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Briefing Note on FAO Actions on Fall Armyworm in Africa

FAO Briefing Note on FAW
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BACKGROUND

Fall Armyworm (*Spodoptera frugiperda*), FAW, is an insect native to tropical and subtropical regions of the Americas. Its larval stage (photo) feeds on more than 80 plant species, including maize, rice, sorghum, millet, sugarcane, vegetable crops, and cotton. FAW can cause significant yield losses if not well managed. It can have a number of generations per year and the moth can fly up to 100 km per night. Its modality of introduction along with its biological and ecological adaptation across Africa are still speculative.

FAW was first detected in Central and Western Africa in early 2016 and since then has been reported and confirmed in all of mainland Southern Africa (except Lesotho), Madagascar, and Seychelles (Island State). To-date, FAW has been detected and reported in almost all of Sub-Saharan Africa, except in Djibouti, Eritrea, and Lesotho. A map on page 6 shows the spread of the pest to-date. Since the pest was detected in Sudan, Egypt and Libya must be on alert.

FAW is a dangerous transboundary pest with a high potential to continually spread due to its natural distribution capacity and trade. Farmers will need significant support to sustainably manage FAW in their cropping systems through Integrated Pest Management.



Figure 1- FAW feeding on a maize leaf, Zimbabwe. ©FAO/Edward Ogolla

FAO COORDINATION ROLE IN FAW MANAGEMENT

- 1. A Framework for Partnership for Sustainable Management of the Fall Armyworm in Africa:** FAO formulated a Framework for Partnership for sustainable management of the Fall Armyworm in Africa intended as a guide for the development of projects and programmes by the various stakeholders in the areas of their comparative advantages, including FAO. The Framework was presented during the 2nd Conference of the AU Specialized Technical Committee on Agriculture, Rural Development, Water and Environment on 3 October and received the STC endorsement. The Framework composed of seven components,

Management of FAW; Immediate Recommendations & Actions; Short-term Research Priorities; Medium to Long-term Research; Communications & Training; Surveillance & Early Warning; Policy & Regulatory Support; Coordination, is being currently revised.

2. **FAO Programme for Action for Sustainable Management of the Fall Armyworm in Africa.** Based on the Framework for Partnership, FAO formulated a Programme for Action composed of six components costed at USD 87 million. This Programme was presented as a side event at the African Union Second Conference of the Specialized Technical Committee on Agriculture, Rural Development, Water and Environment, during a Partners' Round Table on 4 October 2017 and during the consultative meeting in Rome on 28 November.
3. **African Union meeting:** The Framework for Partnership on FAW sustainable management in Africa was endorsed by the ministerial segment of the AU Specialized Technical Committee on Agriculture, Rural Development, Water and Environment on 6 October 2017. A Partners' Round Table on FAO Programme for Action for Sustainable Management of the FAW in Africa was organized on 4 October 2017 as a side event of the 2nd AU STC.
4. FAO organized a **consultative meeting** with resource partners in Rome on 28 November on Fall Armyworm, in preparation for a possible pledging meeting on FAW to take place in early 2018.
5. **The Southern Africa Fall Armyworm Stakeholders' Awareness, Partnership and Coordination meeting.** This meeting was organized by FAO and SADC, 30 November – 01 December 2017, to discuss the regional FAW response actions, lessons learnt, challenges, and preparedness plans for the 2017/2018 production season. The meeting was attended by representatives of SADC Member States, COMESA, resource and development partners, farmer's organizations, non-governmental organizations, academia, and research organizations. The meeting resolved that stakeholders should focus more efforts on the development of appropriate education programmes and materials for farmers. It emphasized the need for countries to adopt IPM that encourages healthy crop growth with the least possible disruption to agroecosystems and natural pest control mechanisms. The meeting also resolved to create a sub-regional FAW Task Force to be chaired by SADC, with FAO as Secretariat and membership drawn from representatives of the national task forces and key stakeholders. The Task force is to have virtual meetings every month to review FAW interventions in the SADC countries.
6. **Consultative meeting** in Harare (14-16 February 2017). It was organized by FAO with governments and stakeholders from Southern Africa. The meeting addressed pest awareness, situational update, emergency preparedness and rapid response for management of transboundary plant pests and animal diseases.
7. FAO organized and co-organized two back to back meetings in Nairobi:
 - a. **FAO Southern Africa FAW Technical Meeting (25-26 April 2017)** was held to review and update the current status of the pest as well as to assess its impact on production and livelihoods, with extended participation of all FAO sub-regional offices in Africa.
 - b. **All Africa Stakeholders Consultation meeting's AGRA/CIMMYT/FAO (27-28 April 2017)** main objectives were to review the status of the pest incidence and impact in Africa and discuss the options for minimizing damage caused by FAW. Participants in the meeting included CIMMYT, IITA, CABI, AGRA, National Governments, Plant Protection Officers and Extension Staff, Coordination of Agricultural Research and Development for Southern Central Africa, Resource

Partners, and world-renowned experts on fall armyworm research. It was agreed that FAO would take the lead coordination in FAW response in Africa.

FAO ACTIONS IN RESPONSE TO FAW

FAO has taken and is taking several actions in response to FAW:

- 1. FAO projects:** Since the onset of FAW, FAO has undertaken several actions to strengthen African countries' capacities to respond to FAW through Technical Cooperation Programme (TCP) projects and other funding mechanisms. So far, as of January 2018, a total of 28 FAW projects (11TCPfs and 17 fully fledged TCPs) have been approved totaling USD 6,704,000. An additional FAW pipeline project with a budget of USD 344,000 is being reviewed for funding by RAF. An additional FAW pipeline project with a budget of USD 344,000 is being reviewed for funding. These projects aim to provide awareness raising, sensitization and strengthening of pesticide management capacity at the producer level, strengthening capacity on early identification of FAW, efficient pesticide application and best practices, and the restoring of productive capacity. Japan supported South Sudan with USD 3m through FAO and WFP to support local authorities and farmers in controlling FAW. An FAO OFDA funded project of USD 944,000 is being implemented in East African countries to support the establishment of a community based FAW monitoring, forecasting, early warning, and management system. Ireland supported Kenya and Ethiopia with a USD 500,000 FAO project.
- 2. FAW Experts Meeting:** FAO organized a South-South Cooperation FAW Technical Experts' Meeting in Accra, Ghana from 18-20 July bringing together experts from the Americas, Africa, and others, to share and update the state of knowledge on sustainable FAW management for smallholder family farmers. The experts reviewed key areas of management, including biological control, monitoring, economic thresholds, bio-insecticides use, and the impact of plant biodiversity on FAW ecology. A synthesis report of the meeting has been prepared and shared with partners and can be found on (<http://www.fao.org/food-chain-crisis/how-we-work/plant-protection/fall-armyworm/en/>).
- 3. FAW early warning system development:** FAO IT-Solutions has developed a mobile phone app (FAMEWS) to be used by farmers, community focal persons and extension agents to collect data when scouting fields and checking pheromone traps. FAMEWS will incorporate a tool to diagnose FAW damage and will be linked to a web-based early warning platform. FAO has identified several vendors that will be pre-qualified to ensure rapid delivery of high quality traps and lures. Innovative technologies are being considered to monitor FAW and diagnose damage using drones, remote sensing, artificial intelligence learning, and Google Earth Engine.
- 4. Farmers Field Schools (FFS) and training of rural advisory services and farmers:** FAO has facilitated the preparation of a FFS field guide on Integrated Pest Management for FAW to which FFS Master Trainers and many research institutions contributed. Training topics cover FAW identification, FAW biology and ecology; plant diversity, soil health management and other preventative measures to reduce infestation and help plants withstand damage to minimize yield loss; early scouting; mechanical controls; use of botanical pesticides, biopesticides and biological control agents; pesticide risk reduction; community monitoring and surveillance; and more. Training of FFS Master Trainers and experienced practitioners has taken place in all sub-regions of Sub-Saharan Africa through 5

regional training workshops. Additional regional training of FFS Master Trainers are planned for the first semester of 2018. National-level trainings of FFS facilitators have been held in many countries including Benin, Burkina Faso, Cameroun, Democratic Republic of Congo, Ethiopia, Lesotho, Malawi, Mozambique, Namibia, Niger, Nigeria, Senegal, Swaziland, Zambia, and Zimbabwe, so that FFS can be rolled out through thousands of FFS implemented by FAO, Governments, extension services, farmer organizations and their financial and technical partners. In addition to FFS, trained FFS facilitators, who are often government rural advisors/extension agents, can also conduct 1-2 day field courses for farmers, to reach rural communities rapidly. Information sharing mechanisms have also been established including a FAW webpage on the Global FFS Platform <http://www.fao.org/farmer-field-schools/en/> and an active whatsapp group of FFS trainers across Africa.

5. **FAW risk assessment and modelling:** FAO and DFID are co-organizing a workshop on 2 February 2018 to assess the risk of household food insecurity due to FAW in Africa.
6. **FAO technical working groups coordinated by FAO:** Eleven technical working groups coordinated by FAO were formed, each led by the appropriate institute/organization; namely, biological control; bio-pesticides; synthetic chemical pesticides; monitoring and early warning; communication, awareness and knowledge management; farmer field schools, extension, plant clinics; agro-ecology; impact assessment; conventional host plant resistance; transgenic resistance; quarantine and phytosanitary measures. Most groups have developed their priorities and results are presented in the regular coordination teleconferences. The TWGs will prepare action plans for 2018.
7. **A side event** on FAW status in Africa and the way forward took place during the FAO Conference on 4 July 2017. The event panel gathered Ministers of Agriculture from Zimbabwe and South Africa, Deputy Minister of Ghana, Ambassador of the UK, and Director of DFID Africa.
8. **Technical Guidance Notes, Q&A, regular updates, maps, reports, guides, key messages, etc... on FAW** are regularly posted on the FAO Food Chain Crisis website (<http://www.fao.org/food-chain-crisis/how-we-work/plant-protection/fall-armyworm/en/>).

Specific actions at sub-regional level:

Central Africa: A FAW training of trainers on FAW management was organized in Yaoundé 2-7 October in collaboration with IITA and gathered 40 participants coming from 8 countries in the Central African region. Each country was represented by at least 3 experts (NARS, FFS expert, NPPO). Countries had been requested to elaborate their strategic plan for FAW management. FAO organized a workshop with stakeholders in Central Africa; namely NPPO's, IAPSC, IITA, the RECs (ECCAS and CEMAC) and PRASAC, in Kinshasa, DRC, 11-13 July 2017. A sub-regional roadmap was developed. FAO organized a project-closing workshop in Sao Tome and Principe, 24-26 October, during which the country elaborated its national strategic plan for FAW management.

Eastern Africa: FAO has been facilitating information and knowledge exchange among countries within Eastern Africa and between the various sub-regions in addition to enhancing South-South Cooperation. Japan supported South Sudan with USD 3m through FAO and WFP to support local authorities and farmers control FAW. FAO is implementing a project funded by USAID/OFDA for a budget of USD 944,000 “Establishing an emergency community-based Fall Armyworm monitoring, forecasting, early warning and management system in eastern Africa,” in collaboration with the Desert Locust Control Organization for Eastern Africa (DLCO-EA), CABI, ICIPE, and Ministries of Agriculture of Eastern African countries. Work plans and standardized protocols were developed with all project stakeholders at a recent Inception Workshop in Entebbe, Uganda (13–15 November 2017).

FAO conducted a sub-regional FAW training of trainers in Addis Ababa, 24-28 July 2017 to increase the skills and knowledge of national plant protection and extension experts on FAW.

FAO and ASARECA co-organized a Sub-regional FAW Strategy Development Meeting from 18-20 September 2017 in Entebbe, Uganda. The meeting brought together a wide range of stakeholders (RECs, relevant research and development organizations, governments, private sector, resource partners, etc.) to ensure a strong coordination of FAW management at the sub-regional level. A sub-regional strategic plan was developed following the FAO Strategic Framework. This meeting was preceded by the USAID-CIMMYT Workshop on FAW Pest Management Field Manual Development (Sept 16-17, 2017). During January 2018, FAO and MAAIF held the inception/planning workshop for Uganda’s TCP project on FAW, while South Sudan organized the validation workshop of its FAW national strategy and a national training of trainers workshop on FAW management.

Southern Africa: FAO in collaboration with the Agricultural Research Council, CABI and CIMMYT conducted a regional FAW Training of Trainers (ToT) in Pretoria, South Africa, 26-31 June 2017 to increase the skills and knowledge of national plant protection and extension experts on FAW. Topics covered included FAW identification and diagnosis, scouting, early warning systems, contingency planning, impact assessments and integrated management options for the pest.

FAO facilitated a USAID funded Regional Refresher Training for Farmers Field School (FFS) Master Trainers on Fall Armyworm Management, 20-27 September, 2017 in Malawi under the theme: “*Farmer Field Schools: a platform for sustainable management of Fall Armyworm Infestation in Africa*”, attended by 10 SADC countries. Further, a number of national ToT facilitated by FAO took place in Malawi, Namibia, Mozambique and South Africa.

On 18 December 2017, the government of Malawi declared a state of disaster due to FAW. An estimated 130 000 farming households were affected by the outbreak. In neighboring Zambia, the pest outbreak was reported in all ten provinces during the 2017/2018 farming season with varying infestation levels.

Western Africa: FAO conducted a sub-regional FAW Training of Trainers in Abuja, Nigeria, 5-10 September 2017, to increase the skills and knowledge of national plant protection and extension experts and FFS practitioners on FAW in Western Africa. FAW is damaging vegetable gardens in Liberia. Mali has recently requested emergency support to contain FAW expansion in the country.

Map of areas affected by Fall Armyworm (as of January 2018)

