



BRIEFING NOTE ON FAO ACTIONS ON FALL ARMYWORM

---Latest updates ---

- **Spread.** Fall Armyworm (FAW) has spread across sub-Saharan Africa. In July 2018, its presence was confirmed in India and Yemen. As at January 2019, it has been reported in Bangladesh, Myanmar, Sri Lanka, Thailand and China. The latest map of FAW spread is provided at page vi.
- **FAO projects.** A new Technical Cooperation Programme (TCP) was established in Yemen, to provide emergency responses and enhance technical capacity for FAW early warning, monitoring and management. In addition, Ireland has funded the “Fast tracking fall armyworm management and response” programme for East Africa through 2019.
- **Early warning system.** Nuru, the artificial intelligence machine app detecting FAW damage on maize, is being embedded into the FAMEWS app and will be available soon after field validation.
- **Farmer Field Schools (FFS).** Trainings were held for farmers and scouts in East Africa.

---Background---

Fall Armyworm (*Spodoptera frugiperda*), FAW, is an insect native to tropical and subtropical regions of the Americas. Its larval stage feeds on more than 80 plant species including maize, rice, sorghum, millet, sugarcane, vegetable crops and cotton. FAW can cause significant yield losses if it is not well managed. Its modality of introduction, along with its biological and ecological adaptation across Africa, are still subjects of speculation.

FAW was first detected in Central and West Africa in early 2016. Today, it is present in all countries of sub-Saharan Africa except Lesotho. At the end of July 2018, FAW was detected in Yemen and in India: the first occurrence in Asia. As at January 2019, it has been reported in Bangladesh, Myanmar, Sri Lanka, Thailand and China. The map on page vi illustrates the spread of the pest to date.

FAW is a dangerous transboundary pest with a high potential to spread continually due to its natural distribution capacity and international trade. Farmers need significant support if they are to be able to manage FAW sustainably in their cropping systems through Integrated Pest Management (IPM) activities.

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---FAO's coordination role in FAW management---

1. **A Framework for Partnership for Sustainable Management of the Fall Armyworm in Africa:** FAO has formulated a Framework for Partnership for Sustainable Management of the Fall Armyworm in Africa. The Framework is intended as a guide for the development of projects and programmes by the various stakeholders, including FAO, in the areas of their comparative advantages. During the Research for Development conference held in Addis Ababa in October 2018, FAO was reconfirmed as the coordinator of the research activities and action in the field. In 2019, the emphasis will be on strengthening the Technical Working Groups (TWGs) and harmonizing all FAW projects. 
2. **New FAW website.** The new FAW website was launched in December 2018 and is now also available in [Portuguese](#).

---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 countries' capacity to respond to FAW through TCP projects and other funding mechanisms. A new TCP was established in Yemen to provide emergency response and enhance technical capacity for FAW early warning, monitoring and management. The project aims to reduce the infestation and spread of FAW through implementation of the FAW Monitoring and Early Warning System (FAMEWS), the production of communication material, and provision of training via FFS. In addition, Ireland has funded the "Fast tracking fall armyworm management and response" programme, to be conducted in East Africa (Ethiopia and Kenya) through 2019.

South-South Cooperation:

As there is significant experience with and knowledge about sustainable FAW management practices in the Americas (and, now, in Africa too), that is extremely relevant to the new regions to which FAW has recently spread (Near East and Asia), FAO will soon implement two new projects:

- 1) An interregional TCP for Africa, the Near East and Asia, focusing on the exchange of knowledge and advice. FAO will collaborate closely with the Brazilian Agricultural Research Corporation (EMBRAPA). Through research and advice, EMBRAPA has supported farmers in Brazil in managing FAW for over 20 years. By sharing the local producers' experience with biocontrol agents, countries and regions will greatly benefit from each other's capabilities and know-how. The first trainings with experts from EMBRAPA on the local production of *Trichogramma* and *Bacillus thuringiensis* will take place in March for Cabo Verde, Guinea Bissau and Mozambique.
- 2) In close collaboration with the Chinese Academy of Agricultural Sciences (CAAS), FAO has developed the South-South Cooperation Programme entitled "Strengthening inter-regional cooperation for the sustainable management of FAW through South-South Cooperation". This programme is envisaged to facilitate the further development of Monitoring and Early Warning Systems (MEWS) and to enhance countries' capacities to manage FAW with biology-based means, such as *Trichogramma* and *Bacillus thuringiensis*.

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In this context, FAO is organizing a consultative meeting for Asia, the new FAW region. The meeting will take place in Bangkok from 20 to 22 March 2019 and will introduce tools and guidance to help countries in the region monitor and sustainably manage FAW. Furthermore, a strategic framework for sustainable FAW management in Asia will be developed, including a community of experts who can provide technical and policy advice. FAO partners in this conference include CABI, CAAS, CIMMYT and USDA.



2. **FAW early warning system development: PlantVillage Nuru, a digital artificial intelligence assistant**, helps farmers diagnose crop diseases in the fields. This app is being further integrated into FAMEWS to allow for more accurate FAW detection. Currently entering into phase 3 of its development, FAMEWS will become even more user-friendly and will have an updated design.
3. **FFS and training of rural advisory services and farmers**: FAO has facilitated the preparation of an FFS field guide on IPM for FAW. The guide, which has received contributions from FFS master trainers and several research institutions, was launched on 16 February 2018.
In **East Africa**, FAW scouts in Kenya have been trained on the mechanical control of FAW and were deployed during the recent short rains season. Furthermore, FFS initiated and conducted several trials on the control and management of FAW. In Ethiopia, field schools have been established and are currently training farmers on various technologies for the management and control of the crop pest.
4. **FAW risk assessment and modelling**: FAO and DFID co-organized a workshop (held on 2 February 2018) to assess the risk of household food insecurity due to FAW in Africa. The outcome of the workshop was to develop a model for risk assessment relating to FAW.
5. **FAO-coordinated TWGs**: 11 TWGs were formed, each led by the appropriate institute or organization and coordinated by FAO, on the following topics: 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 already developed their priorities; their results are presented during coordination teleconferences held on a regular basis.
6. **Technical Guidance Notes, Q&As, regular updates, maps, reports, guides, key messages**, etc. on FAW are regularly posted on the FAO Food Chain Crisis website (<http://www.fao.org/fall-armyworm/en/>).
7. **Crowdsourcing knowledge on FAW**. FAO is announcing a new effort to share knowledge more rapidly through PlantVillage (<https://plantvillage.psu.edu/>). PlantVillage is a six-year-old, public-good platform created and managed by Penn State University. To date, it has received over 8 million visitors and has approximately 100 000 new visitors every month.

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---Specific actions at regional level and sub-regional level---



AFRICA

Central Africa

A FAW Training of Trainers on FAW management was organized in Yaoundé from 2 to 7 October 2017, in collaboration with the IITA. The training gathered 40 participants from eight countries in Central Africa. At least three experts (NARS, an FFS, NPPO) represented each country. The countries had been asked to elaborate their strategic plan for FAW management. FAO organized a workshop with stakeholders in Central Africa; namely NPPOs, IAPSC, IITA, the RECs (ECCAS and CEMAC) and PRASAC, in Kinshasa from 11 to 13 July 2017.

A subregional roadmap was developed. FAO organized a project-closing workshop in Sao Tome and Principe (24–26 October 2017), during which the country elaborated its national strategic plan for FAW management.

East Africa

In Kenya, FAW field scouts were trained on mechanical control in two counties (Bungoma, 50, and Embu, 100). During the second half of the short rains season (mid-November to mid-December), these scouts supported the monitoring of maize crops and conducted mechanical control (that is, crushing eggs and killing larvae) of the FAW found. Additionally, 20 FFS in the two counties were identified to test different FAW management and control options. These field schools received facilitator training and learning materials from FAO, as well as other support from various partners.

In Ethiopia, 49 field schools were established in Amhara, Oromia and SNNRP with one trained facilitator per school. These schools are currently undertaking trials on FAW control and management options and are training farmers on these practices.

Regionally, FAO is also supporting FAW monitoring, coordination and information-sharing activities through the rollout of FAW dashboards across East Africa. These dashboards provide information to decision-makers on the prevalence of FAW at subnational level, the populations affected, and the status of FAW-related response programmes. These dashboards will be continued during the upcoming rainy seasons, and will be further rolled out to other affected regions in the coming months.

Southern Africa

FAW continues to affect countries in Southern Africa. In Zimbabwe, 28 103 ha of maize and 1 204 ha of small grains across the country are reported to have been affected by FAW. An estimated 1 134 farmers were trained in the last two months, bringing the cumulative total to 108 266 out of an estimated 1.8 million farmers. The most affected areas are Mashonaland Central and West. In Mozambique, the highest prevalence is in the northern and central provinces of Cabo Delgado (Balama district), Nampula, Sofala (Gorongosa district) and Zambézia (Milange district) respectively. The most common control approach is the use of pesticides. FAW has been reported in all provinces of Zambia. In South Africa, the most affected areas are in Limpopo province.

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Madagascar is reporting high prevalence of the pest, with the Government deciding to effect emergency response measures. Training of farmers and extension officers is still ongoing across the subregion.

FAMEWS is operational in a number of countries in the subregion. Some countries have procured cheap smartphones to support data capture for the rollout of the system. Mozambique has procured 70 smartphones, and Zimbabwe has obtained 340. Zambia is in the process of procuring 1 000 smartphones. Key donors supporting FAW work in the subregion include FAO TCPs, the Japanese International Development Cooperation (Botswana), USAID (Mozambique), the African Development Bank (Zambia), Belgium (Malawi, United Republic of Tanzania and Zambia), and NORAD (Madagascar).

Farmer management practices include – based on information from FAMEWS – synthetic pesticides, botanicals, cultural methods, physical (crushing) methods and biopesticides.



West Africa

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

Middle East

Based on the rapid spread of FAW in Yemen, it was agreed that a TCP on FAW is necessary. Accordingly, in December 2018, FAO launched a TCP on “Strengthening capacities and increase preparedness level for FAW”. The project, which is envisaged to end by November 2020, involves 12 countries in the NENA region.

ASIA

FAW presence has been confirmed in Bangladesh, Sri Lanka, Myanmar, Thailand and China from December 2018 to January 2019, after it was first detected in India in July 2018.

A consultative meeting on FAW will be held in Bangkok from 20 to 22 March 2019, with the following objectives:


- raising awareness of the risks of FAW spread within countries and internationally;
- introduction of the available tools and guidance that will help the countries to monitor and sustainably manage FAW;
- exchange of experiences and lessons learnt from the recent invasion in Africa, and development of a community of experts to provide technical and policy advice;
- fine-tuning the strategic framework for sustainable FAW management to the Asian context, including actions that can be taken at regional and country level.

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Map of areas affected by FAW (as at March 2019)



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 FAW detected and officially reported

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MORE INFORMATION

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