



Food and Agriculture
Organization of the
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REPORT

2022 Mid-year meeting on the implementation of FAO Global Action for Fall Armyworm Control in Africa

07 June 2022

FAW Secretariat, Global Action for FAW Control

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1. Opening Remarks

- [1] Mr Jingyuan Xia, Executive Secretary of the Fall Armyworm (FAW) Secretariat and Director of Plant Production and Protection Division (NSP), opened the meeting and welcomed the 38 participants and observers, including National Focal Points (NFP) from the demonstration and the pilot countries in Africa. He emphasized the value of the FAO Global Action (GA) for Fall Armyworm Control and noted it has created a functional and effective coordination network across eight geozones, each with a demonstration country that is, in turn, linked with a total of 54 pilot or scale-up countries.
- [2] Mr Xia noted that in 2016, only six African countries reported the insect pest; but today, over 79 countries across Africa, the Near East, Asia and the Pacific are reporting FAW. That includes new reports in 2022 of the pest in the Kingdom of Saudi Arabia and in New Zealand. In Africa alone, FAW is estimated to have caused annual losses as high as USD 9.4 billion; furthermore, FAW introduction also intensifies the use of chemical pesticides in many countries, risking human and environmental health.
- [3] At the last meeting of the Global Action Steering Committee, chaired by FAO Director-General QU Dongyu, the committee supported an extension of the GA for an additional year, through 2023. This will provide the time to double-down on the dissemination of integrated pest management (IPM) technologies for FAW control. The extension to 2023 will also be used to prepare for the expansion of the GA's scope, said Mr Xia. This means that lessons learned in the fight against FAW can be applied in managing other invasive pests and diseases. This is essential as each year, invasive insect pests alone cost a minimum of USD 70 billion globally. Beyond 2023, it's hoped that a new global initiative on Plant Health Management can be launched, tackling multiple pests and diseases and contributing directly to the One Health issues.
- [4] Meanwhile, the GA is showing very encouraging reports from the field level, with positive impacts in the four African demonstration countries: Burkina Faso, Cameroon, Kenya, and Malawi. In addition, the Centre for Agriculture and Biosciences International (CABI) starts its Global Impact Study, developing a methodology to assess the impact of FAW and the GA, and piloting the method in Kenya and India. The FAO FAW Secretariat is also collaborating with World Agroforestry Center (ICRAF) to create a globally-standardized protocol for field experiments and data collection. The online data collection tool should be launched in July 2022.
- [5] Mr Xia said that since 2022 is the year of action in the field, much more emphasis must be placed on field studies, field demonstrations and farmer field schools (FFS). Regional information exchanges, in-person or as a hybrid events, must also commence, wherever possible.
- [6] He outlined objectives for this meeting: first, participants will report on progress in implementation of the GA and major achievements in the first semester of 2022, from January through June. Second, they will share information and planning for the second semester of 2022, at the global, regional, and national levels; third, major challenges ahead will be analysed; and fourth, the way forward will be described, including direction and tasks. As well, Ghana – as a case study representing pilot countries under the GA – will report on its activities.

2. Adoption of the Agenda

- [7] Mr Maged ElKahky, Agricultural Officer (NSP) and moderator of the meeting, outlined the agenda (*Appendix 1*), which was adopted.

3. Reports from Demonstration Countries

- [8] Demonstration countries in Africa reported on the FAW situation, their major activities and achievements of the first semester of 2022, core activities planned for the second semester, and suggestions for the GA.
- [9] **3.1 Burkina Faso** Mr Nabie Bekouanan, Ministry of Agriculture and Food Security, Burkina Faso, reported that the majority of farmers were using chemical pesticides, most with an emamectine benzoate base, to fight FAW.
- [10] Key results of research initiated one year ago by research institutes at Nazi Boni University (UNB) and Joseph Ki-Zerbo University (UJKZ) included production and release of *Telenomus remus*, a parasitoid that preys on FAW eggs. Early findings suggest that one release is not effective in destroying FAW eggs; instead, at least two releases of the parasitoid are required. Other research involved maize, including local and improved varieties, suggesting that in both the laboratory and the field, the variety KEJ is the most tolerant of FAW, followed by varieties Wari, SR21 and Bondofa. Research into mass trapping of FAW adults suggested that artisanal traps were not efficient; trapping was dependent on density of conventional traps; and mass trapping is possible, but the number of traps must be increased. Efficacy of local strains of entomopathogens is being researched.
- [11] Mr Bekouanan recommended accelerating LoAs with FAO for implementation of the GA; accelerating allocation of the financial resources necessary for implementation of GA activities and IPM strategies; boosting national FAW monitoring and early warning systems (EWS); and supporting ongoing research activities at the university level.
- [12] **3.2 Cameroon** Mr Colince Nguelo, Directorate of Agricultural Development, Ministry of Agriculture and Rural Development (Minader), said the University of Douala is testing technologies to manage FAW (evaluation of five different plant species with insecticide effects, evaluation of a local plant that can play a role in a push-pull system, and recycling of entomopathogens found in the field.) As well, the Agricultural Research Institute for Development (IRAD) is testing biological pesticides, and multiplication of hybrid seeds from the International Maize and Wheat Improvement Center (CIMMYT) was to begin in June 2022.
- [13] Three demonstration platforms are examining: how staggered sowing and late sowing could result in more FAW eggs, and thus, increase the percentage of FAW infestation affecting yield; how the association of maize and local legumes could influence FAW infestation; the effects of adequate fertilization (organic and inorganic) on the incidence of FAW; the use of neem extracts in the fight against FAW; the use of Bt based biopesticides in FAW control.
- [14] Outreach in the first semester included a regional training workshop from 28 February to 2 March 2022 for GA implementation in the central Africa geozone, involving NFPs from five countries in the region and 20 extension workers from all the regions of Cameroon. During the training an IPM strategy was reviewed and validated, participants were trained on FAW monitoring using the FAMEWS app, and sustainable management using IPM options identified.
- [15] **3.3 Kenya** Ms Rose Kamau of the Plant Protection and Food Safety Directorate, on behalf of Mr Francis Musavi, Plant Protection Service Division, Ministry of Agriculture, said that key activities in the first semester of 2022 included training in monitoring and early warning conducted by FFS facilitators and three meetings were held by the national technical team. Demonstration plots established in the first semester were evaluating: a botanical extract from *Tithonia diversifolia*, aloe vera, and chilies; intercropping between maize and beans; a biopesticides application (*Nimbecidine*); and push-pull with a mono crop of a maize stand.

- [16] No field days were held in the first semester 2022 because plots were being established; national and geozone training is planned for the second semester; and no impact assessment has been conducted. Challenges in the first semester included financial constraints, she said. Kenya expected to receive funding for the year 2022 through the GCP/GLO/479/CPR Project which has not yet been operationalized. Thus, the NTF has not been able to support field monitoring activities, and large-scale demonstration plots are not yet possible.
- [17] Recommendations include improved budget support to country activities for effective implementation; development of a common monitoring template to harmonize global, regional, and national reporting; support for Kenya in establishing FAW monitoring and EWS; support for an impact assessment; resource mobilization for country activities; and support for farmer trainings on FAW management.
- [18] **3.4 Malawi** – Ms Ida Mwato, Department of Crops, Ministry of Agriculture, said FAW is one of Malawi’s most significant insect problems in crop production, especially maize, throughout the year. Some 1 455 798 ha of maize was planted between December 2020 and March 2021; FAW infestation was reported in all districts, ranging from 1 percent to 26 percent in most parts of the country. A total 304 392 ha of maize, 150 ha of sorghum, and 41 ha of millet were affected nationwide, impacting about 621 315 farm families.
- [19] To date, farmers have sprayed 59 405 ha of crop area to control the pest. In some districts, the infestation level has surpassed 20 percent, especially in the hot spot areas like Karonga (26 percent).
- [20] Three demonstration sites were initiated (the fourth was damaged by a cyclone): Chitedze Research Station (national) 10 ha; Luanar (regional) 5 ha; Lweya Irrigation Scheme (regional site north) 5 ha. Across sites, crops were treated with different management and botanicals, including neem based on scouting results, *Tephrosia vogelli ombwe*, *Neorautanenia mitis dema mphanjobvu*, maize/cowpea intercrop, maize/soya bean, maize/pigeon peas, mulching, a *flubendiamide* synthetic pesticide, and an untreated crop regularly scouted. Good agricultural practices were applied at all plots (timely field operations, use of improved and good quality seed.)
- [21] FAW management achievements-results and impact in terms of increased profitability or environmental impact at plot/farm level: farmers are adopting cultural control options as part of IPM to reduce reliance on synthetic pesticides (e.g. use of certified seed, use of organic manure, early planting, intercropping); increased adoption of botanical pesticides; frequent monitoring and spraying based on scouting results; most farmers now aware of use of low-risk pesticides based on the green (preventive) and yellow (low-risk control options) approach; use of indigenous control options like sand, fish soup, soap; physical control.
- [22] Indicators of an improvement in farmers’ capacities in Malawi include the fact most farmers are able to identify FAW and are also able to practice IPM in FAW management, combining a number of management options; pesticides are a last resort. Farmers are now aware of hazards associated with over-dependency on synthetic pesticides and adopting safer control options, as well as spraying based on scouting results.
- [23] Milestones for Malawi to date include: five technologies evaluated and validated; capacity development shown by training 800 staff and 480 000 farmers in FAW management; 28 FFS established (one per district); 25 000 information materials on FAW management (leaflets, flyers, posters) printed and distributed; and 140 plant clinics established and operational. FAW management was demonstrated at seven sites, two farmer tours conducted, 21 field days (local and

international), three programmes/video documentaries on FAW management produced, and two learning events/webinars held for district, national and subregional stakeholders.

- [24] **3.5 Ghana (pilot country)** Mr Copperfield K Banini, Deputy Director, Plant Protection and Regulatory Services Directorate (PPRSD) of the Ministry of Food and Agriculture (MOFA), reported that since FAW arrived in Ghana in 2016, the PPRSD, in collaboration with CABI and other stakeholders, developed action plans that emphasize coordination, collaboration, awareness-raising, surveillance, and research into sustainable management of the pest. This has dramatically reduced the use of chemical pesticides to control FAW. From 2017 to 2022, farmers' use of various insecticides dropped, from 124 341 litres in 2017, to 87 000 litres in 2021 and 40 000 litres to date in 2022. In 2017, some 249 054 ha were infested with FAW and treated, and 14 247 was destroyed by FAW, he said. By 2021, 179 711 ha were infested and treated, and all recovered with none destroyed by the pest.
- [25] Past activities in Ghana have included: awareness creation, capacity building, procurement and distribution of synthetic/biorational insecticides without charge, regional and district task forces created, cooperative spraying teams established in all districts, pheromone traps to monitor FAW population dynamics, scouting, collection and identification of indigenous biocontrol agents.
- [26] In collaboration with CABI, universities and other research Institutions, research was conducted into IPM methods, including such cultural practices as intercropping, removal of volunteer crops and alternative hosts to reduce carry-over of larvae. Biocontrol agents and biopesticides, and strong surveillance and monitoring systems, were also deployed.
- [27] Awareness-raising efforts included: a media briefing about FAW with 47 media representatives; FAW broadcast jingles developed and aired in Ghana's official language and eight local languages on more than 43 radio stations and Community Information Centres across the country. Television and radio talk shows on the subject were organized and a FAW documentary developed and broadcast on TV.
- [28] Training of trainers (ToT) workshops for 386 MoFA staff held on FAW management; 20 PPRSD regional officers trained on FAO's FAMEWS app, and training of another 432 MoFA staff on FAMEWS is ongoing. In terms of capacity building, step-down training has been held for at least 64 800 farmers on FAW management and for 65 media personnel on effective reporting of infestations.

4. Report from the Region

- [29] Regions outlined the FAW situation from their perspectives, as well as the major achievements for the first semester of 2021, and core activities planned for the second semester.
- [30] Mr Jean Bahama, Regional Coordinator for Africa, Global Action for FAW Control in the FAO Regional Office for Africa (FAORAF), said that regional coordination and information sharing activities in the first semester 2022 included: RAF's second Steering Group Meeting on 27 April 2022; FAO's subregional Office for Eastern Africa (SFE), in collaboration with the International Centre of Insect Physiology and Ecology (icipe), organized a two-day training on the use of biological control agents and biopesticides for FAW control in Eastern Africa 14-15 March 2022 and a technical guide on specific biological control and biopesticide options for FAW control in the subregion was prepared; and information sharing and technical support on monitoring, forecasting and early warning for FAW is continuing.
- [31] In the FAO Subregional Office for Southern Africa (SFS), FAW-related knowledge and information products are regularly shared with the Coordination Unit for Plant Production and Health (CUPPAH) members; CUPPAH meets monthly for updates on FAW and other activities at country level; a workshop held for validation of the Southern Africa FAW IPM Package; an SFS technical backstopping

mission in Malawi held to support implementation of GA activities; plans are underway for the second subregional FAW Steering Group meeting for June/July 2022.

- [32] In the FAO Subregional office for Western Africa (SFW), LoAs were signed: with Benin DPV to establish 20 FFS in maize-growing areas for dissemination of FAW IPM packages; with Ghana's MoFA to scale-up FAW IPM technologies through 20 FFS; with the International Institute of Tropical Agriculture (IITA) for *Telenomus remus* release in FFS plots, and another with IITA to organise a training for young entomologists on *T. Remus* mass rearing; co-organization of a subregional workshop of FAW NFPs and partners in Praia in mid-June 2022.
- [33] Resource mobilization efforts included: in SFS, a concept note is ready for a subregional project to strengthen coordination and impact of FAW activities in Southern Africa, and SFS-LTO support for development and implementation of emergency TCP project in Zambia. In SFW, USAID has expressed interest in funding the scale-up of IPM technologies in support of FAO and efforts by West and Central African Council for Agricultural Research and Development (CORAF).
- [34] Core activities for the second semester 2022 include: in RAF, an African conference on FAW in collaboration with the African Union Commission (by end 2022); in SFS, the second edition of the FAW IPM Conference (06-08 September 2022); in SFE, subregional extension conference in demonstration country to facilitate knowledge-sharing, experiences and communication materials with pilot countries; in SFW, establishment and implementation of 60 FFS across the subregion, capacity building for NFPs, organization of FAW geozone for West Africa, dissemination of a technical note on joint FAO-Universite Joseph Kizerbo research on FAW management; in the FAO Subregional Office for Central Africa (SFC), meeting of NFPs to develop national action plans.
- [35] Challenges and recommendations from the first semester 2022 include problems with limited funding to implement planned activities and an increase in resurgences of FAW and other lepidopteran pests due to climate shifts, particularly drought conditions. More funding is needed for meaningful dissemination and local adoption of IPM packages, particularly for pilot countries; use of biopesticides as a viable off-the-shelf solution for lepidopteran pests of maize should be promoted; support is needed for more efforts on monitoring, forecasting and early warning for FAW and for community-based uptake of biological control/agroecology approaches. Impact studies are needed on levels of knowledge and adoption of FAW measures Impact studies are needed on level of knowledge and adoption/use of IPM technologies developed at country level.

5. Update from the FAW Secretariat

- [36] Mr Buyung Hadi, Coordinator of the FAW Secretariat in FAO's Plant Production and Protection Division (NSP), provided an update on the GA extension, emerging evidence on FAW genetics and control options, as well as the way forward for the GA. He described research into FAW genetics by USDA that reviewed/validated data from 22 sub-Saharan countries (2016-2019) and indicated a new introduction of the pest into Africa had been possible, and a near-absence of the strain that prefers rice, millet, and pasture grasses. A second entry of FAW likely occurred in western Africa from a new source, which better explained its rapid spread. It also suggests western Africa continues to be at high risk of future introductions of FAW, which could complicate mitigation efforts.
- [37] Another genetic study indicated complex introduction events of FAW to Africa, including multiple introductions from different sources, including a movement from Asia. That implies similar pathways are likely to be used by other exotic and related pest species, official pest-reporting dates might not be the same as incursion dates, and global cooperation to ensure robust monitoring/detection

systems is needed. Emerging evidence on control options has included big-data collection on FAW occurrence through the FAMEWS app, the cropping system and climatic information. These offer the possibility to develop monthly or quarterly risk maps in Africa which, along with recommendations, can then be disseminated to stakeholders.

- [38] In the first semester of 2022, the Global Action Steering and Technical Committees strongly endorsed the GA extension through 2023, citing its significant accomplishments, including a “big tent” of multiple technical partners and the fact that, despite implementation delays due to COVID, the GA continue to serve as a learning community for evidence-based control options. The GA extension also offers the potential to expand its scope to include other pests; and an impact evaluation by CABI may flag lessons to build upon, said Mr Hadi. The FAW Secretariat could consider using the GA momentum, and its ecosystem of connected actors, to integrate work into a broader plant health arena, contributing to One Health.
- [39] Major global initiatives of 2022 include: global protocols for technology evaluation, development of a mobile data collection tool by ICRAF, training for research teams in each demonstration country in July 2022, storing data in a common database, and country- and global-level data analysis. As part of the CABI study, focus is turned to the socio-economic impact of FAW, changes in IPM practices over time, and the impact of GA on management practices and yield losses due to FAW. Household surveys and key informant interviews through the CABI study were set for July 2022, and piloting the methodology in Kenya and India conducted for potential scale-up in other countries in 2023.
- [40] A global mapping of Plant Health Initiatives in 2022 includes an ongoing, broad survey of FAO regional offices, TC members, Regional Plant Protection Organizations, and professional societies with an eye to soon starting plant health initiatives to identify gaps, avoid duplication, and create synergies. A niche must be defined for the newly positioned GA on Plant Health Management.
- [41] Major country/regional Initiatives for 2022 include regional/geozone IPM packages/strategies; technology validation; a global database; field demonstrations and field days; awareness raising, FFS, and a geozone training and information exchange.

6. Open Discussion

- [42] Mr Bekouanan, answering questions about the use of FAW traps, said that for mass effectiveness, imported conventional FAW traps had shown the most success but further research into using accessible, local materials that could be more sustainable and efficient, can be considered.
- [43] Ms Kamau, in response to a question about FFS monitoring in Kenya, said FFS were adequate, but not sufficient by themselves, for FAW monitoring.
- [44] Mr Xia asked about Ghana’s success in reducing pesticide use, and how low-risk pesticides were procured and distributed among farmers. Mr Copperfield said that Ghana’s national government, recognizing maize as key to its food security and the importance of food safety, in 2017 prioritised the fight against FAW as a major threat to maize. That included the national government procuring a number of synthetic/biorational insecticides, and distributing these through MoFA’s ten regional offices, which then passed these on to district offices and finally, to farmers without charge. Training in using these products was also provided, said Mr Copperfield. Other questions related to details of Ghana’s testing, through mass rearing and release, of 600 000 *Telenomus remus*. Farmers are being invited to view these tests, to see the results and perhaps further shift attitudes further away from using chemical pesticides, he said.

[45] Mr Hadi noted that the GA Technical Committee is offering relevant advice to ICRAF on the data that should be collected and protocols for its new approach to field demonstrations and data collection; and by July 2022, training could begin on its new tools and protocols, including the minimum amount of data required.

7. Concluding Remarks

[46] Mr Xia described the meeting as very successful and said a great deal of progress has been made under the GA, particularly evident in its strong coordination and technical achievements. FAW continues to pose a very serious threat but control efforts under the GA were heading in the right direction, particularly through the four demonstration countries in Africa, which he said were showing very good progress. Mr Xia also praised the achievements and performance of pilot country Ghana and highlighted progress in the region overall, as well as individual countries' achievements. Looking ahead, he said in-person meetings, demonstrations and trainings are becoming possible now, as restrictions related to the COVID-19 pandemic were starting to ease.

[47] Take-home messages for the demonstration and first-line pilot countries in the next semester include a renewed emphasis on field demonstrations to help farmers understand and use good technology for FAW control; data collection and standardization for analysis; and all countries must ensure they can demonstrate impacts including economic, social, and environmental benefits.

[48] At the regional level, he said, effective coordination between demonstration countries and first-line pilot countries is important; effective communication and outreach is critical; as is resource mobilization. At the global/headquarters level, the FAW Secretariat must support organization efforts in the field, including a regional demonstration/exchange event for African demonstration countries anticipated in July 2022 in Malawi, said Mr Xia. In addition, a global meeting was being planned and the Technical and Steering Committees of the Global Action will each hold its seventh meeting, reviewing the three years of the GA. In addition, at the global level, a technical impact study of the GA was underway; data standardization is being developed; and global mapping of plant health is also being developed.

Appendix 1: Agenda

**2022 Mid-year Meeting for Implementation of FAO Global Action (GA) on
Fall Armyworm (FAW) Control in Africa**

7 June 2022 (10:00-12.15, CET)

Teleconference: <https://fao.zoom.us/j/95562622144>

Passcode: 44891136

(Agenda updated 2022-05-25)

AGENDA ITEMS	DOCUMENTS	PRESENTER	PROPOSED TIME
1. Opening Remarks		Mr Jingyuan Xia Director of Plant Production and Protection Division (NSP), FAO	10 minutes
2. Adoption of the Agenda		Mr Maged ElKahky Agricultural Officer (NSP), FAO	5 minutes
3. Reports from Demonstration Countries (<i>FAW situation; Major activities and achievements of the 1st Semester; Core activities for the 2nd Semester; Suggestions</i>)			
3.1. Burkina Faso	Presentation (PPT)	Mr Bekouanan Clovis Nabie Ministry of Agriculture and Food Security	10 minutes
3.2. Cameroon	Presentation (PPT)	Mr Colince Nguelo Directorate of Agricultural Development, Ministry of Agriculture and Rural Development.	10 minutes
3.3. Kenya	Presentation (PPT)	Mr Francis Musavi Plant Protection Service Division,	10 minutes

		Ministry of Agriculture	
3.4. Malawi	Presentation (PPT)	Mrs Ida Mwato Department of Crops, Ministry of Agriculture	10 minutes
3.5. Ghana (Pilot)	Presentation (PPT)	Mr Copperfield K Banini Deputy director, Plant Protection and Regulatory Services Directorate	10 minutes
4. Report from the Region (<i>FAW situation at the regional level including the pilot countries; major achievement of the 1st Semester; core activities for the 2nd Semester; suggestions</i>)	PPT	Mr Jean Bahama Regional Coordinator for Africa, Global Action for FAW Control FAORAF	10 minutes
5. Update from the FAW Secretariat (<i>including GA extension, initiatives with CABI and ICRAF</i>)	PPT	Mr Buyung Hadi Coordinator, FAW Secretariat Plant Production and Protection Division (NSP), FAO	10 minutes
6. Open Discussion (<i>Major challenges and suggestions</i>)		All participants	30 minutes
7. Concluding Remarks		Mr Jingyuan Xia	5 minutes

Note: The meeting will be moderated by Mr Maged ElKahky, Agricultural Officer (NSP), FAO

Appendix 2: Tables

Country	Year	Total planted acreage (Ha)	Area affected (Ha)	Area under control (Ha)	Yield loss estimate (%)		
Burkina Faso	2022 (Jan-June)	1 962	1 489.5	1 408.5	10 to 100		
	2021						
Cameroon	2022 (Jan-June)	>1 010 000	875 000	100 000	n/a		
	2021	1 300 000	867 000	130 000	n/a		
	2020	1 280 000		192 000	n/a		
Kenya	2022 (Jan-June)	1 365 814	273 000	34 125	n/a		
	2021	1 500 000		75 000	n/a		
	2020	2 172 182		108 600	n/a		

Malawi	2022	1 455 798			n/a		
	2021		456 271	207 755	n/a		
	2020		206 898	99 118	n/a		

Ghana (pilot country)	2022	2 844	2 844	2 844	n/a		
	2021	179 711	179 711	179 711	n/a		
	2020	261 147	261 147	261 147	n/a		

Country	2022			
	Outputs (# of people trained, knowledge products, etc.)	Challenges	Training needs	Core activities
Burkina Faso	Monitoring and early warning to provide reports on FAW activities, regular canvassing of plots by extension agents, and a follow-up	Low knowledge of IPM techniques by producers and Ministry of Agriculture extension agents; low	Training of trainers on data collection and processing using FAMEWS in March 2022 with seven participants. Two focal points from Ministry of Agriculture and FAO	Second semester 2022, more training of facilitators needed to train producers on IPM through FFS and demonstrations; 30 demonstration plots and 30 FFS to be established in Burkina Faso; new research

	and sensitization mission with 401 producers in the field by government technicians in collaboration with extension agents and FAO representatives in Burkina Faso.	levels of capacity among task force members and GA technical team on IPM strategies; weak monitoring and early warning systems for FAW; insufficient financial resources for implementing activities.	trained in resource mobilization strategies through the FAW Secretariat; and training for extension agents is planned at the end of June 2022.	activities with the National Institute of Environment and Agricultural Research (INERA); strengthening of monitoring and early warning systems through training of agents in charge of data collection via FAMEWS.
Cameroon	Monitoring with traps conducted in two regions, field scouting carried out in all 10 regions with FAW detected before and after crop planting. University of Douala testing technologies to manage FAW (e.g., evaluation of five different plant species with insecticide effects, evaluation of local plant for role in push-pull system, recycling of entomopathogens found in the field.	Irregular rainfall; difficulty obtaining bio-insecticides quickly; finances not available when required; problems with animal husbandry.	A coordination meeting should be held every two weeks with FAW GA; a study trip to learn from others in Africa; training for pilot countries; sharing of positive impacts. Training of master FFS trainers; training for agriculture extension workers in surveillance techniques; training of FFS facilitators.	Continuity needed across demonstration platforms; testing of technologies to manage FAW; testing of biological pesticides; multiplication of hybrid seeds from CIMMYT; increasing FFS in various agro-ecological zones; learning from other demonstration countries; using open days in demonstration plots to share knowledge with more farmers; sharing knowledge with pilot countries in demonstration plots in northern Cameroon.
Kenya	Training in monitoring and early warning conducted by FFS facilitators and three meetings held by the national technical team. FFS established in the first semester in	Financial constraints; a lack of systems for monitoring and early warning; erratic, below-normal levels of rain, leading to poor crop establishment		Conduct technology evaluation at demonstration plots; conduct monitoring activities; conduct three-year comprehensive analysis; field days at demonstration plots to disseminate best practices; conduct geozone trainings with pilot countries; hold webinars for dissemination and adoption of best

<p>Malawi</p>	<p>Embu County (Managia and Mwimathiri) and in Bungoma County (Chemwa and Manani).</p> <p>Some 2 668 pheromone traps installed as part of monitoring and early warning system; 1 824 frontline staff trained in FAW monitoring using FAMEWS, 64 CBAF groups strengthened in FAW monitoring, 192 forecasters trained, 287 ADD staff trained in FAW monitoring using FAMEWS, 568 smart phones distributed for monitoring using FAMEWS.</p>	<p>and high FAW incidences; inadequate knowledge on FAW management among most farmers.</p> <p>Delays in clearing FAW management technologies under trials by ATCC and inadequate resources for the GA workplan to conduct training and other activities.</p>	<p>Building capacity of national focal point to generate FAW risk and prevalence maps at national and local levels using FAMEWS; training community-based groups on monitoring FAW; training staff on biopesticides and biocontrol options; fast track disbursement and provision of funds under the GA workplan.</p>	<p>practices; and mobilize resources for upscaling best practices in IPM technologies.</p>
<p>Ghana (pilot country)</p>	<p>Since arrival of FAW in 2018, action plans developed that emphasized coordination, collaboration, awareness-raising, surveillance, research into sustainable FAW management. Result is dramatic reduction in use of chemical pesticides to control FAW.</p>			<p>Farmer training on FAW at the community level to be conducted by 30 AEAs, with each to train around 50 maize farmers under the supervision of district and national officers. Biological control is to be demonstrated through mass rearing and release of 600 000 <i>Telenomus remus</i>; communication, outreach to continue through flyers; further training of lead trainers planned; FFS organized around demonstration farms with six sessions per farm.</p>