equatoria , Eastern Equatoria ,Unity , Jonglei , Upper Nile States )

### A. Institutional Development Component:-

1. To build human, organisational capacity
2. physical capacity of public and private institutions
3. MAF- will contracted FAO/ UNOPs to construct Offices for MoAARI and County Agric , dep. ( CADs)

### B. Establishment of Agriculture Support Services

1. Agriculture Support Services implemented NPA
2. Forestry Support Services implemented by NPA
3. Research Services implemented by ICRISAT

# **SUPPORT TO AGRICULTURE AND FORESTRY PROGRAMME (SAFDP/ MDTF )**

- **SAFDP / MDTF Components:-**

*( a US\$ 42.9 Million Programme : MDTF US\$ 25.8 M , GOSS US\$ 17.1 M )*

1. Institutional Development **(US\$16.85 M).**
2. Establishment of Agriculture Support Services **(US\$ 11.26 M ).**
3. Establishment of Forestry Support Services **( US\$ 6.98 Million ).**
4. Technology Development and Transfer **( US\$ 4.98 Million ).**



### 3. Sudan Institutional Capacity Building Programme Food Security Information for Action (SIFSIA)

- **SIFSIA** : a 4 -year programme divided into two phases of two years each .
- EC allocated \$20 million for this programme and will be implemented by FAO .
- **SIFSIA Main Objectives** : -
  - ❖ To strengthen human and physical and Institutional Capacities of GOSS and States in food security Programme and policy analysis through support to the food security information ,generation ,collection analysis ,and dissemination.
  - ❖ SIFSIA would contribute to improved food security to the people of Southern Sudan as a result of design and execution of effective Policies and Programmes of the ten States .
- **SIFSIA's main components:-**
  - ❖ Food Security and Planning System Component .
  - ❖ Baselines and Information System Component.
  - ❖ Decentralized and Food security and Research funded Component.



## 4. Government of Southern Sudan Ministry of Agriculture and Forestry National Projects

- ❖ Jebel Lado Scheme
  - ❖ Rejaf East Horticulture Garden .
  - ❖ Northern Upper Nile Food Security Project –Renk
  - ❖ Agro-Industrial Complex Nzara .
  - ❖ Mongolla Agro-Industrial Complex .
  - ❖ Coffee and Tea projects.
  - ❖ Agriculture Irrigated Schemes in Northern Upper Nile .
  - ❖ Gazette Forest Production .
  - ❖ Research Stations in Yei ,Halima and Polataka .
  - ❖ Agricultural and Forestry Training Centers
- 

## Classified/Unclassified Human Resources Available in MAF Directorates

S/No	Directorate	PhD	Msc	Bsc	Diploma	Certificate	Total
<b>A.</b>	<b>Classified Staff</b>						
1	Agriculture Production	-	-	210	52	05	267
2	Research & Training	02	04	085	01	-	092
3	Planning & Programming	-	01	031	03	03	038
4	Forestry	-	01	024	20	06	051
5	Administration & Finance	-	02	004	01	34	041
	<b>Sub- Total</b>	<b>02</b>	<b>08</b>	<b>354</b>	<b>77</b>	<b>48</b>	<b>489</b>
<b>B.</b>	<b>Unclassified Staff</b>						
1	Agriculture Production	-	-	-	-	-	125
2	Research & Training	-	-	-	-	-	170
3	Planning & Programming	-	-	-	-	-	008
4	Forestry	-	-	-	-	-	400
5	Administration & Finance	-	-	-	-	-	019
	<b>Sub- Total</b>	<b>02</b>	<b>08</b>	<b>354</b>	<b>77</b>	<b>48</b>	<b>722</b>
	<b>Grand Total</b>	<b>02</b>	<b>08</b>	<b>354</b>	<b>77</b>	<b>48</b>	<b>1,211</b>

## Available Agricultural Specializations –MAF HQ

Specialized fields of Agriculture	PhD	M Sc	B Sc	Diploma	Certificate	Total
Agronomy/Crop Production	-	-	12	4	-	16
Horticulture (Vegetables +Fruits)	-	-	5	2	1	8
Food Science & Nutrition	-	-	4	-	-	4
Biochemistry & Industry Chemistry	-	-	4	-	-	4
Natural Resources & economic Management	-	-	1	-	-	1
Entomology	1	1	4	1	-	7
Pesticides	-	-	1	1	1	3
Pathology	-	-	4	-	-	4
Agricultural Extension	1	1	22	4	-	28
Agricultural Engineering	-	-	14	2	-	16
Agricultural Economics	-	-	9	-	-	9
Community Development	-	-	5	-	-	5
Rural Development	-	-	5	-	-	5
BA. Environment	-	-	1	-	-	1
<b>Total</b>	<b>2</b>	<b>2</b>	<b>81</b>	<b>14</b>	<b>2</b>	<b>101</b>

## Summary List of Staff transferred to States

State	Agriculture	Forestry	Planning	Research	Administration	Total
1. Jonglei	09	04	01	-	-	14
2. Upper Nile	-	-	-	-	-	-
3. Unity	58	05	01	-	-	64
4. Central Equatoria	06	45	-	02	-	53
5. Eastern Equatoria	16	06	01	05	-	28
6. Western Equatoria	-	-	01	-	-	01
7. Western Bahr, G	-	06	01	03	-	10
8. Lakes	09	04	01	-	-	14
9. Warrap	10	06	01	-	-	17
10. Northern Bahr . G ( Aweil Rice Scheme)	94	04	01	-	-	99
11. Abyei Area	04	-	-	-	-	04
<b>Total</b>	<b>206</b>	<b>80</b>	<b>08</b>	<b>10</b>	<b>-</b>	<b>304</b>

## Summary of Classified HUMAN resources available in 10 states

S/No	State	M. Sc	B. Sc	Diploma	Certificate	Cert. S.S	Total
<b>A.</b>	<b>Agriculture</b>						
1	Jonglei		1	3	13		17
2	Upper Nile	1	32	9	8	13	63
3	Unity	1	8		1		10
4	Central Equatoria	4	16	16			36
5	Eastern Equatoria		4	16	17		37
6	Western Equatoria		3	18		15	36
7	Western Bahr, G		13	8	19		40
8	Lakes	1		10	3	3	17
9	Warrap		5	7	1		13
10	Northern Bahr . G	1	3	7	13 SS	20 PS	44
<b>Total</b>		<b>7</b>	<b>82</b>	<b>87</b>	<b>62</b>	<b>31</b>	<b>269</b>

## Summary of Classified HUMAN resources available in 10 states

S/No	State	Msc	Bsc	Diploma	Certificate	Cert. S.S	Total
<b>B</b>	<b>Forestry</b>	-	-	-	-	-	-
1	Jonglei State	-	-	5	4	4	13
2	Upper Nile State	3	7	3	-	3	16
3	Unity State	-	-	-	13	-	13
4	Central Equatoria State	-	10	9	-	-	19
5	Eastern Equatoria State	-		6	-	-	6
6	Western Equatoria State	1	6	7	11	12	37
7	Western Bahr el Ghazal	-	3	9	-	8	20
8	Lakes State	-		3	-	22	25
9	Warrap State	-	3	-	12	-	15
10	Northern Bahr el Ghazal	not	yet	assessed	-	-	-
<b>Total</b>		<b>4</b>	<b>29</b>	<b>42</b>	<b>29</b>	<b>49</b>	<b>164</b>



## Proposed Extension Workers at State & County Levels

Level	Quantity	Number of Extension Staff required	Qualification
1. State	10	0,200 ( 20 per State)	PhD, MSc, & B.Sc of Agriculture
2. County	79	0,316 ( 4 per CA D)	B.Sc & Diplomas
3. Payam	513	1,026 ( 2 per Payam PEWs)	Diplomas
4. Boma /Village	2,154	2,154 (1 per Boma CEWs)	6 or 9 months Certificate
<b>Total</b>		<b>3,696</b>	



**THANK YOU**

