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## TECHNICAL ASSISTANCE FOR MANAGEMENT OF FALL ARMYWORM (FAW) IN SOUTH SUDAN

December 2019

SDGs:



Countries:

South Sudan

Project Codes:

TCP/SSD/3603

FAO Contribution:

USD 266 000

Duration:

1 October 2017 – 30 September 2019

Contact Info:

FAO Representation in South Sudan

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### Implementing Partner

Ministry of Agriculture and Food Security (MAFS).

### Beneficiaries

2 000 farmers from affected locations in the states, approximately 200 technical officers at national, state and county levels, field and technical staff of the MAFS, specifically the Department of Plant Protection and the Department of Research.

### Country Programming Framework (CPF)

The project contributed to the following:

FAO's Strategic Framework Strategic Objective SO5 – “Increase the resilience to livelihoods to threats and crises.

Organizational Outcome 504 – “Countries and regions affected by disaster and crises prepare for and manage effective response”.

Output 5.4.3 – Strengthen capacities of national authorities and stakeholders for crisis response.

Organizational Outcome 104 – Countries implemented effective policies, strategies and investment programmes to eradicate hunger, food insecurity and all forms of malnutrition by 2030 and to the Regional Initiative/Priority Area: 3: “Building resilient livelihoods in the drylands of Africa”.



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### BACKGROUND

There is widespread instability and food insecurity across South Sudan, where conflict has been ongoing since 2013. As of July 2017, 6 million people were in need of food assistance, the largest number of food-insecure people ever reported in the country. Acute malnutrition had reached emergency levels in a number of areas, while insecurity and displacement of farmers had led to a massive reduction in harvests over recent years.

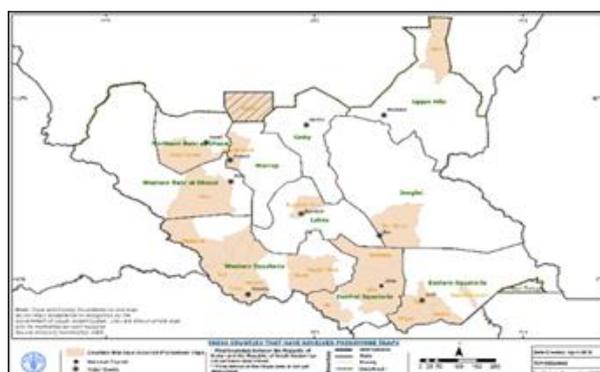
To compound the situation, Fall Armyworm (FAW), an insect pest native to the Americas, began to cross into South Sudan, with the first reports of its arrival noted in June 2017. Feeding on up to 80 crop species, albeit with a preference for maize, the FAW infestation was poised to cause significant yield losses, further compromising an already precarious food security situation.

At the request of the Government of South Sudan, FAO initiated activities to control the spread and impact of FAW. The project led to better understanding of this new pest and provided assistance in its management through awareness-raising, surveillance and early warning, while enhancing sustainable management practices, conducting impact assessments and strengthening coordination mechanisms.

Specifically, technical knowledge was provided on the biology and life cycle of the pest, as well as monitoring and management. Pheromone traps/lures and mobile phone applications were among the useful practical tools introduced by the project for monitoring and early warning.

### IMPACT

The impact of the project was to protect food security and livelihoods in the counties of South Sudan affected by FAW.



Radio programme coverage map



## ACHIEVEMENT OF RESULTS

The project served to raise awareness on the identification of FAW and its impact. Capacities were strengthened for FAW coordination, monitoring and early warning, impact assessment and management, while community-based management of the pest was also strengthened.

Specific awareness-raising activities included media campaigns (interactive radio talk shows and public service announcements) the dissemination of posters and leaflets, as well as training for village facilitators and MAFS staff.

The capacity-building elements of the project, meanwhile, included workshops and backstopping missions to affected areas, as well as training of trainers for staff from Community-based Organizations (CBOs), Non governmental Organizations (NGOs) and United Nations agencies.

Overall, the project provided better options to farmers for management and control of FAW, minimized infestation levels and reduced crop losses caused by the pest.

## IMPLEMENTATION OF WORK PLAN

The project was extended on two occasions due to slow delivery of activities. This, in turn, was caused by administrative constraints, as well as realignment of the project to fit the start of the agricultural season.

## FOLLOW-UP FOR GOVERNMENT ATTENTION

The Five-Year National Strategy for Sustainable Management of Fall Armyworm in South Sudan should be implemented.

## SUSTAINABILITY

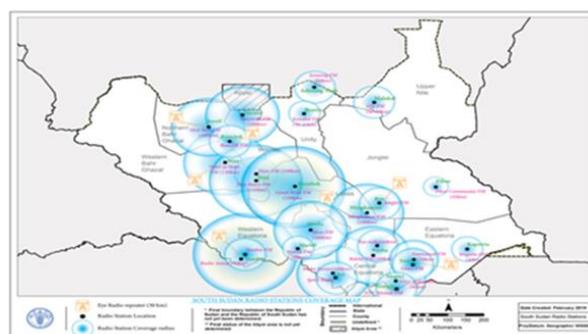
### 1. Capacity development

The “National Strategy for Sustainable Management of Fall Armyworm in South Sudan: 5-Year Strategic Action and Budget Plan (November 2018–October 2023)” is set to provide a clear exit strategy, with the Government of South Sudan taking the lead. However, the Strategy is yet to be fully implemented by the Government of South Sudan and its partners, while the relevant policies and legal framework have not yet been put in place. In addition, the phytosanitary legal framework developed through the project is still to be passed, while the project on the development of the Pesticide Law is in progress.

Although the project as not initially embedded within the organizational structures, in 2019 efforts were made to link the present project with ongoing FAO projects, field offices, partners and Ministries of Agriculture at national and state level in order to ensure continuity. The project’s capacity-building actions covered all ethnic groups across the country.

More than 500 staff from the MAFS at national and state levels, partners and greater than 2 000 farmer benefited from the project. The project provided direct benefits to (i) field and technical staff of the MAFS Department of Plant Protection at national and state levels, the Department of Research and extension services who will benefit from capacity development, technical advice, logistical support, supplies and equipment, (ii) farmers from the affected districts, who benefited from training on identification and management of FAW, as well as good agricultural practices and (iii) the farmers whose resilience and productive capacity was worst affected.

The national task force on FAW benefited from improved coordination, surveillance and the sharing and gathering of information.



Map illustrating the locations/states in which mobile applications, traps and lures were provided

The project worked closely with the MAFS, the Livelihood Cluster of the United Nations, FAO Regional Offices and East African countries working on FAW. It also created strong platforms for monitoring FAW, aligning national FAW activities and agendas with local and regional strategy. The partners included in question were Africa Development Aid (ADA), Apt Succor Organization, African Relief and Development (ARD), Central Africa Healthcare Organization (CAHO), Child Hope, Child Help Foundation (CHF), Christian Mission for Development (CMD), the Citizens and Diaspora Directorate (CIDO), the Catholic Organization for Relief and Development Aid (CORDAID), Catholic Relief Services (CRS), Equatoria Rehabilitation and Development Association (ERADA), Farmers Training Institute (FTI), Fangak Community Development Initiative (FCDI), Global Aim, Impact Actions, Initiative for Community Prosperity, Lloia Community Development Organization (LCDO), Plan International, South Sudan Agriculture Producers Union (SSAPU), South Sudan Civil Society Alliance, Stop Poverty Communal Initiative, TITI Foundation, Touch Africa Development Organization (TADO), Trust Action Youth Association (TAYA), the United Methodist Committee on Relief (UMCOR), the Universal Network for Child Defence Rights, World Food Programme (WFP), World Relief and World Vision.

## 2. Gender equality

Gender mainstreaming was part of the consultative process and was a major issue addressed throughout the project. Emphasis was placed on the participation of women in training and control of FAW, not least given that a significant amount of farming activities in South Sudan are performed by women. All training programmes, including materials, training venues, timing and management activities, were subjected to gender analysis.

During the training and selection of village facilitators, the project ensured that women were represented and selected.

## 3. Environmental sustainability

No chemicals were used for control of FAW during the project, with the exception of the biopesticide used on a pilot basis. The project can therefore be considered environmentally sound and sustainable.



## 4. Human Rights-based Approach (HRBA) – in particular Right to Food and Decent Work

The project complied with basic human rights. Populations in FAW-affected areas were provided with agriculture inputs. Youth employment was not addressed during the project.

## 5. Technological sustainability

The options recommended to farmers for the identification, monitoring and management of FAW, such as the use of biopesticides, ashes, paper and dust were appropriate, cost-effective and applied with ease.

## 6. Economic sustainability

FAO was able to obtain additional funding from the Government of Japan for a FAW project and from the United States Agency for International Development (USAID), through the Sustainable Agriculture for Economic Resiliency (SAFER) project, for support in piloting the Fawligen biopesticide in four locations (Yambio, Juba, Bor and Magwi counties).



Map of FAW incidence in South Sudan

## DOCUMENTS AND OUTREACH PRODUCTS

### Documents

- The FAW Impact Assessment is close to completion, while data analysis and report writing remain ongoing.

### Outreach material

- Fall Armyworm Management. Simple Guide for Smallholders.
- Fall Armyworm (*Spodoptera frugiperda*). Identification, biology and ecology.
- FAW Guidance Note 2. Fall Armyworm Scouting.
- FAW Guidance Note 3. Fall Armyworm Trapping.
- FAW Guidance Note 4. How to manage Fall Armyworm: A Quick Guide for Smallholders.
- FAO Training Manual on Fall Armyworm.

## ACHIEVEMENT OF RESULTS - LOGICAL FRAMEWORK

Expected Impact	Food security and livelihoods of FAW-affected counties in South Sudan are protected	
Outcome	The impact of FAW on affected farming households is minimized and a sustainable FAW management system is established in South Sudan	
	Indicator	<ul style="list-style-type: none"> <li>• Number of counties with structures for sustainable management of FAW</li> <li>• Number of CBOs and NGOs trained in sustainable management of FAW and surveillance systems.</li> </ul>
	Baseline	0
	End Target	<ul style="list-style-type: none"> <li>• 80% of the affected counties.</li> <li>• 35 CBOs and NGOs trained.</li> </ul>
	Comments and follow-up action to be taken	<ul style="list-style-type: none"> <li>• 1 000 posters and leaflets in English and Arabic were distributed to village facilitators, extension workers and farmers in target counties.</li> <li>• Awareness-raising was carried out through media campaigns: six interactive radio talk shows and episodes were produced and public service announcements were conducted in English, Arabic and other local languages.</li> <li>• 62 village facilitators (four from the MAFS, 32 from the State/County Agriculture Department and 26 from partners) were trained on FAW monitoring, impact assessment and Fall Armyworm Monitoring and Early Warning Systems (FAMEWS) data collection.</li> <li>• 240 FAW traps and 62 mobile applications were distributed to the 62 trained village facilitators for data collection and reporting in 120 counties.</li> <li>• Eight laptops were procured and distributed to the MAFS for FAW coordination, monitoring and early warning, impact assessment and management.</li> <li>• Nine backstopping missions were carried out to Juba, Yei, Yambio, Wau, Torit, Aweil, Rumbek, Bor and Renk during the project period.</li> <li>• Two training of trainers (ToT) were conducted for 152 staff from 35 CBOs, NGOs and United Nations agencies (including WFP, CRS, Norwegian People's Aid (NPA), UMCOR, South Sudan Grassroots Initiative for Development (SSGID), Adventist Development and Relief Agency (ADRA), Save the Children in South Sudan (SCiSS), Farmers' Life Development Agency (FLDA), World Vision International, Oxfam, Rural Community Action for Peace and Development (RUCAPD), War Child Canada, Plant International, Community Development Support Services (CDSS), World Relief, Global Aim, Magwe Action for Self-Reliance Association (MASRA), TITI Foundation, SSAPU, Star Trust Organization (STO), Diar for Rehabilitation and Development Association (DRDA) and the Christian Mission for Development (CMD)) in sustainable management of FAW and surveillance systems.</li> <li>• Eight workshops were conducted in Yambio, Rumbek, Wau, Aweil, Bor, Renk, Torit and Juba for 62 ToT participants, to ensure proper monitoring and data collection on FAW infestation using technical equipment.</li> </ul>

Output 1	Awareness on identification and impact of FAW improved		
	Indicators	Target	Achieved
	Pictorial FAW identification and management posters, as well as identification, impact and management leaflets targeting farmers and extension workers were distributed in both English and Arabic.		Yes
Baseline	0		
Comments	1 000 FAW identification and management posters and leaflets in English and Arabic produced and distributed to village facilitators, extension workers and farmers in target counties.		
Activity 1.1	<b>Develop awareness-raising methods (posters, brochures, radio programmes) on the correct identification of FAW, its impact and control mechanisms</b>		
	Achieved	Yes	
	Comments	1 000 FAW identification and management posters and leaflets produced in English and Arabic.	
Activity 1.2	<b>Distribute posters and leaflets targeting farmers and extension workers on FAW prevention and potential control methods</b>		
	Achieved	Yes	
	Comments	FAW identification and management posters and leaflets distributed to village facilitators, extension workers and farmers.	
Activity 1.3	<b>Undertake sensitization of farmers through the use of mass media campaigns and social institutions</b>		
	Achieved	Yes	
	Comments	<p>In collaboration with the MAFS, FAO produced radio programmes to create awareness on the potential impact of FAW and its management.</p> <p>In addition, FAO signed Letters of Agreement with local radio networks (Catholic Radio Network and the Radio Community) to produce public service announcements in English, Arabic and other local languages (Bari, Zande, Nuer, Dinka, Acholi, Otuho, Toposa and Shilluk).</p> <p>In August and September 2018, six interactive radio talk shows and episodes on the biology, identification and management of FAW were produced. Topics covered included how insecurity contributes to the vulnerability of small-scale farmers and the advantages of being a small-scale farmer in fighting FAW, as well as the use of biological control agents (natural enemies) and traditional control methods as management options for smallholder farmers in South Sudan.</p>	

<b>Output 2</b>	<b>Capacities for FAW coordination, monitoring and early warning, impact assessment and management strengthened</b>		
	<b>Indicators</b>	<b>Target</b>	<b>Achieved</b>
	Number of FAW coordination platforms functioning.		Yes
<b>Baseline</b>	0		
<b>Comments</b>	<ul style="list-style-type: none"> <li>240 FAW traps and 62 mobile applications distributed to trained village facilitators (4 from the MAFS, 32 from the State/County Agricultural Department and 26 partners) in 120 counties for data collection and reporting.</li> <li>Eight laptop computers procured and distributed to the MAFS for FAW coordination, monitoring and early warning, impact assessment and management.</li> </ul>		
<b>Activity 2.1</b>	<b>Support national taskforce visits (one per region)</b>		
	<b>Achieved</b>	Yes	
	<b>Comments</b>	Support for two national task force missions to Bor and Yambio.	
<b>Activity 2.2</b>	<b>Technical backstopping of village facilitators in FAW data collection and reporting in accessible locations across all agro-ecological zones of South Sudan</b>		
	<b>Achieved</b>	Yes	
	<b>Comments</b>	<p>Nine backstopping missions – to Juba, Yei, Yambio, Wau, Torit, Bor, Aweil, Rumbek and Renk – were carried out during the project period. Four missions were completed in October 2018 by national FAW task force members and five in May and June 2019 by FAW staff.</p> <p>Harmonized and updated data collection and established reporting mechanisms in six of the ten states in the country.</p> <p>FAW monitoring, impact assessment and FAMEWS application data collected, recorded and submitted to headquarters and the focal persons within the MAFS and FAO.</p>	
<b>Activity 2.3</b>	<b>Provide targeted training on FAW to extension agents and farmers in high-vulnerability zones at the request of the Emergency Area Coordinator/Manager</b>		
	<b>Achieved</b>	Yes	
	<b>Comments</b>	<p>Two ToTs in FAW monitoring and early warning systems, impact assessment, incidence severity and data collection were conducted in July and September 2018 in Juba for 152 state and partner staff (20 from Yambio, 18 from Torit, 24 from Aweil, 30 from Renk, 16 from Juba and 44 working on food security and livelihoods) from 35 organizations.</p> <p>Subsequently, 62 trainees were selected to attend eight training workshops conducted in Yambio, Rumbek, Wau, Aweil, Bor, Torit and Juba to ensure proper monitoring and data collection on FAW infestation using FAW traps and FAWMEW/FAMEWSv3 mobile applications from sentinel sites. Some 90 trainers were initially selected but the number was reduced due to access issues.</p>	

<b>Output 3</b>	<b>Community-based management of FAW strengthened</b>	
<b>Baseline</b>	0	
<b>Comments</b>	<ul style="list-style-type: none"> <li>• FAMEWS and sentinel sites/locations established in the country.</li> <li>• FAW database established at country level and linked to FAO headquarters.</li> <li>• Analysis of data collected using incidence and severity forms, as well as reporting, was enhanced. This data was subsequently shared with FAO and the MAFS in August/September 2019.</li> </ul>	
<b>Activity 3.1</b>	<b>Strategic partners for the development and implementation of sustainable management of FAW identified and engaged</b>	
	<b>Achieved</b>	Yes
	<b>Comments</b>	<p>During the project period, the following key partners for sustainable FAW management were identified and engaged:</p> <ul style="list-style-type: none"> <li>• STO in Yambio.</li> <li>• UMCOR in Yei.</li> <li>• SSAPU in Juba.</li> <li>• MASRA in Magwi.</li> <li>• County Agriculture Departments in a number of different states.</li> <li>• National and state-level Ministry of Agriculture.</li> </ul>
<b>Activity 3.2</b>	<b>Community-friendly effective FAW management methods identified and promoted</b>	
	<b>Achieved</b>	Yes
	<b>Comments</b>	Four locations were identified (Bor, Yambio, Juba and Magwi) for testing of biopesticides (Fawligen) for national FAW management. Trials are ongoing and have produced significant results.
<b>Activity 3.3</b>	<b>Periodic reports on FAW management and impact are produced and shared with relevant stakeholders at local, national and regional levels</b>	
	<b>Achieved</b>	Yes
	<b>Comments</b>	<ul style="list-style-type: none"> <li>• Four updates and maps on the status of FAW were provided to the national Food Security Cluster and a further three during the regional forum on FAW.</li> <li>• Maps and July-September 2019 inputs were shared with the regional team.</li> </ul>

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