



**THE REPUBLIC OF SOUTH SUDAN  
MINISTRY OF AGRICULTURE, FORESTRY,  
COOPERATIVES & RURAL DEVELOPMENT**



**DRAFT PLANT PROTECTION POLICY  
(2012 - 2017)**

JUBA, July, 2012

## PREFACE

Pests and disease control is of paramount important in order to prevent economic losses from both subsistence level of farming to commercialized market-oriented farming.

Common pests and diseases that have been reported on crops in South Sudan include; fruit flies on vegetables and fruits, beetles, aphids, whiteflies, jassids on various vegetables and legumes and other field crops, and army-worm, grasshoppers, birds, desert locust and stem borers on most cereals. And diseases like the groundnut rosette, cassava mosaic virus (CMV) and tomato leaf curl virus (TLCV). Reduction in crop yields is exacerbated by lack of chemicals and equipment, poor coordination in plant protection control programmes due to limited trained human capacity. There are no reliable estimates of crop losses caused by pests and diseases nevertheless, estimates point at losses ranging from 25%-40%.

As an immediate alternative, integrated crop management (ICM) and integrated pest management (IPM) are recommended for sustainable and economic agricultural production system. In order to get healthy crops or plants to give high yield there is for adoption of participatory extension approaches such as farmer field schools (FFS) in plant protection to complement the more traditional transfer of technology to farmers. Improper handling of insecticides whether at storage or during application in the field pose human health risks as well as potential for damage to the environment, wildlife and domesticated habitats. Therefore, chemical products must be carefully handled and managed and closely regulated in order to minimize exposure to health-dangers and environmental risks.

In most developing countries market- oriented farmers control pests and diseases by adopting IPM practices which include the use of agronomic and cultural practices and careful selection of appropriate selective chemicals (insecticides, herbicides and fungicides) or use of soft chemicals such as pheromones, growth regulators or attractants/repellents to prevent pollution or contamination of the environment.

The Republic of South Sudan will join other developing countries strictly control the misuse of pesticides unless they are proved to have no harmful effects on consumers, operators and local residents; and do not cause adverse effects to human health, environment or beneficial insects while being sufficiently effective against targeted pests and diseases. The present Plant Protection Policy is expected to create a safe environment to live in while reducing pests and diseases crop infestation levels, increase crop yields and thereby ensure improved food security and increased marketable surpluses.

Hon. Dr. Betty Achan Ogwaro  
Minister of Agriculture, Forestry, Cooperatives & Rural Development

## EXECUTIVE SUMMARY

Damage caused by heavy pest and disease infestations while in the field or in storage, contributes considerably to food insecurity and to the livelihood of 80 percent of the population directly dependent on the sector. Additionally, such losses increase unit costs of production, reduce marketable surplus and increase the dependency on imports for consumption. Common pests and diseases in South Sudan are fruit flies, beetles, aphids, jassids, white flies, army worm, grasshoppers, birds, desert locusts, stem borers, sorghum bugs, groundnut rosette and cassava mosaic (CFSAM 2010). Reduction in crop yields due to pests and diseases is exacerbated by inadequacy of equipment and protection products, poor coordination of programmes and activities, limited human capacity, crop susceptibility to pests and diseases.

Currently, there are not policies, Principles and guidelines to manage and control crop losses in the country. In addition, farmers do not have adequate knowledge and information on the subject. Importation, use and disposal of some crop protection products are not regulated; as a result, there are low quality products seed in the market.

Major factors contributing to the present magnitude of crop damage in South Sudan include high infestation of pests and diseases, inadequate crop protection measures, crop susceptibility to pests and diseases; poor coordination in plant protection activities; limited capacity among private and public sector intuitions; and lack of strategic coordination and harmonization with regional institutions. Challenges affecting plant protection include limited institutional capacity and physical infrastructure. However, opportunities exist, which can strengthen plant protection policy and strategies and these include strengthening of local training institutions, technical, financial and institution support from national, regional and international institutions.

The strategic plans of the ministries of Agriculture and Forestry and of Animal Resources and Fisheries embody broad policies for sustainable agricultural transformation, modernisation and protection of the environment. In line with that broad policy, the vision for Plant Protection Policy is to improve plant health and farm products to meet sustainable agricultural production and ensure food security, while the mission is to promote propagation of healthy crops and plant materials and minimise losses in agricultural production through improved plant protection

technologies while at the same time safeguarding the integrity of the human and natural resource base. The overall objective is to reduce crop and agricultural commodity losses from pests and disease damage.

In addition to financial commitments to implement of this policy, there will be need for adequate time to create conducive environment for change, achieve full consensus and adaptability, and establish functional plant protection structures. The implementation framework will require establishment of the South Sudan Plant Protection Authority (SSPPA) and a Directorate of Plant Protection with the Ministry of Agriculture, Forestry, Cooperatives & Rural Development, to ensure that institutional capacity at MAFC&RD/RSS and States levels is enhanced.

In order to guide the realization of the objective is to reduce crop and agricultural commodity losses from pests and disease damage; the following policy statements will have to be articulated through appropriate strategies for improvement of plant health and farm products to meet sustainable agricultural production and ensure food security, locally and internationally.

### **Policy Statement No 1**

Establish a dedicated institution for the control and reduction of pests and diseases affecting crops in the field and in storage

### **Policy Statement No 2**

Facilitate the establishment and promotion of plant protection industry to ensure access to appropriate plant protection measures and services.

### **Policy Statement No 3**

Ensure improved functional and organizational capacity for effective and efficient delivery of plant protection services.

### **Policy Statement No 4**

Strengthened research and extension system for promoting crop varieties which are resistance to major pests and diseases in South Sudan

### **Policy Statement No 5**

Prevention of seeds and planting materials as well as soil contaminated with exotic insect pests and diseases, mites and extraneous materials from entering South Sudan and causing harm to the nation's agriculture.



### Policy Statement No 6

Promote coordination with foreign national, sub-regional, regional and international organizations for effective management of pests and diseases enhanced.

The above-mentioned policy statement will require strategic interventions and action plans to be coordinated by the Ministry of Agriculture, Forestry, Cooperatives & Rural Development.



**Photo 1- Paddy spraying against pests and diseases.**

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## LIST OF ABBREVIATION

CMV	-	Cassava Mosaic Virus
ICM	-	Integrated Crop Management
IPM	-	Integrated Pest Management
FFS	-	Farmer Field Schools
SSAAR	-	Southern Sudan Secretariat of Agriculture and Animal Resources
MAFC&RD Development	-	Ministry of Agriculture, Forestry, Cooperatives & Rural
MARF	-	Ministry of Animal Resource and Fisheries
SSARO	-	South Sudan Agricultural Research Organization
DLCO-EA	-	Desert Locust Control Organization for East Africa
IPPC	-	International Plant Protection Convention.



## 1.0 OVERVIEW OF PLANT PROTECTION IN SOUTH SUDAN

Infestations by pests and diseases have economic impact through reduction of yields and quality of agricultural and horticultural crops, causing losses to the tune of 45 percent or more. Additionally, most stored seeds and crops suffer moderate to severe damage as a result of infestations by pests and diseases. Adequate control of serious pest and disease infestations is therefore essential if farmers of South Sudan are to move from subsistence to market-oriented agriculture.

Market-oriented farmers in other countries control pests and diseases in planting materials, and in growing and harvested crops, by adopting integrated pest management (IPM) practices for plant protection for pests and diseases. IPM include cultural practices, as well as carefully managed use of selected pest and disease control chemical products (plant protection products), which must include judicious use of selected pest and disease control products (chemicals) in order to minimize exposure to health and environmental risks.

Improper handling, storage and use of many plant protection products pose human health risks.

It is a common practice globally to control the use of plant protection products unless scientifically established that: i) They have no harmful effects on consumers, farmers, local residents and passers-by; ii) they have not cause adverse effects on human health, on the environment or on beneficial insects, while being sufficiently effective against targeted pests.

Prior to 1983, plant protection products were distributed exclusively through the appropriate ministries of agriculture at the national, regional and sub-regional levels. From 1983, plant protection products for South Sudan were provided by NGOs through the then South Sudan Secretariat of Agriculture and Animal Resources (SSAAR).

## **2.0 RATIONALE FOR PLANT PROTECTION POLICY**

Damage caused by heavy pest and disease infestations while in the field or in storage, contributes considerably to food insecurity but also affecting the welfare of an estimated 80% of the population who depend on agriculture for subsistence. Additionally, such losses increase unit costs of production, reduce marketable surplus and increase the dependency on imports for consumption. Reduction in crop yields due to pests and diseases is exacerbated by inadequacy of equipment and protection products, poor coordination of programmes and activities, limited human capacity, crop susceptibility to pests and diseases.

There are no established policies, principles and guidelines to manage and control crop losses in the country. In addition, farmers do not have adequate knowledge and information on how to handle and control pests and diseases. Importation, use and disposal of some crop protection products are not regulated; as a result, some low quality products are sold in the market. A Crop Protection Policy will be instrumental in establishing a coordinated framework for reducing pests and disease crop damage and thereby ensure improved food security and increased marketable surplus.

### **3.0 CONSTRAINTS, CHALLENGES AND OPPORTUNITIES**

Major factors contributing to the present magnitude of crop damage in South Sudan include high infestation of pests and diseases, inadequate crop protection measures, crop susceptibility to pests and diseases; poor coordination in plant protection activities and limited capacity among private and public sector intuitions and lack of strategic coordination and harmonization with regional institutional approached.

#### **3.1 CONSTRAINTS**

##### **3.1.1 Pests and Diseases**

Pests and diseases are wide spread in South Sudan and are a major factor in crop yield reduction contributing up to 100 percent yield loss in some of the crops. For example, cassava is affected by more than 5 major diseases and pests, cassava mosaic virus being the most common disease.

Contributory factors to high incidence of pests and diseases in agriculture in South Sudan include contaminated materials, migratory pests, and poor management practices, changes in climatic conditions, inadequate storage facilities and traditional agricultural practices. In the case of migratory birds, Quelea is an extremely difficult pest to control because of its enormous numbers, high reproductive potential, and the vast, often inaccessible range that it occupies (Jackson, 1974).

##### **3.1.2 Inadequacies in Crop Protection Measures**

Infestation of pests and diseases which contribute to crop damage partly result from poor crop husbandry practices. Such factors result from lack of knowledge and awareness among farmers on the relationship between the use of crop husbandry and management and control of pests and diseases; and unavailability of appropriate equipment and plant protection products for use of Integrated Pest Management (IPM) approach. Another limiting factor to procure equipment and plant protection products is lack of access to capital.

In the short run, prospects for use of these products appear to be limited due to subsistence nature of the production system. Only a small proportion of farmers growing high value horticultural crops, especially vegetables, are using crop protection products.

### **3.1.3 Low Tolerance/Resistance to Pests and Diseases**

Crop damage by pests and diseases is partly influenced by genetic structure and the prevailing environmental conditions. For example, some landraces still have low tolerance to disease and pests attack due to limited progress in breeding and research. Formal sharing of proven crop varieties resistant to diseases/pests, within the East African region is still limited.

## **3.2 CHALLENGES**

### **3.2.1 Limited Institutional Capacity**

During the transitional regional government in South Sudan in the 1970s, a Plant Protection Directorate was established in the Ministry of Agriculture. This Directorate which was functional and well equipped and staffed at various levels was the one coordinating plant protection programmes across provinces. However, during the civil war, this institutional capacity was rendered dysfunctional. Currently, plant protection functions exist within the Directorate of Agriculture, but institutional structure to implement the functions across the country is weak.

One major area of concern in plant protection is limited coordination and collaboration within and between MAFC&RD/RSS and State Institutions regarding the prevalence of plant pests and diseases. This limits the effectiveness of interventions. Lack of radio linkage between States and MAFC&RD/RSS is a major challenge to effective and efficient coordination. There is inadequate coordination between the South Sudan and neighbouring countries. There is also lack of coordination between South Sudan and institutions in neighbouring countries and regional organisations especially for migratory pests (such as Desert Locust Control Organisation for East Africa-DLCO-EA). In addition, there is limited business linkage between the public and private institution, thereby limiting availability and access to plant protection products and services to farmers and entrepreneurs.

### **3.2.2 Limited Physical Infrastructure**

There are limited physical infrastructures for public and private sector services in plant protection, which inadequately equipped with facilities. The Department of Plant Protection currently is characterized by severely limited human resource operating space and equipment, inadequate budgetary allocations, poor alignment of roles and responsibilities, and with no clearly defined institutional linkage with the States. For effective execution of the plant protection mandate, the responsible agency must get adequate and reliable budget resources.

### 3.3 OPPORTUNITIES

#### 3.3.1 Availability of local training institutes

South Sudan has some training institutes including Yambio, Yei and Kagelu that can be utilised to strengthen the capacity of middle level staff to deal with issues related to plant protection. Further, the faculties of agriculture of Juba, Wau, and Malakal Universities are ready to provide professional courses and training for higher level skills upgrading.

#### 3.3.2 Commitment by Government of South Sudan

The Government of South Sudan seeks to increase food production and productivity for improved food security and economic prosperity while ensuring protection of the natural environment for current and future generations. This is why the Government is promoting the development of policies and strategic plans for various Agricultural and Forestry Sub-sectors.

#### 3.3.3 Interest from Development Partners

The Government is also encouraging partnership with private sectors, NGOs, development partners and the donor community to collaborate and support the development agenda including plant protection services. MAFC&RD/RSS will continue to collaborate with development partners and donors with interest in supporting key development projects including agriculture, food security and infrastructure. Among these are the EU, USAID, IFAD, DFID, World Bank, FAO and other UN agencies and NGOs.

#### 3.3.4 National, Regional and International institutions

The Government has been actively developing good working relations with sub-regional and regional organizations. Cooperation and support from such organizations are critical for the management and control of pests and diseases that criss-cross common borders. Harmonization also facilitates implementation of quarantine measures to restrict importation of contaminated seeds and planting materials. South Sudan, as a new nation, will also benefit from research and technologies developed by other countries and by multi-lateral and international organizations to prevent and control insect pests and diseases.

## 4.0 PLANT PROTECTION VISION AND POLICY

The strategic plans of the Ministries of Agriculture and Forestry (MAFC&RD) and of Animal Resources and Fisheries (MARF) embody broad policies for sustainable agricultural transformation, modernisation and protection of the environment. In line with that broad policy, the Plant Protection Policy seeks to promote the following vision, mission, goal, guiding principles and objectives.

### 4.1 VISION, MISSION AND GOAL

#### 4.1.1 VISION

Improved plant health and farm products to meet sustainable agricultural production and ensure food security, locally and internationally.

#### 4.1.2 MISSION

To promote propagation of healthy crops and plant materials and minimise losses in agricultural production through improved plant protection technologies while at the same time safeguarding the integrity of the human and natural resource base.

#### 4.1.3 GOAL

To contribute to increased agricultural production through minimising crop losses due to pests and diseases.

### 4.2 GUIDING PRINCIPLES

**a. Inclusiveness**

There are many players in both the public and private sectors in plant protection activities. This policy will create and promote opportunities and a conducive environment for all stakeholders to participate effectively in plant protection service delivery.

**b. Transparency**

This policy seeks to establish mechanisms for participatory resource allocation, peer review, information sharing and open discussion on resource mobilisation and utilisation.

**c. Integrity and safety**

This Plant Protection Policy will promote professionalism, trust and ethics in plant protection services delivery. High priority will be given to ensure effective and thorough human and environmental safety in light of emerging plant protection products and services. The policy also is intended to ensure



that beneficial insects are not negatively affected while achieving maximum effectiveness against destructive pests.

**d. Accountability**

Funds for plant protection programmes originate from the Government, development partners and philanthropists. This policy ensures strict adherence to the principle of value-for-money in resource allocation, utilization and reporting among the various actors in plant protection activities.

**e. Adherence to national goals, vision and mission**

This policy will ensure adherence to the vision, mission and the goal of the national Food and Agricultural Policy of the Government of South Sudan. This policy is developed in conformance with other national interests in the area of plant protection.

**f. Mainstreaming gender and environmental concerns**

This policy is intended to ensure the equitable distribution of the benefits of plant protection services to all persons regardless of gender and will promote the protection and improvement of the environment for the benefit of future generations.

### 4.3 OBJECTIVE RELATED POLICIES

#### 4.3.1 Policy Statement on Institutional Arrangement for Control and Management of Field and Storage Pests/Diseases

***Problem Statement No. 1***

**Lack of institutional setup for management and control of pests and diseases affecting crops in the field and in storage.**

***Policy Statement No. 1***

**Establish a dedicated institution for the control and reduction of pests and diseases affecting crops in the field and in storage**

**Implementation strategies for Policy No.1**

- i. Establishment of South Sudan Plant Protection Agency (SSPPA)
- ii. Collaborate with SSARO to promote pest and disease resistant varieties and strains;
- iii. Promote integrated pest and disease management(IPM) approach/methods and practices;

- iv. Promote quarantine services, as appropriate, in the main entry and exit points; and
- v. Ensure enforcement of plant protection legislations and regulations.

**Flagship project for policy no. 1**

**Creation of RSS Plant Protection Agency (SSPPA)**

#### **4.3.2 Policy Statement on Promotion of Plant Protection Industry**

***Problem Statement No. 2***

**Unavailability of appropriate plant protection measures and services**

***Policy Statement No. 2***

**Facilitate the establishment and promotion of plant protection industry to ensure access to appropriate plant protection measures and services.**

**Implementation strategies for policy no. 2**

- i. Establish inventory of available equipment and plant protection products both at MAFC&RD/RSS and State levels;
- ii. National database for major pests and diseases by crop types;
- iii. A conducive environment for production and procurement of plant protection products and methods; and
- iv. Enabling investment environment for plant protection industry and services.

**Flagship projects for policy no. 2**

**Private Sector engagement in Procurement and Investment in Plant Protection facilities**

**Plant Protection Laboratories for each agro-ecological zone**

### 4.3.3 Policy Statement on Organisational Capacity for Delivery of Plant Protection Services

***Problem Statement No. 3***

Lack of effective and efficient delivery system for plant protection services.

***Policy Statement No. 3***

**Establish functional and organizational capacity for effective and efficient delivery of plant protection services.**

**Implementation strategies for policy No. 3**

- i. Assess and revise the existing institutional framework;
- ii. Collaborate with local, regional and international training institutions to and develop appropriate training curriculum and training plans, and ensure adequate plant protection technicians trained;
- iii. Collaborate with sub-regional and regional organizations to enhance technical capacity in pest and disease management;
- iv. Establish a Directorate of Plant Protection and a South Sudan Plant Protection Authority (SSPPA);
- v. SSPP Laws to be enacted; and
- vi. Encourage establishment of Plant Protection Business Association (PPBA)

**Flagship project for policy no. 3**

- (a) Establishment of South Sudan Plant Protection Authority- SSPPA**
- (b) Establishment of Plant Protection Business Association-PPBA**
- (c) Enactment of Plant Protection Law**

### 4.3.4 Policy Statement on Promoting Pest and Disease Resistant Crops

***Problem Statement No. 4***

Insufficient promotion of crop varieties which are resistance to major pests and diseases in South Sudan

***Policy Statement No. 4***

**Strengthened research and extension system for promoting crop varieties which are resistance to major pests and diseases in South Sudan**

**Implementation strategies for Policy No. 4**

- i. Collaborate with SSARO/regional research institutions to introduce pest and disease resistant crop varieties adaptable to South Sudan; and
- ii. Work with SSARO, extension personnel, farmers and the private sector to promote pest and disease resistant crop varieties

**4.3.5 Policy Statement on Cross-border Phytosanitary Control Measures*****Problem Statement No. 5***

*Inadequate facilitation to prevent contaminated seeds planting materials and soil from entering South Sudan*

***Policy Statement No. 5***

**Set up an effective system for prevention of contaminated seeds planting materials and soil from entering South Sudan and causing harm to the nation's agriculture**

**Implementation strategies for policy No. 5**

- i. Strengthen plant quarantine regulations and provide the required resources, both human and material, to the responsible agencies so that adequate safeguards are developed at the country's borders and entry points;
- ii. Establish and monitoring system to assess and quantify crop losses, monitor and provide pests and disease forecasting information, develop and disseminate pest control practices to farming communities through collaborative research and training;
- iii. Plant quarantine, seeds and planting materials inspectorate(pathologist, agronomist and entomologist) outposts will be established at the borders of Kaya, Nimule, Nadapal and Juba International airport, to enforce seeds quality assurances and control spread of plant diseases and pests; and
- iv. The extension services and other agencies will be involved in awareness creation among border residents to create an informed first line of defence against unwanted plant introductions.

**Flagship project for policy no. 5**

**Establishing Boarder Post Plant Protection Unit**

#### 4.3.6 Policy Statement on Collaboration with External Agencies in Pests and Disease Control

***Problem Statement No. 6***

*Coordination for interaction and cooperation with foreign national, sub-regional, regional and international organization.*

***Policy Statement No. 6***

**Established mechanisms for coordination with foreign national, sub-regional, regional and international organizations on pests/diseases control**

**Implementation strategies for Policy no. 6**

- i. Improve internal coordination between MAFC&RD/RSS and State institutions through communication equipment (e.g. radios and internet facilities);
- ii. Establish/ strengthen plant protection structures at the State level for effective coordination and for surveillance and reporting of pest and disease outbreaks;
- iii. Lobby for South Sudan to become a member of international conventions or other organizations on pests and diseases, such as the Desert Locust Control Organisation for East Africa (DLCO-EA) and International Plant Protection Convention (IPPC); Quelea control organizations and
- iv. Active participation in regional and international conventions/conferences regarding plant protection issues (pests and diseases, vermines, chemicals, legislations/regulations, etc).

**Flagship project for policy no. 6**

**Join DICO-EA and ratification of the (IPPC)**

## 5.0 INSTITUTIONAL AND IMPLEMENTATION FRAMEWORK

Implementation of the South Sudan Plant Protection Policy requires adequate time required to create conducive environment for change, achieve full consensus and adaptability, and establish functional plant protection structures.

### 5.1 INSTITUTIONAL ARRANGEMENT

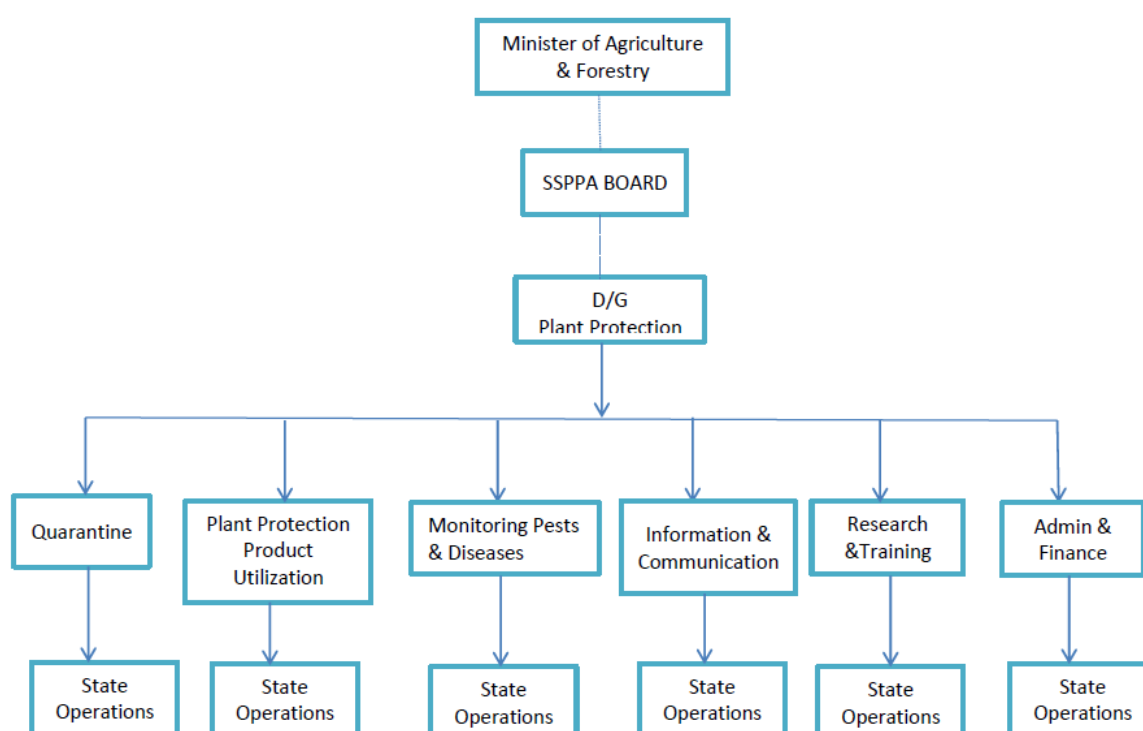
- 5.1.1 All public and private stakeholders in the Agricultural sector shall respect the content and spirit of this Plant Protection Policy. A legislative proposal and regulations shall be introduced in due course to establish the South Sudan Agricultural Plant Protection Law and Regulations.

Relevant legal provisions that may be enacted are:

- a. The South Sudan Plant Protection Law to give legal backing to this policy;
- b. Establishment of appropriate laboratories to service all agro-ecological zones

- 5.1.2 The Institutional arrangement will basically be anchored within the South Sudan Plant Protection Authority (SSPPA), whose organizational chart is shown in figure 3.

**SOUTH SUDAN PLANT PROTECTION AUTHORITY (SSPPA)  
ORGANIZATION CHART**





## 5.2 IMPLEMENTATION SCHEDULE

A two-phased process is proposed for ushering the new system and its governance structure:

### 5.2.1 Phase I (2012-2014)

The objectives of this phase comprise the following:

- (a) Assess and revise the existing legal (Plant Protection Act revised in 1994) and institutional framework
- (b) Upgrade the existing plant protection department into a Directorate of Plant Protection and establish a South Sudan Plant Protection Authority (Figures 1, 2 and 3 in the Appendix).
- (c) Establish fully functional units at the state level; these agencies will be responsible for overseeing validation and implementation of the strategies stated herein (Figure 2 and 3 in the Appendix);
- (d) Lobby for South Sudan to become a member of international conventions on pests and diseases, especially Desert Locust Control Organisation for East Africa (DLCO-EA) and International Plant Protection Convention (IPPC) and check: Organization for over birds control?
- (e) Establishment, rehabilitation and equipping of physical infrastructures (offices, laboratories)
- (f) Recruitment and deployment of plant protection staff
- (g) Advocate for increased financial allocation to enable effective implementation of the proposed interventions.

### 5.2.2 Phase II (2015-2017)

The main objective of this phase is to operationalize plant protection strategies and activities with a complete integration of all organizations engaged in plant protection services in South Sudan (public, private, universities).

- Conduct field assessments to identify major pests and diseases of economic importance in South Sudan;
- Become a clearinghouse for information about Integrated Pest and Disease Management methods and practices and promote these.
- Identifying and promoting effective and safe traditional pest and disease control methods;
- Continuing advocacy for sufficient financial resource allocation

### 5.3 Funding

The Ministry of Agriculture will mobilize funds to implement the strategic plans to be managed as part of this policy.

### 5.4 MONITORING AND EVALUATION

To keep the South Sudan Plant Protection Policy current and applicable to changing conditions, the MAFC&RD/RSS will from time to time, make recommendations to the Government on relevant issues of importance to plant protection. The responsible Ministers shall consider such recommendations; discuss them with State Ministers responsible for Agricultural Sector and all other stakeholders, and, in accordance with applicable laws, issue modifications in the South Sudan Plant Protection Policy to improve its suitability and applicability to current conditions without changing its long-term intent or legitimacy. Plans of action shall be prepared and updated from time to time to serve as guides to both public and private stakeholders in the implementation of actionable components of this policy. The plans of action shall be based on the goals, objectives and strategies outlined in this policy and shall specify the outputs and activities expected from the recommended interventions, the time frames, the responsible and/or implementing organizations, as well as costs, budgets and other resources. The MAFC&RD shall oversee the preparation of the plans of action but all participating organizations will be required to propose the specifics relating to the components for which they are responsible.



## 6.0 Timeframe and Budget for the Strategy

Output and Activities	Budget	PHASE I								PHASE II									
	US\$	2012				2013				2014				2015		2016		2017	
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1-Q2	Q3-Q4	Q1-Q2	Q3-Q4	Q1-Q2	Q2-Q3
<b>Output 1: Control and Reduction of pests and diseases affecting crops</b>																			
(i) Collaboration with SSARO to promote pest and disease resistant varieties and strains.																			
(ii) Promote integrated pest and disease Management approach and practices																			
(iii) Promote quarantine services																			
(iv) Ensure enforcement of plant protection legislations and regulations.																			
<b>Output 2: Availability /access to appropriate plant protection measures and services</b>																			
(i) Take inventory of available equipment and plant																			

Output and Activities	Budget	PHASE I								PHASE II									
	US\$	2012				2013				2014				2015		2016		2017	
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1-Q2	Q3-Q4	Q1-Q2	Q3-Q4	Q1-Q2	Q2-Q3
(ii) Create National database for major pests and diseases by crop types.																			
(iii) Create conducive environment for production and procurement of plant																			
(iv) Collaboration with private sector																			
(v) Create an enabling investment for plant protection industry and services																			
<b>Output 3: Capacity for effective and efficient delivery of plants protection will improve</b>																			
(i) Assess and revise the existing institutional framework																			
(ii) Collaborate with local, regional and international training institution.																			
(iii) Collaborate with sub-regional and regional organization to enhance technical capacity in pest and diseases management																			

Output and Activities	Budget	PHASE I								PHASE II									
	US\$	2012				2013				2014				2015		2016		2017	
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1-Q2	Q3-Q4	Q1-Q2	Q3-Q4	Q1-Q2	Q2-Q3
(iv) Establish a Directorate of (SSPA)																			
(v) Encourage establishment of (PPBA)																			
<b>Output 4: Introduce and promote crop varieties which are resistance to major pests and diseases in South Sudan.</b>																			
(i) Collaborate with SSARO to introduce pest and disease resistant crops.																			
(ii) Work with SSARO extension personnel, farmers and the private sector to promote pest and disease resistant crops.																			
<b>Output 5: Prevention of Contaminate Seeds</b>																			
(i) Establish and monitoring system to assess and quantify crop losses.																			
(ii) Strengthening Plant quarantine regulations and provide the required resource.																			
(ii) Plant quarantine, seeds and planting materials inspectorate																			



Output and Activities	Budget	PHASE I								PHASE II									
	US\$	2012				2013				2014				2015		2016		2017	
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1-Q2	Q3-Q4	Q1-Q2	Q3-Q4	Q1-Q2	Q2-Q3
will be established.																			
(iv) Involvement of extension services and other agencies in awareness and creation																			
<b>Output 6: Establish Mechanism for Coordination with foreign national and others</b>																			
(i) Improve Internal coordination between MAFC&RD/RSS and State Institutions.																			
(ii) Establish plant protection structure at the State level for efficiency.																			
(iii) South Sudan to become member of International conventions on pest and diseases.																			
(iv) Participate in regional and international conferences regarding plant protection issues.																			

