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FALL ARMYWORMS STORM AFRICA



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Directeur de

Publication/Publisher

Dr Jean Gérard MEZUI M'ELLA

Coordonnateurs de la rédaction

Editing Coordinators

Dr Abdel Fattah Mabrouck AMER

Equipe de rédaction/ Editors

Abdel Fattah Mabrouck AMER

Claude TENKEU

Nana Sani Flaubert

Zafack Joseph

Rédacteur en Chef

Editor-in-chief

Claude TENKEU

Traduction/ Translation

Claude TENKEU

Adresse/Address

UA/CPI-AU/IAPSC

B.P/P.O.Box 4170

Yaoundé-Cameroun

Tél: 222 21 19 69

Fax: 222 21 19 67

Email: au-cpi@au-appo.org

Site web: <http://www.iapsc-au.org>

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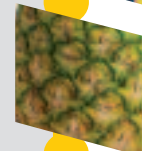
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Dear readers,

As you may have noticed, the year 2017 started with serious plant protection challenges within quite a number of African countries: the outbreak of the Black Fungus Gnat and the notorious Fall Army-worm.

It all started with Seychelles which suffered from the appearance and rapid spreading of the first scourge (the Black Fungus Gnat) and for which the government of Seychelles requested the rapid intervention of African Union. A high-level fact-finding mission was dispatched to that country comprising AU-IAPSC and ICIPE and a comprehensive report tabled before African Union for appropriate action to be taken.

Then around the same period, Fall armyworm was declared in most countries of Southern Africa region. Unlike in the Black Fungus Gnat case which was somewhat isolated, this pest, owing to the vast area affected, immediately saw the intervention of many actors, amongst which were FAO and ASARECA. Immediately after the pest was observed, a joint FAOSFE-ASARECA Regional Strategy Workshop on Fall Armyworm (FAW) for Eastern and Central Africa (ECA) was convened from 18 -20 September 2017 in Entebbe, Uganda, with the objectives of: i) creating awareness on FAW among countries in the sub-region; ii) discussing effective and rational sub-regional management of FAW building on the continental FAW management framework; iii) strengthening linkages and information exchange among the concerned stakeholders; and iv) reviewing and validating ECA sub-regional emergency response plan and develop an action research strategy/proposal on FAW for possible funding.

In addition to this regional meeting, FAW was discussed in most gathering on plant protection nationally and internationally, among which were the information on SPS activities of the African Union during the WTO SPS Committee Meeting held from 12th to 14th July 2018 in Geneva-Switzerland; the 2017 International Plant protection Convention regional Workshop for Africa held from 11-13 September 2017 in Lome-Togo; the Second Ordinary Session of the Specialized technical Committee



(STC) on Agriculture, Rural development, Water and Environment under the theme 'Enhancing environmental sustainability and agriculture transformation to achieve food and nutrition security in advancing agenda 2063 from 05th to 06th October 2017 in Addis Ababa-Ethiopia.

To crown these laudable initiatives, and upon request from the African Union, the Food and Agriculture organization of the United Nations (FAO) decided to provide technical assistance through a Technical Cooperation Project (TCP) to support

AU-DREA in reinforcement of Plant Health governance in Africa through coordinated management of the Fall Armyworm-Spodoptera frugiperda (PHGOV-FAW). The TCP was signed in November 2017 and is being implemented progressively.

Elsewhere, AU-IAPSC carried out a number of activities with regard to its approved budget program and operational budget for 2017. These include:

- *AU-IAPSC 10th Steering Committee and 27th General Assembly which place in Cairo-Egypt from 23-24 and 25-27 April 2017 respectively.

- * SPS information systems and enhancing advocacy, awareness and communications to ensure sufficient safe biological control that held in Addis Ababa, Ethiopia from 27 to 29 November 2017;

- * Improve and strengthen cooperation on migratory pests between countries and RECs, held from in Cairo, Egypt from 30 April to 1 May 2017;

- * Review and update member states plant quarantine legislation and laws in compliance with international requirement, held in Lilongwe, Malawi from 25 to 27 September 2017;

The year 2017 was therefore a year of enormous challenges for plant health in Africa. Fortunately, these challenged are being addressed with the support of African Union, together with its usual development partners.

Enjoy reading

MISSION TO STUDY THE BLACK FUNGUS GNAT SITUATION IN SEYCHELLES

Seychelles, Victoria, 6th to 9th February 2017

A mission was dispatched to Seychelles from 6th to 7th February 2017 upon request of this country to study the problem of Black Fungus Gnats that had sprung and was affecting and spreading over the country, before they give the advise for the control of this insect, the team consists of The Senior Scientific Officer (Entomology) and his assistance (phytopathology) in addition to entomological expert from ICIPE.

The mission arrived in Seychelles on the 6th (Dr. Sevgan, ICIPE) and 7th (Prof. Abdel Fatih Amer and Mr.NANA Flaubert, AU-IAPSC). The mission was welcomed by the Minister of Agriculture and Fisheries (MoAF), Hon. Michael Benstrong and briefed on the situation along with Mr. Marc Naiken, CEO, National Bio-security Agency (NBA) and Mr. Michael Nallathambi, Principal Secretary of Minister of Agriculture and Fisheries(MoAF).Then the mission held discussions with various members of the National biosecurity Agency to access more details on the Black Fungus Gnats problem. The team also participated in a workshop organized by the NBA and the Hotel Industry stakeholders and obtained a firsthand account of the impacts of the Black Fungus Gnats to the Tourism sector.

General information for the pest

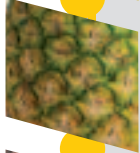
The Black fungus gnats belonging to the Family Sciaridae are saprophyte insects, observed widely across the humid regions of the world. Larvae of the black fungus gnats occupy the humic layer of the soil or under the decaying or rotten trees and below moist pots and rocks. The adults are short lived weak fliers, which can swarm in enormous numbers with onset of favourable climatic conditions. Globally more than 2400 species of Sciarid flies have been reported. The humid and moist ecology of Seychelles are

conducive environs for the Sciarid flies and 14 species of Sciarids have been reported from the island as early as 1911 (Menzel and Smith, 2009). Large swarms of the Sciarid flies were not often observed in the Seychelles island, prior to the 2015. However, from 2015, recurrent swarms of the flies are observed especially with the onset of rains affecting the tourism sector in the island.

Result Notes:

- 1) First outbreaks observed in 2015, the outbreaks also recurring in 2016. However, Fungus gnats have been reported in the island from 1910, although at a balanced level.
- 2) There are unconfirmed reports on the pest causing eye irritation, allergy and breathing constraints. These reports need to be further investigated through interaction with community . Allergic reaction to Fungal gnats has not been previously reported. Some tourists have had a false apprehension of the fungus gnats to be mosquitoes.
- 3) The Species of the Fungus Black Gnats in Seychelles is not yet identified. Further efforts to identify the species is on-going. During the mission, our colleague from Seychelles confirmed the identity of the swarming insects to belong to Sciaridae (during our visit we did not see any swarming due to the dry weather during our mission).
- 4) Apart from Seychelles, recently there has been outbreaks of fungus gnats in Reunion (2014 – outbreak for a short period, but has not recurred), Thailand, Comoros (Recurrent in Comoros) and Malaysia.
- 5) During dry seasons the population of the black gnats declines significantly, while in wet season the population explodes.





6) Use of physical control measures such as the light traps and colored sticky traps are being already proposed by the NBA

7) Use of *Bacillus thuringiensis israelensis* for larval control has been suggested. However, the identity of the breeding sites for the Sciarid fly species that is swarming has not been identified to effectively implement this management strategy. Better understanding of the biology of the insects for effective control of the pest is needed.

8) Timely management of the Black flies prior to their outbreaks is key in the management of the pest. In this regard, comprehensive monitoring strategies using the light and coloured stick traps need to be established.

9) There is a recent evidence to think that the gnats outbreaking are all females. This phenomenon needs to be investigated further for factors such as parthenogenesis and association with endosymbionts.

10) Apart from the *Bacillus thuringiensis israelensis*, other safe management options for fungus gnat management such as Entomopathogenic nematodes, Entomopathogenic fungi are not available. Concerted efforts to introduce these biological control agents after obtaining appropriate regulatory clearance needs to be undertaken.

11) A correlation between the outbreak of hairy caterpillars in 2015, the intense fogging activity undertaken for management of this pest, significant reduction of spiders and the outbreak of fungus gnats from 2015 is suspected. This and other factors that are responsible for the buildup of the gnat population needs to be studied and established.

12) Leave residues falling from the trees as a result of infection by the hairy caterpillars, and not collected and disposed, make the soil rich with organic matter and become very suitable environment for the breeding of Black Fungus Gnats,

13) Apart from the fungus gnats, the mission

also observed increasing frequency of invasive organisms in the islands Nation (eg. *Tuta absoluta*, *Euproctis*, *Thrips palmi* etc). The efforts of the Seychelles government to establish NBA as a nodal authority to deal with Phytosanitary issues is a step in the right direction to address the invasive pest disease constraints. More efforts in terms of establishing monitoring and surveillance protocols, quarantine protocols and capacity building, both human and infrastructural capacity are critical in carrying forward these efforts.

Some Quick control methods:

1. Monitoring

Visual inspection for adults usually is adequate for determining whether a problem exists. Besides looking for adults, check plant pots for excessively moist conditions and organic debris where larvae feed. Yellow sticky traps can be used to trap adults. Chunks of raw potato placed in pots with the cut sides down (not the peels) are sometimes used to monitor the larvae.

2. Some Physical and mechanical controls

We suggest some quick methods for reduce the number of pest until all investigations need:

* Collect all infected fruits and vegetables fallen and bury them deeply in the earth, which reduces the organic matter in the ground and make the environment unsuitable for larvae (It is also reduce the infection with other pests like hairy caterpillars).

Control larvae

* Adults lay their eggs in the top 1/4 inch of moist soil. If you dress the top of your soil with a 1/4–1/2 inch of sand, it will drain quickly and often confuse the adults into thinking the soil is dry.

* Potato slices :Slice raw potatoes into 1-inch by 1-inch by 1/4-inch pieces. Place the slices next to each other on the surface of your potting media to attract fungus gnat larvae. Leave the potato slices in place for at least 4 hours before looking under them.

Once you have seen just how bad the problem is, replace the potato slices every one or two days to catch and dispose of as many larvae as you can, and consider adding additional control measures

* Food grade diatomaceous earth is another effective treatment for fungus gnats. Diatomaceous earth (DE) is mineralized fossil dust that is both natural and non-toxic to the environment. Make sure to get food grade diatomaceous earth-not pool grade, which is not pure enough for use around food gardens and pets. Always wear a simple dust mask when working with DE: Inhaling any kind of dust is never a good idea.

DE contains microscopic shards of silica that physically shred any insect that walks through them, therefore it will not work in hydroponic gardens. But if you mix some into the top layer of infested soil-or better yet, into your potting mix before planting it will kill any gnat larvae (and adults) that come in contact with it, as if they were crawling through crushed glass.

Control adults

* Drying: Allow the soil to dry out for a few days, so that the top 2 inches (5 centimeters) are really

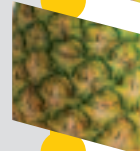
dry. The larvae of fungus gnats cannot survive in dry soil. However, they will remain dormant and begin their development once the soil is moist again.

* Vinegar Trap: Put out baby food jars filled halfway with apple cider vinegar or cheap beer (or red wine) with a couple drops of dish soap added to break the surface tension. Once you've filled the jars, screw on the lids, and poke several holes into them large enough for fungus gnats to enter. Note that let the trap in horizontal orientation.

Sticky Traps: Make your own sticky trap by smearing Vaseline or Tangle foot on a 4"x6" piece of bright yellow cardstock, and place the card horizontally just above the surface of your potting media, where it will catch the adults as they leap from the soil. Set another trap vertically to catch incoming gnats. Lay these traps on the edges of pots, or make little holders out of old, bent forks to hold them horizontally or vertically, as needed.

* And also we can use the light traps and put container with water and some soap

FUNGUS GNATS THE FACTS



Suggested pathway for management of the pest constraint:

Management options/strategies	Short term (6 months to 1 year)	Medium term (2 – 5 years)	Long term (more than 5 years)
1. Enhanced awareness on the Black fungal gnats among all stakeholders, especially based on well informed and confirmed evidences on health impacts.			
2. Confirm identity of the black fungus gnats and the other invasive such as <i>Euproctis</i>			
3. Concerted and collaborative efforts to mobilize funds to under R4D activities for managing the fungus gnat's constraints. There is need to strengthen Private Public Partnership initiatives with the hospitality sector			
4. Strengthen efforts to control the pest through mechanical (Light traps, Sticky traps, Zappers), cultural methods (Sanitation and hygiene), Physical control (use of treated and untreated nets as physical barrier in households and guest rooms).			
5. Establish concerted monitoring and surveillance systems/capacities for Black fungus gnats and other invasive pests.			
6. Introduction of other potential biocontrol agents that are specific to the target pests such as more potent strains of <i>B. thuringiensis</i> , <i>Metarhiziumanisopliae</i> , <i>Steinernemafeltiae</i> and <i>Beauveriabassiana</i> etc.			
7. Better understanding of the biology and ecology of the Black fungus gnats and their natural enemies, especially identification of breeding sites for larvae			
8. Better understanding of factors responsible for the outbreak of Fungus gnats and other invasive pests			
9. Further strengthen the surveillance through identification of potential attractants (Pheromones, plant volatiles for Fungus gnats and other invasive)			
10. Formulate IPM strategies, disseminate and implement these strategies for areawide management of Black fungus gnats and other invasive.			
11. Building capacity for addressing invasive pest constraints, phytosanitary concerns and implementation of IPM strategies			

Green colour refers to period of high activity; Yellow colour refers to period of low or no activity

Note:

Also, the team with HE Minister of Agriculture and Fishers suggested to make another visiting in rainy season and go to field for Long time (8 to 10 days) because this visiting is very short (Only 2 days) and that is not enough to go to field

IAPSC'S 10TH STEERING COMMITTEE MEETING CAIRO-EGYPT, 23 – 24 April 2017

The tenth session of the Inter-African Phytosanitary Council of the African Union's (AU-IAPSC) Steering Committee held at Safir Hotel in Cairo, Egypt, from 23rd to 24th April, 2017. The meeting was officially opened by Dr MOU-TARA, Director of Plant Protection of Egypt, after the welcome remarks from the Director of AU-IAPSC, Jean Gérard MEZUI M'ELLA, and Dr AMED, Director of AU-STRC who presented a speech on behalf of the AU Commissioner of Rural Economy and Agriculture.

Nineteen (19) delegates from COMESA, UMA, AU-STRC, FAO, CABI, NPPOs of Egypt, Gabon, Kenya, Malawi, Tunisia and IAPSC attended the meeting. The meeting deliberated on the state of implementation of the last Steering Committee, the office 2015 and 2016 activities reports and AU-IAPSC's biennial program for 2017 and 2018 among others.

After the opening ceremony, the meeting bureau was elected with Egypt as Chair, AU-STRC as Vice Chair and COMESA and FAO as Rapporteurs.

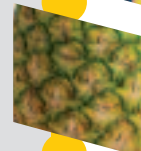
The members of the Steering Committee adopted the agenda. The 2015 and 2016 activities' report and the proposed 2017 and 2018 work programmes presented by the Senior Scientific Officer of AU-IAPSC were also adopted.




The Steering Committee members were updated on the 2015 and 2016 activities report of the office and it was observed that only ONE of the FIVE approved activities were implemented during 2015/2016. Despite the continued difficulties in securing sufficient funding, the members observed that some funding for 2017/2018 programs was secured. The Committee however emphasized on the need to improve communication between the RECs, Member States and development partners with AU-IAPSC. The RECs should be more responsive on their commitment to AU-IAPSC. The meeting also encouraged RECs to participate in AU-IAPSC meetings.

With regard to the Plant Health Information Systems, the Committee urged AU-IAPSC, CABI and members of the working group on the Information system (Egypt, COMESA, STRC) to develop full project document, and that AU-IAPSC and CABI should mobilize resources jointly for the project.

The meeting requested AU-IAPSC to officially communicate with AU member states requesting them to harmonize their national strategies with





AU-IAPSC 2014-2023 Strategy. In addition, AU-IAPSC needs to set up information days to particular member states to educate them on the AU-IAPSC 2014-2023 strategy.

Lastly, the Committee encouraged AU-IAPSC to conduct official visits to the relevant departments of the eight RECs of the AU to encourage their participation in the implementation of the strategy. Also that a coordination meeting with the RECs should be funded from member states fund allocations.

During this session, FAO gave a presentation on the Fall Armyworm problem in Africa and impact on Trade. Key issues from the presentation included:

- The Fall Armyworm (*Spodoptera frugiperda*), a new pest from the Americas, has been damaging maize which the main staple for the southern Africa region during the 2016/17 season
- There is indicative and confirmed presence of the pest in the Democratic of the Congo, Botswana, Namibia, Malawi, Mozambique, South Africa, Swaziland, Tanzania, Zambia and Zimbabwe

Effects on trade include:

- Currently, the control of FAW is based on use of chemicals;
- In most countries, due to introduced status, there are no officially registered insecticides for effective control;
- There is a high risk of farmers using non-recommended pesticides
- Reported cases of pesticide resistance in a number of cases
- FAW is a quarantine pest in European countries
- Implications are both on Plant health and Food Safety standards
- Loss of trade by high maize producing countries in Africa for both grain and seed and high

value maize products (green and sweet/baby corn products)

- The agenda on acceptance of use of “transgenic” will be a hot issue again.

• Recommendations

Upon the various presentations and discussions, The Steering Committee, holding at its 10th session in Cairo - Egypt from April 23 to 24, 2017:

- acknowledges and appreciates the hospitality of the people and the government of Egypt for hosting the 10th session of the 10th SC;
- appreciates the role of IAPSC secretariat for availing the resources and the support to the success of the meeting.

The Steering Committee recommends the following to the General Assembly for consideration:

1. We recommend the General Assembly to note the progress made so far on the implementation of its 26th session recommendations and to endorse the way forward presented in the Steering Committee report and to call upon stakeholders, partners to avail technical and financial support to ensure the full implementation of the way forward.
2. The outbreak of the Fall Armyworm in southern Africa region highlights the need to have an emergency fund to be allocated by the AU commission to IAPSC to ensure the timely intervention to eliminate such impacts on the agro economy.
3. The General Assembly urge NPPOs and FAO, RECs and CABI to disseminate/communicate relevant information on pest outbreaks to IPSAC and its member states to ensure information sharing on the emerging pests.
4. The General Assembly to urge IAPSC and FAO to develop a risk management scenarios joint regional Pest Risk Analysis to develop risk management option to safeguard the Plant health

5. The General Assembly to urge IAPSC and FAO, RECs and CABI to establish expert working group to develop joint regional pest risk analysis and develop emergency action.

6. IAPSC to liaise with FAO, and CABI to develop and share special recommendation on the Fall Armyworm status and proposed management options.

7. IAPSC to work with CABI to develop and improve on the information system

8. The General Assembly calls upon the AU commission to strengthen the IPSAC structure

by introducing relevant professional staff posts.

The members agreed that, the 11th session of the Steering Committee will be hosted by Kenya at a date to be announced.

The Steering Committee adopted the 2017 report and considered the 2018 plant health program to be carried on.

The Representative of the Egyptian government thanked all the delegates and the organizing committee for making the meeting a success and closed the Session.



GENERAL REPORT OF THE 27TH GENERAL ASSEMBLY OF AFRICAN UNION INTERAFRICAN PHYTOSANITARY COUNCIL (AU-IAPSC)

CAIRO-EGYPT, 25 to 27 April 2017



The twenty-seventh session of the AU-IAPSC's General Assembly held from 25 to 27 April 2017 in Cairo (Egypt). This meeting brought together delegates from 21 AU Member States, two (2) Regional Economic Communities (CECs), COMESA and UMA, as well as other partner structures, including AU-STRC, FAO, CABI, CPAC, CSP / CILSS.

The program was structured as follows:

- The opening ceremony,
- The meeting itself,
- The Closing Ceremony.

1. The Opening ceremony

The opening ceremony was marked, on the one hand, by the welcome speeches by the Director of the AU-IAPSC and the representative of the Director of the Department of Rural Economy and Agriculture, and on the other by the opening speech of HE the Minister of Agriculture of the Republic of Egypt delivered by his representative, the Director of Plant Protection of Egypt. The Director of AU-IAPSC in his address welcomed all the delegates and the representatives of

institutions and thanked all those who endeavoured to make the meeting a success. He then recalled some of the main objectives of this AU-IAPSC statutory assembly: cast a close look and adopt the report of 2016 activities, evaluate the 2017 programs and the projections for 2018. This meeting would also enable the RECs to express their expectations of AU-IAPSC and propose relevant strategies to achieve the phytosanitary objectives envisaged taking into account the real needs of their populations, he added. The Director of AU-IAPSC then focused on the search for measures to improve the participation of the RECs in the reflection on the main orientations of U-IAPSC. Before concluding his remarks, he apologized on behalf of the AUC for the small number of countries present (21 countries out of 55). The funds allocated to this important technical office of the AU do not allow it to bring together more countries for this assembly.

The Executive Director of the African Union's Scientific, Technical and Research Commission (AU-STRC), Dr Ahmed Hamdy, congratulated the Government and the Egyptian people for their warm welcome and encouraged Member States

and partners to rationalize the resources available to achieve the food security objectives of the African continent, and to facilitate intra- and extra-African trade. He stated that this could be achieved by addressing pest and disease problems and by complying with SPS measures. He indicated that AU-STRC promises its full support to the 27th Assembly and would be available during the debates and recommendations.

The Director of the Plant Protection Research Institute of Egypt, Dr. Mortada Ahmed Eissa, delivered the welcome speech on behalf of the Minister of Agriculture. He congratulated all those who honored the invitation to attend this important gathering in Egypt and wished them a pleasant stay in Cairo. He said that the Government of Egypt supports the Assembly and particularly the main theme of facilitating trade of African plants and plant products. He referred to the need to implement IPPC guidelines and other measures, to overcome the challenges faced and to plan how Africa would implement the activities of the International Plant Protection Year -2020. He also mentioned that it is essential that all AU Member States participate fully in the activities of AU-IASPC and the IPPC / CPM, before declaring the 27th General Assembly open.

2. Conduct of the meeting

The meeting bureau was set up after the adoption of the agenda and the presentation of the participants as follows.

- Chair: Egypt
- Vice-Chair: UA-STRC
- Francophone rapporteurs: Gabon and Burkina Faso
- Anglophone rapporteur: Sierra Leone
- Secretariat: AU-IASPC

The bureau thus constituted had as mandate the coordination of the items on the agenda. Successful and fruitful discussions took place after each presentation.

Presentations

After briefly recalling the role of the statutory bodies of AU-IASPC, including the General Assembly and the Steering Committee, the speaker

focused on the state of progress in the implementation of the Recommendations of the 26th General Assembly. His presentation highlighted, for each recommendation, the status of achievements, challenges and prospects.

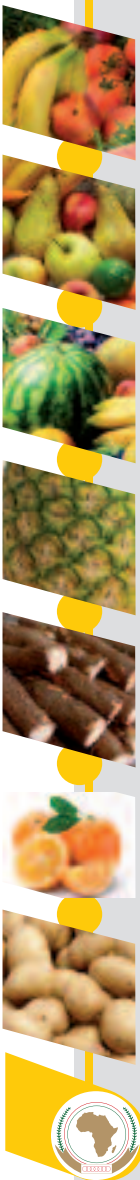
The first presentation was made by the Director of AU-IASPC on the status of implementation of the recommendations of the 26th session of the General Assembly held from 03 to 05 June 2015 in Douala-Cameroon. After briefly recalling the role of the statutory bodies of AU-IASPC, including the General Assembly and the Steering Committee, the speaker focused on the state of progress in the implementation of the Recommendations of the 26th General Assembly. His presentation highlighted, for each recommendation, the status of achievements, challenges and prospects.

2.1 Consideration of the recommendations of the 10th Meeting of the Steering Committee

The recommendations and outcomes of the 10th meeting of AU-IASPC Steering Committee held on 23 and 24 April 2017 in Cairo-Egypt were presented by the secretariat, represented by Dr. Mary Lucy Oronje of CABI. The General Assembly took note of the recommendations made and submitted for consideration. These recommendations are as follows:

1. The Steering Committee suggests to the General Assembly to take note of the progress achieved so far on the implementation of the recommendations issued at its 26th session and to approve the way forward presented in the report of the Steering Committee; and to invite relevant partners to avail technical and financial support to ensure full implementation of the way forward;
2. The outbreak of the armyworm in the Southern African region highlights the need to allocate an emergency fund by the AUC to AU-IASPC to ensure timely intervention to eliminate the impacts of this pest;
3. The General Assembly invites NPPOs and FAO, RECs and CABI to disseminate relevant in-





formation on pest outbreaks to the AU-IASPC and its Member States in order to ensure the sharing of information on emerging pests;

4. The General Assembly urges AU-IASPC and FAO to develop risk management scenarios, joint risk analysis of pests to develop a risk management option to preserve plant health;

5. The General Assembly urges AU-IASPC and FAO, the RECs and CABI to establish an expert working group to develop a common pest risk analysis and develop emergency measures.

6. AU-IASPC should liaise with FAO and CABI to develop and share special recommendations on the status of the armyworm and propose management options.

7. AU-IASPC to accelerate work with CABI to develop and improve AU-IASPC's phytosanitary information system,

8. The General Assembly calls on the AU Commission to strengthen the structure of AU-IASPC by filling the relevant professional positions.

2.2- Emerging pests in Africa (Problems and solutions)

This presentation was made by the COMESA representative and dealt with the following points:

- Relationship between COMESA and other RECs, in particular CEMAC, SADC and FTA;
- SPS regulations at COMESA-SPS level;
- SPS strategies (2016 - 2020) at COMESA level;
- Joint activities;
- Intervention Initiatives/

In conclusion, the representative said that only the solidarity among States could help to find a lasting strategy to overcome these scourges. This would be possible by sharing experiences with countries that have managed to control them successfully. He said he counted on the workshop to promote and strengthen cooperation between

RECs and States organized by AU-IASPC in the coming days in Cairo to strengthen this solidarity between States.

He also proposed the following instruments:

- Early warning;
- Awareness-raising through the exchange of information;
- Political will of States: raise awareness on the emerging scourge policy;
- Establishment of Emergency Funds to remove shortcomings in the rapid management of pests;
- Better knowledge of pests;
- Surveillance and diagnosis;
- Implementation of the Integrated Pest Management (IPM) system.

One of the major threats noted by the speaker is the use of pesticides which contribute to increase the resistance of certain pests.

2.3- Presentation of the 2015 & 2016 Activity Report of AU-IASPC and the Program of Activities for 2017 & 2018

Prof. Abdel Fattah MABROUK AMER in his presentation gave an update on the activities carried out by AU-IASPC in 2015 and 2016, the activities in progress in 2017, and those planned for 2018.

Only one activity out of the six proposed was carried out in 2015 with funding from the AUC. The meeting concerned was held from 4 to 5 March 2015 in Addis Ababa, in preparation for the 10th meeting of the Commission on Phytosanitary Measures (CMP-10) with a view to finding a common African position on the standards to be discussed and adopted by the IPPC.

However, the two statutory meetings scheduled for 2015 were successfully organized. This is the 9th meeting of the Steering Committee and the 26th General Assembly held in Douala-Cameroon from 01 to 05 June 2015.

In 2016, 02 activities out of five proposals were implemented. These were:

- Workshop on the Integration of SPS measures into country CAADP investment plans and development of information systems on SPS measures and advocacy.

- Workshop on Strengthening the Capacities of Member States on the Assessment and Risk Management of Invasive Alien Plants and Review and Updating of Legislation on Plant Quarantine.

The speaker suggested that a recommendation be made towards the search for funding.

Activities planned for the period 2017

All activities planned for the year 2017 were funded, with the exception of Activity 2, "Promote and improve continental plant protection and hold a workshop on Integrated Pest Management (IPM)".

These activities include:

-Improve and strengthen cooperation between RECs and Member States on the control of transboundary pests and diseases. A workshop is scheduled to discuss and develop solutions to this phenomenon.

- Workshop on Strengthening the Capacities of Member States on the Assessment and Risk Management of Invasive Alien Plants and reviewing and updating Plant Legislation and Plant Quarantine for the second group of member countries. The first group benefited from a workshop on the same theme in 2016.

-Review and updating plant quarantine laws in Member States in accordance with international requirements. Organization of a workshop on capacity building on invasive alien plants and risk assessment and management.

As for the regular activities of AU-IAPSC on strengthening compliance with sanitary and phytosanitary (SPS) standards and challenges for African countries agricultural products, some results have been achieved, including:

- Improved capacity of NPPOs for the development and implementation of the ISPM;

- Coordination of a common draft ISPM;
- Strengthening cooperation between NPPOs, AU-IASPC and other institutions involved in plant protection in Africa;

- Improvement of participation and coordination of the African common position at the CMP;

Planned activities in 2018

Eleven activities, some of which have already begun, are scheduled and were submitted to AUC for approval and funding in the framework of 2018. The speaker suggested that the General Assembly should prioritize these activities.

This presentation generated many comments and questions, mainly on market access, the use of pesticides and the financing of the activities of the Inter-African Phytosanitary Council. In response to these comments, the Director of AU-IAPSC provided the necessary clarifications.

However, these discussions resulted in two main recommendations:

-The services of a consultant are required to study and source financing for AU-IASPC activities;

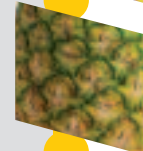
2.4- Plant Health and Trade

Through this theme, CABI's Mary Lucy Oronje clearly highlighted the role of CABI with the collaboration of the Australian Government in achieving trade facilitation and strengthening SPS committees in the East and Southern regions of Africa. She stressed the importance of plant health in facilitating trade and market access.

This presentation reviewed all the trade concerns of African countries and proposed improving individual capacities to achieve common development. At the end of her presentation, a few questions were put to the General Assembly.:

• Should we do more research on phytosanitary regulation, impact, benefits?

• Do we share information on pests? Reporting Obligations?



• Do we have the right balance between supporting market access and protecting our plant resources?

• Could we set up a mentoring system for NPPOs in Africa?

• How can we allow AU-IASPC to fulfill its role as RPPO more effectively?

• How can we design our pest management regulations to promote weaker risk solutions?

2.5 -Emerging Plant Health Problems in RECs

This presentation was made by the representative of COMESA (Common Market for Eastern and Southern Africa), whose agriculture is the main economic sector. The speaker, Mr Brian Nsofu, indicated the two priority areas of this institution:

- Consolidation of the Free Trade Area (FTA) and
- Global competitiveness of the region,

He then focussed its presentation on COMESA regulations and strategies (2016-2020), trade facilitation and initiatives on biosecurity and food security.

The COMESA Roadmap, its strategic plans and accomplishments were clearly presented. COMESA has successfully:

- Harmonized agreements on TBT and SPS measures
- Adopted and revised the SPS strategy and obtained a list of priority pests
- A common PRA for all member states.
- Networking of the NPPOs and the secretariat of the REC
- Harmonized the sampling and testing protocol
- Harmonized the framework for the control and regulation of food safety
- Strengthened capacity in plant biosafety with CABI and the Government of Australia
- Facilitated inter-country and intra-country trade and enhanced collaboration

2.6- Presentation of the situation of the countries (Example of each region)

Presentations made by countries at this General Assembly showed that emerging pests are wreaking havoc in most states. Management strategies for these diseases and pests are implemented at different scales: national, sub-regional and continental.

The main pests presented are: *Aleurodicus dispersus*, *Spodoptera frugiperda*, *Paracoccus marginatus*, *Bactrocera dorsalis*, *Bactrocera latifrons* Banana Xanthomonas Wilt (BWV), *Epicampocera* sp, *Tuta absoluta*, *Aleurotrachelus atratus*, *Paraleroes bondari*, *Fusarium oxysporium* cf *cubense*, *Nomadacris Sepfasciata*, Cassava Brown Streak Disease, Banana Bunchy Top Virus.

Other pest types found in these presentations are: seed-eating birds, elephants and invasive plants including water hyacinth (*Eichhornia crassipes*), water lettuce (*Pistia stratiotes*), *Chromolaena odorata* and *Striga hermonthica*.

2.7- Sharing information about "Fall armyworm" (CABI)

Representing CABI, the speaker reviewed the life history of the armyworm, recognition techniques and damage caused by this pest on maize, sorghum, rice, millet, wheat, and sugar cane. It is also found on cowpeas, groundnuts, potatoes, soybeans and cotton.

He returned to CABI's advocacy activities at the policy and producer levels. Manuals and other tools are developed to facilitate the identification of the armyworm, which has been advocating early warning.

Effects on the quality of production affect trade and crops with a loss rate of 60%. For countries that have not yet clearly identified the armyworm, there are sites to recognize this pest and to exchange information through forums between agronomists and farmers.

3- Working Groups

Responsible for the development of the participation in the IYPH-2020 and the implementation of AU-IAPSC Strategic Plan 2014-2023

A working group session was organized to discuss the participation of Member States in the International Year of Plants 2020 (IYPH 2020), and to review the implementation of the AU-IAPSC. It is made up of the following countries:

- Tanzania
- Sierra Leone
- Gabon
- Gambia

Recommendations of the 27th General Assembly:

The 27th General Assembly meeting in Cairo, Egypt, from 25 to 27 April 2017:

- Thanks the Egyptian people and government for hosting the 27th session of the General Assembly of AU-IAPSC;

- appreciates the role of AU-IAPSC in mobilizing resources and promoting the success of this Assembly.

1. Takes note of the progress made so far on the implementation of its recommendations from the 26th session and endorsed the roadmap presented in the report of the 10th Steering Committee, and invited stakeholders and partners to provide technical and financial support to ensure their full implementation.

2. Agrees that the current outbreak of armyworm in Africa highlights the need to allocate an emergency fund by the AUC to AU-IAPSC to ensure timely intervention to eliminate their impact. In addition, the General Assembly urges FAO to share the quarantine list for Africa and the major pests and diseases with AU Member States.

3. The General Assembly invites NPPOs and FAO, RECs and CABI to share relevant information on pest outbreaks with AU-IAPSC and its Member States in order to ensure the dissemination of information on emerging pests.

4. The General Assembly establishes two working groups composed of RECs, FAO, CABI and one Member State per region, as well as other technical and financial partners to develop joint

analyses of pest management risk, Risk management scenarios and options for preserving plant health in Africa. The composition of the working group for the Member States is as follows:

Pest risk analysis

- West Africa: Togo; Mr. Sèfe Gogovor YAWO
- Central Africa: Democratic Republic of Congo; Mr. Damas MAMBA MAMBA
- East Africa: Kenya; Mr. James K. WAHOME
- North Africa: Tunisia; Mr. Naji AIDI
- Southern Africa: Malawi; Mr. Tonny H.H MAULANA

Risk management

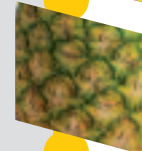
- West Africa: Sierra Leone; Raymonda A.B. Johnson
- Central Africa: Cameroon- Ms. Louisette BAMZOK
- East Africa- Tanzania; Mr. Mdili Katemani
- North Africa: Egypt; Dr. SHAZA ROUSHDY OMAR
- Southern Africa: Mozambique; Mr. Afonso SI-TOLE

5. The General Assembly requests FAO and CABI to share the integrated management option with the AU-IAPSC on the fall sham before the end of May 2017.

6. The General Assembly calls on the AU Commission to strengthen the structure of AU-IAPSC by filling the relevant posts.

7. The General Assembly notes with satisfaction the programs of AU-IAPSC for 2018 and recommended the following:

- a. Urges AU-IAPSC to focus more on the MRL and quality control of pesticides;
- b. Member States to avail technical resources to support AU-IAPSC in the pursuance of its mission;
- c. Calls on the AU Commission and its Member



States to provide sufficient funds to the plant protection organization;

d. Calls on international development partners to support AU-IAPSC programs to improve plant health and trade facilitation;

e. Calls on AU-IAPSC to develop guidelines and criteria to harmonize phytosanitary legislation in Africa and work closely with member states to improve intra-African trade;

f. Finally, calls on AU-IAPSC to develop rules and standards and to facilitate regional coordination and collaboration.

8. The General Assembly appreciates COMESA's efforts in plant health and recognizes the Tripartite Arrangement (COMESA, ECAC and SADC) and recommends the following:

i. COMESA to share its roadmap, report, successes and challenges with ECAC and other RECs for similar implementation and strengthening of the Africa Region;

ii. The General Assembly urges the RECs to prioritize phytosanitary activities in their programs;

iii. AU-IAPSC to meet all RECs in relation to their strategic plan, achievements and challenges;

iv. AU-IAPSC to develop a template for reporting to RECs and NPPOs to prepare a report on plant protection activities and issues every two years.

9. The General Assembly recognizes the impact of climate change on plant health and food security and calls on the AU Commission to fully involve AU-IAPSC in its climate change activities and its funding mechanism. In addition, calls on Member States to raise awareness and conduct scientific research to mitigate the impacts of climate change on plant health and agro-industry.

2.10 Other issues

A group was formed to work on the theme "International Year for Plant Health".

2.9 Venue of the next General Assembly

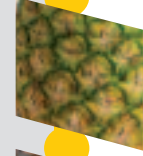
South Africa will host the next AU-IAPSC General Assembly. It will take place in 2019.

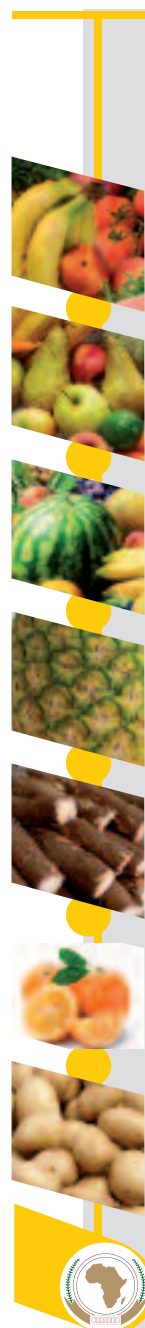
2.12 Closing ceremony

After the presentation of the recommendations, the General Assembly was closed with a congratulatory note to the government and the people of Egypt.



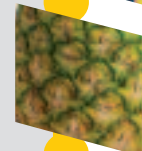
RECOMMENDATIONS	ACHIEVEMENTS	CHALLENGES	WAY FORWARD
1. AU-IAPSC to work closely with FAO and other partners to develop a resource mobilization strategy to foster the implementation of the African plant health strategic plan 2014-2023;	FAO agreed to have the strategy as part of the TCP. An implementation plan was submitted to the EU, following a workshop held in Yaoundé. In August 2016, the AU-IAPSC, FAO, COLE-ACP and the EU had a dialogue to develop the strategy for resource mobilization.	TCP level funding inadequate to meet the scope of the request and delay in approval of the TCP. A few partners have been approached	Follow up with FAO for update on the TCP (deadline end of May). TCP to presented at the FAO regional meeting Director AU-IAPSC to submit the TCP for endorsement by the AU Commissioner Consider development partners in the process
2. The General Assembly to appoint in consultation with AU-IAPSC a taskforce to assist the office in developing bankable projects to ensure the implementation of the strategic plan 2014-2023;	The SC developed a draft composition of the task force		The composition to be presented to the GA 27 th session for endorsement and nomination of member states (Task force to be composed of 2 RECs, FAO, CABI and one member state per region) To request the GA to delegate the authority for IAPSC and other members of the taskforce to develop and endorse the ToRs
3. AU-IAPSC to work closely with FAO to develop Technical Cooperation Program (TCP) projects to support plant health systems in the continent;	Refer to recommendation number 1		

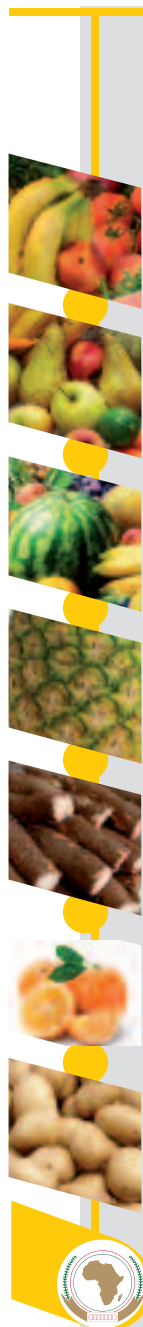




4. Welcomes the cooperation between CABI and IAPSC on Plant Health Information Systems and urges them to develop further the ideas for putting in place an effective PHIS, and calls upon the international partners to avail financial and technical resources for implementing such an important project;	Concept note on Information System developed	Lack of funds	IAPSC and CABI to mobilize resources jointly for the project AU-IAPSC , CABI and members of the working group in the Information system (Egypt, COMESA, STRC) to develop full project document
5. AU-IAPSC to develop sensitization and advocacy materials to ensure that the strategic plan 2014-2023 is domesticated by member states and Regional Economic Communities (RECs);	Newsletters were published and information was presented in meetings attended by AU-IAPSC	Weak resources allocated for publicity AU-IAPSC website not in operation.	AU-IAPSC to communicate officially with AU member states requesting them to harmonize their national strategies and IAPSC 2014-2023 Strategy. AU-IAPSC need to set up information days to particular member states to civic educate them on the IAPSC 2014-2023 strategy AU-IAPSC to ensure the operation of its website by August 2017
6. RECs to integrate the Africa Plant Health strategic plan 2014-2023 into their development priorities, programs and activities;	COMESA integrated in SPS strategic plan SADC has Africa Solidarity Trust Fund (ASTF) SPS component aligned with AU-IAPSC strategic plan	Not all RECs are at the same level of integrating the strategy. The RECs are not informed well about the strategy AU-IAPSC and RECs have inadequate communication	AU-IAPSC with the support of COMESA to develop a reporting template through which the RECs reports to IAPSC biannually on their implementations of the strategy. AU-IAPSC to conduct a meeting with the 8 RECs of the union and partners such as FAO, CABI, and other development partners operating in Africa and beyond to inform them on the strategy and request their participation on the strategy implementation. RECs are encouraged to participate in AU-IAPSC meetings

7. AU-IAPSC to conduct a coordination meeting with RECs to ensure participatory approach in the implementation of the strategic plan 2014-2023;	None	No adequate funding	<p>Outputs of regional meetings conducted by RECs should be shared/presented to IAPSC to report upon meetings to the General Assembly</p> <p>AU-IAPSC to compile/prepare biannual reports and disseminate to the General Assembly members informing them on the implementation of the strategy</p> <p>Coordination meeting should be funded from member states fund allocations</p> <p>AU-IAPSC to conduct official visit to the relevant department on the 8 RECs of the AU to encourage their participation on the implementation of the strategy.</p>
8. DEPARTMENT of Rural Economy and Agriculture (DREA) to ensure that there is no overlapping of activities and programs within the department and to affirm that AU-IAPSC is the only institution mandated to undertake programs and activities related to plant health, and to ensure that AU-IAPSC is fully participating in projects and programs related to SPS;	An early solution was found.		
9. Calls upon the African Union Commission to ensure that AU-IAPSC 'programs and projects are well presented during fund raising exercises;	The recommendation is addressed to DREA to be submitted to the Directorate of Strategic Programming and Resource Mobilization and other financial partners		
10. Calls upon member states of the union to ratify the Phytosanitary Convention for Africa.	12 countries out of 54 have ratified	Inadequate follow-up and sensitization of member states	FAO southern Africa sub region to works with SADC's plant protection technical committee to lobby the southern member states

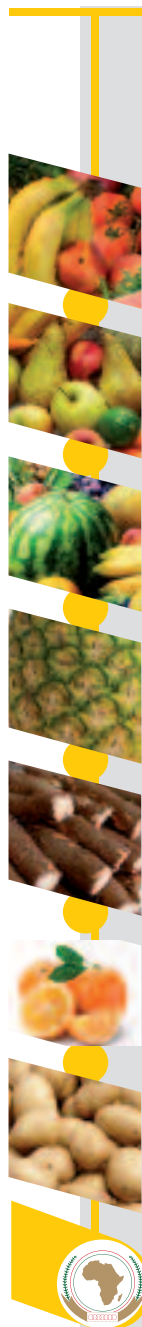




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CODEX MEETING

JULY, 2017- GENEVA-SWITZERLAND

Preamble

The mission to Geneva was one of our project activities according to our work plan for the 3rd quarter (2017) and the aim of this activity is to harmonize the position of African countries in their meeting for standards according to their needs.

Objectives

The mission to Geneva aimed at:

- * Increasing the capacity of the member states and harmonize their positions to get one position during CODEX meeting and harmonize the situation during the meeting.

Working session

The meeting start every day at 9.00am except the 1st day at 10.00th am and no work on Friday to prepare the draft report. During the meeting 91 texts and the result were discussed as follows:

- * AMENDMENTS TO THE PROCEDURAL MANUAL: 2 Codex body discussed (CCMAS: Principles for the Establishment of Codex Methods of Analysis & CCNFSU: Nutritional Risk Analysis Principles and Guidelines for Application to the Work of the Committee on Nutrition and Foods for Special Dietary Uses and adopted

- * ADOPTED STANDARDS AND RELATED TEXTS: 41 texts were discussed; 28 adopted and 9 adopted and “subject to endorsement” and 4 adopted with amendment

Standards adopted:

- Standard for Certain Canned Fruits (CODEX STAN 319:2015)
- Amendment to the Scope of the Standard for Certain Canned Fruits (CODEX STAN 319:2015)

- Amendments to the Food Additive Provisions in Codex Standards for Processed Fruits and Vegetables, i.e., Standards for Canned Chestnuts and Canned Chestnut Puree (CODEX STAN 145:1985), Pickled Fruits and Vegetables (CODEX STAN 260:2007), Jams, Jellies and Marmalades (CODEX STAN 296:2009), Canned Applesauce (CODEX STAN 17:1981), Canned Fruit Cocktail (CODEX STAN 78:1981), Canned Tropical Fruit Salad (CODEX STAN 99:1981), Pickled Cucumbers (CODEX STAN 115:1981), Kimchi (CODEX STAN 223:2001), Canned Stone Fruits (CODEX STAN 242:2003).

- Regional Code of Hygienic Practice for Street-Vended Foods in Asia

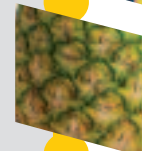
- Amendments to CCASIA Regional Standards, i.e. Standards for Tempe (CODEX STAN 313R:2013), Chilli Sauce (CODEX STAN 306R:2011) and Non-Fermented Soybean Products (CODEX STAN 322R:2015)

- MRLs for: Lasalocid sodium (Chicken, Turkey, Quail and Pheasant Kidney, Liver, Muscle, Skin+Fat) (78th JECFA); Ivermectin (Cattle Fat, Kidney, Liver, Muscle) (81st JECFA); Teflubenzuron (Salmon Fillet, Muscle) (81st JECFA)

- Editorial Amendments to various CCNFSU Standards: Flavorings, i.e. Standards for Canned Baby Foods (CODEX STAN 73:1981), Processed Cereal-Based Foods for Infants and Young Children (CODEX STAN 74:1981), Follow-up Formula (CODEX STAN 156:1987), and Guidelines on Formulated Complementary Foods for Older Infants and Young Children (CAC/GL 8-1991)

- NRV-R for Vitamins D and E and the Conversion Factors for Vitamin E Equivalents for Labelling Purposes in the Guidelines on Nutrition Labelling (CAC/GL 2-1985)

- Revision to the Standard for Olive Oils and



Olive Pomace Oils (CODEX STAN 33- 1981): Revision of the Limits of Campesterol

- Revision to the Standard for Named Vegetable Oils (CODEX STAN 210-1999): Revision of Quality Parameters for Peanut Oil

- Amendment to the Sections on Flavourings of: Standards for Edible Fats and Oils not Covered by Individual Standards (CODEX STAN 19-1981) (Section 3.3), Named Vegetable Oils (CODEX STAN 210-1999) (Section 4.1), and Fat Spreads and Blended Spreads (CODEX STAN 256-2007) (Section 4.6).

- Amendment to Section 2 in the Appendix of the Standard for Named Vegetable Oils (CODEX STAN 210-1999): Fatty Acid Range of Crude Rice Bran Oil

- Specifications for the Identity and Purity of Food Additives: Amendments to the List of Codex Specifications for Food Additives (CAC/MISC 6)

- Amendment to the Introduction of the List of Codex Specifications for Food Additives (CAC/MISC 6)

- Revised Food Additives Provisions of the GSFA related to the Alignment of the Standards for Frozen Fish Products and of the Standards for Certain Canned Citrus Fruits (CODEX STAN 254- 2007), Preserved Tomatoes (CODEX STAN 131981), Processed Tomato Concentrates (CODEX STAN 571981) and Table Olives (CODEX STAN 66-1981) and the EDTA Provisions of the Standard for Canned Shrimps or Prawns (CODEX STAN 37-1981)

- Revised Food Additives Sections of the Standards for Preserved Tomatoes (CODEX STAN 13-1981), Processed Tomato Concentrates (CODEX STAN 57-1981), Quick Frozen Fin-Fish, Uneviscerated and Eviscerated (CODEX STAN 36-1981), Quick Frozen Shrimps or Prawns (CODEX STAN 92- 1981), Quick Frozen Lobsters (CODEX STAN 95- 1981), Quick Frozen Blocks of Fish Filets (CODEX STAN 165-1989), Quick Frozen Fish Fillet (CODEX STAN 1901995), Quick Frozen Fish Sticks (Fish Fingers), Fish Portions and Fish Fillets – Breaded and

in Batter (CODEX STAN 166-1989), and Fresh and Quick Frozen Raw Scallop Products (CODEX STAN 315-2014

- Amendment to the MLs for Lead and Arsenic in Edible Fats and Oils (Fish Oils) (CODEX STAN 193-1995)

- MLs for Lead in Selected Processed Fruits and Vegetables (Pulses, Jams, Jellies and Marmalades, Preserved Tomatoes, Canned Chestnuts and Canned Chestnuts Puree) (CODEX STAN 193-1995)

- Code of Practice for the Prevention and Reduction of Arsenic Contamination in Rice

- Annex on Ergot and Ergot Alkaloids in cereal grains (annex to the Code of Practice for the Prevention and Reduction of Mycotoxin Contamination in Cereals (CAC/RCP 51-2003))

- MRLs for different combinations of pesticide/commodity(ies)

- Revision of the Classification of Food and Feed: Vegetable Commodity Groups

- Table 2 on examples of representative commodities for vegetable commodity groups (for inclusion in the Principles and Guidance on the Selection of Representative Commodities for the Extrapolation of MRLs for Pesticides to Commodity Groups) (CAC/GL 842012)

- Revision of the Classification of Food and Feed: Grasses

- Table 3 on examples of representative commodities for grasses (for inclusion in the Principles and Guidance on the Selection of Representative Commodities for the Extrapolation of MRLs for Pesticides to Commodity Groups) (CAC/GL 84-2012)

- Guidelines on Performance Criteria for Methods of Analysis for the Determination of Pesticide Residues in food and feed

- Principles and Guidelines for Monitoring the Performance of National Food Control Systems

- Methods of Analysis for Provisions in Codex Standards

Standard adopted with subject to endorsement

- Annexes for Certain Quick Frozen Vegetables (for inclusion in the Standard for Quick Frozen Vegetables (CODEX STAN 320-2015))

- Regional standards for Doogh

Standard adopted with amendment

- Revision of the Code of Hygienic Practice for Fresh Fruits and Vegetables (CAC/RCP 53-2003) **(Adopted with amendment)**

- Food Additive Provisions of the General Standard for Food Additives (GSFA)(CODEX STAN 192-1995) **(Adopted with amendment)**

- Code of Practice for the Prevention and Reduction of Mycotoxin Contamination in Spices **(Adopted with amendment)**

- Standard for Dairy Permeate Powders **(Adopted with amendment)**

* DRAFT STANDARDS AND RELATED TEXTS ADOPTED AT STEP 5: 8 standard are discussed and adopted.

- RMR for Gentian Violet

- Regional Standard for Fermented Cooked Cassava Based Products

- Regional Standard for Gnetum spp. leaves

- Revision to the Standard for Named Vegetable Oils (CODEX STAN 210-1999): Addition of Palm Oil with High Oleic Acid (OXG)

- MLs for Lead in Processed Tomato Concentrates and Canned Brassica Vegetables

- Revision of the Classification of Food and Feed: Seeds for Beverages and Sweets

- Regional Standard for Mixed Zaatar

- Standard for Quinoa N17-2015

* REVOKED STANDARDS AND RELATED TEXTS: 5 standards are discussed

- Standards for Canned Pineapples (CODEX STAN 42-1981), Quick Frozen Broccoli (CODEX STAN 110-1981), Quick Frozen Brussels Sprouts (CODEX STAN 112-1981), Quick Frozen Cauliflower (CODEX STAN 111-1981),

Quick Frozen French Fried Potatoes (CODEX STAN 114-1981), Quick Frozen Green and Wax Beans (CODEX STAN 113-1981), Quick Frozen Peas (CODEX STAN 41-1981) and Quick Frozen Spinach (CODEX STAN 77-1981)

- Food Additive Provisions of the General Standard for Food Additives (GSFA) (CODEX STAN 192-1995)

- Maximum levels for lead in pulses, jams (fruit preserves) and jellies, preserved tomatoes, canned chestnuts and canned chestnuts puree in the General Standard for Contaminants and Toxins in Food and Feed (CODEX STAN 193-1995)

- Codex MRLs(CXLs) for different combinations of pesticide/ commodity(ies)

- Codex Recommended Methods in Codex Standards

* APPROVED NEW WORK: 32 text belonging to 10 Codex body was accepted as new work.

CCNASWP

- Regional Standard for Kava as a Beverage when mixed with cold water

CCRVDF

- Priority List of Veterinary Drugs requiring Evaluation or Re-evaluation by JECFA

CCSCH

- Standard for dried or dehydrated ginger

- Standard for dried or dehydrated chilli and paprika

- Standard for dried or dehydrated garlic

- Standard for basil

- Standard for dried saffron

- Standard for nutmeg

- Standard for cloves

CCFO

- Revision of the Standard for Named Vegetable Oils (CODEX STAN 210-1999): Essential composition of sunflowerseed oils

- Revision of the Standard for Named Vegetable Oils (CODEX STAN 210-1999): Replacement of acid value with free fatty acids for virgin palm oil and inclusion of free fatty acids for crude palm kernel oil

- Revision of the Standard for Olive Oils and Pomace Olive Oils (CODEX STAN 33-1981)



- Revision of the Standard for Named Vegetable Oils (CODEX STAN 210-1999): Inclusion of walnut oil, almond oil, hazelnut oil, pistachio oil, flaxseed oil and avocado oil

CCPFV

- Standard for Cashew Kernels

Conversion of the Regional Standard for Chili Sauce (CODEX STAN 306R-2011) into a World-wide Standard

- Revision of Standard for Mango Chutney (CODEX STAN 160-1987)

- Standard for Dried Sweet Potato

- Conversion of the Regional Standard for Gochujang (CODEX STAN 294R-2009) into a World-wide Standard

- Standard for Dried Fruits

- Standard for Canned Mixed Fruits (Revision of Standard For Canned Tropical Fruit Salad (CODEX STAN 991981))

CCCCF

- MLs for total aflatoxins and ochratoxin A in nutmeg, chili, paprika, ginger, pepper and turmeric

- MLs for methylmercury in fish species (tuna, al-fonsino, kingfish/ amberjack, marlin, shark, dog fish and swordfish)

- Revision of the Code of Practice for the Prevention and Reduction of Dioxin and Dioxin-like PCB Contamination in Foods and Feeds (CAC/RCP 62 – 2006)

- Code of Practice for the Reduction of 3monochloropropane-1,2-diol esters and glycidyl esters in refined oils and products made with refined oils especially infant formula

- Guidelines (best practice) for Risk Analysis of Chemicals inadvertently present in food at low levels

CCPR

- CCPR Schedule and Priority Lists of Pesticides

CCFICS

- Guidance on the Use of Systems Equivalence
- Guidance on Paperless Use of Electronic Certi-

ficates (Revision of the Guidelines for Design, Production, Issuance and Use of Generic Official Certificates) (CAC/GL 26/1997)

- Guidance on Regulatory Approaches to Third Party Assurance Schemes in Food Safety and Fair Practices in the Food Trade

CCMAS

- Revision of the Recommended Methods of Analysis and Sampling (CODEX STAN 234-1999)

TFAMR

- Revision of the Code of Practice to Minimize and Contain Antimicrobial Resistance (CAC/RCP 61-2005)

- Guidance on Integrated Surveillance of Antimicrobial Resistance

* DISCONTINUED WORK: 4 text belonging to 4 Codex body were discontinued.

CCRVDF

- Proposed draft MRL for Ivermectin (cattle muscle) (78th JECFA)

CCFA

- Draft and Proposed Draft Food Additive Provisions of the General Standard for Food Additives (GSFA) (CODEX STAN 192-1995)

CCPR

- Proposed Draft and Draft MRLs for Different Combinations of Pesticide/Commodity(ies) that were withdrawn

CCMMP

- Draft General Standard for Processed Cheese Para

The meeting closed on 22nd July at 17.00

THIS ACTIVITY IS TO HARMONIZE THE POSITION OF AFRICAN COUNTRIES IN THEIR MEETING FOR STANDARDS ACCORDING TO THEIR NEEDS.

WTO-SPS COMMITTEE MEETING INFORMATION ON SPS ACTIVITIES OF THE AFRICAN UNION COMMISSION 12 – 14 JULY 2017, GENEVA-SWITZERLAND

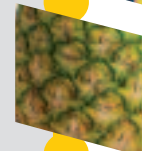
The African Union Commission, the European Union (EU) and the Estonian government as current chair of the EU organized the 2nd AU-EU Agriculture Ministers Conference under the theme “Making Sustainable Agriculture a future for the youth in Africa” on 12-14 July 2017. The event focused on four themes namely; Roundtable Dialogues around four main thematic areas namely: (i) Responsible private sector investments and access to markets in agri-food sector in Africa, with key deliverables on SPS and development of Geographic Indications as a tool for rural development in Africa (ii) Research and innovation and the role of digitization in agriculture; (iii) Sustainable agriculture water management in a climate resilient environment; (iv) Climate Smart Agriculture and reducing food losses and waste, and (v) a special session on animal health focusing on Pestes des Petit Ruminants (PPR) organized by AU-IBAR. The Ministerial Conference was preceded by an Agribusiness Investment Forum on 1 July 2017 and followed by the FAO Conference from 3-8 July, 2017 at the FAO Headquarters in Rome, Italy.

The Commission and the government of Turkey organized their inaugural Africa-Turkey Ministers of Agriculture meeting and Agribusiness Forum from 27-28 April 2017. The Conference discussed; (i) Technology development and transfer in irrigation and agricultural mechanization, storage and post-harvest loss prevention, (ii) Agricultural inputs sector development such as seed production and marketing as well as fertilizer production and distribution, (iii) Knowledge sharing and transfer in different areas such as climate smart agriculture, land registration and titling as well as youth employment. (iv) Agricultural value chain development for different priority crops such as cocoa, cotton, maize, rice, cassava, etc. for local consumption and export, (v) Livestock production and trade inclu-

ding fisheries (vi) Agribusiness development including supporting Small and Medium Enterprises and agro-industry development. (vii) Soil management.

As part of the conference, the Government of the Republic of Turkey, represented by the Ministry of Food, Agriculture and Livestock, signed bilateral agreements with six (6) African countries to cooperate and boost agriculture in their respective countries. Over a period of two days, business people and entities from Africa were matched to their counterparts from Turkey on a one-to-one basis. The business people came from all segments of the agricultural value chain both in Africa and Turkey. Good business deals were struck during these meetings.

The 13th Comprehensive Africa Agriculture Development Programme Partnership Platform (CAADP-PP) meeting was held in Uganda June 2017. The CAADP-PP is an open African Union (AU) member States-led forum and was organized to reflect, on the one hand, an element of continued learning to ensure its adaptation to changing circumstances, needs and aspirations and thereby, remaining relevant in advancing the CAADP vision and objectives. On the other hand, the CAADP-PP stimulates and facilitates a process of sharing and learning on substantive agricultural transformation issues including policies, institutions, technologies, partnerships and alliances, as well as skills and knowledge. Representation in the 13th CAADP-PP was drawn from: Government political/policy and technical officials; Parliamentarians; RECs; farmers and farmers organizations; private sector; civil society organizations; knowledge and research institutions; and development partners etc. The 13th CAADP-PP was held under the theme, “Strengthening Mutual Accountability to Achieve CAADP/Malabo





Goals and Targets”.

Under the coordination of the Department of Trade and Industry, the Commission organized a series of meeting related to advancing the Continental Free Trade Area (CFTA) negotiation processes. This included the first and second CFTA Technical working Group on SPS in Kigali, Rwanda and Nairobi, Kenya respectively, the CFTA Task Force meeting in Arusha, Tanzania, the CFTA Negotiating Forum in Addis Ababa, Ethiopia. These meeting guided the systematic development of the SPS Appendix, amongst other activities for the trade in goods, Annex of the CFTA protocol.

The African Union Commission, together with key regional organizations (OAPI, ARIPO, RECs) and supported by partners at international level (FAO, EU), are in advanced stages with the development of a Continental Geographic Indications Strategy. The strategy is expected to facilitate promotion of unique African commodities and origins-linked marketing within the overall framework of Intellectual Property and provision of the Trade Related Aspect of Intellectual Property (TRIPS). The Aspirations of Agenda 2063 represent an inspiring guidance for the GI African strategy, so to ensure transformation and sustainable development of the African Continent for future generations.

The Partnership for Aflatoxin Control in Africa (PACA) continued with the implementation of its strategy in its six countries of focus. PACA organized the Business Meeting for Senegal in May 2017 in Dakar. The meeting was attended by the relevant stakeholders targeted for strengthening partnership in managing aflatoxin in Senegal.

The African Union Interafrican Bureau for Animal Resources (AU-IBAR)

The Interafrican Bureau for Animal Resources is a technical office of the African Union Commission with the mandate of providing leadership in the development of animal resources for Africa through supporting and empowering AU Member States and Regional Economic Communities. The SPS-related activities undertaken by AU-IBAR include supporting member states to harmonize SPS regulatory frameworks, supporting the participa-

tion of member states to participate effectively in the WTO SPS Committee, in the standard setting processes of OIE and CAC and promoting compliance with international standards through targeted capacity development programs.

1. ANIMAL HEALTH

The 9th Panafrican Chief Veterinary Officers meeting and three meetings of African animal health experts to analyze and comment on OIE proposed changes to the Terrestrial and Aquatic Animal Health Codes were held between December 2016 and June 2017.

Outcome: Animal health issues of common interest to African countries were identified, coordinated positions proposed and articulated during the OIE Code Commission in and 85th OIE General Session in 2017.

2. FOOD SAFETY

2.1 Expert meetings

The 8th Panafrican National Codex Contact Point Officers meeting was held in June 2017 to develop common positions on draft standards to be adopted by the 40th Session of the Codex Alimentarius Commission. African food safety expert's consultation on nutrition and foods for special dietary uses, Food Additives, Contaminants in Foods and Pesticide Residues were organized to examine agenda items for the respective session of the Codex committees between November 2016 and March 2017.

Outcome: The meeting of food safety experts provided scientific advice to African Union member states during their preparation of national positions for the Codex committees. This is an effort of African Union to improve the effective participation of AU member states in the work of the Codex Alimentarius Commission and was implemented in collaboration with the Coordinator for CCAfrica.

AU-IBAR jointly organized a colloquium with the US Codex Office between Africa and US Delegates to share experiences and information on issues pertaining to the Codex Committee on Food Additives, Pesticide Residues and Contaminants in Foods.

2.2 African Pesticide Residue Data Generation Project

The project has been running from 2013 and will end in 2017. It is sponsored by the STDF and co-implemented by AU-IBAR and USDA. The objective for this project is to strengthen regional capacity in pesticide residues data generation and monitoring for establishing, implementing, and complying with Codex maximum residue limits (MRLs) for pesticides. The project is intended to enhance the capacity of African countries to meet pesticide-related export requirements based on Codex standards. It provides practical experiences for African countries in conducting standard practices in residue field trials and risk analysis based on internationally accepted procedures.

Residue field trial has been conducted in all five participating countries namely Senegal, Ghana, Tanzania, Uganda, and Kenya. The field trial was conducted for sulfoxaflur (a reduced risk insecticide) to be applied on mango crops. Several laboratory technicians have also been trained in Laboratory Quality Assurance and GLP pesticide residues analysis. Results from laboratory analysis of the field trial samples will be sent to the Joint FAO/WHO Meeting on Pesticide Residues for the development of Codex maximum residue levels. The objective of this training is to enhance expertise in generating, reviewing, and interpreting field trial data.

3. ACTIVITIES RELATED TO SPS COMMITTEE

A workshop for members of the Pan African Parliament (PAP) on improving the understanding of the sanitary and phytosanitary issues

AU-IBAR organized two workshops to improve the understanding of members of the Pan African Parliament (PAP) on Sanitary and Phytosanitary issues for French-speaking PAP members in Cote d'Ivoire and for English-speaking PAP members in November 2016. Forty (40) PAP members attended the workshop. The workshops are part of AU-IBAR's advocacy strategy on facilitating domestication of SPS requirements into national le-

gislations and their implementation.

AU-IBAR discussion forum on SPS matters in preparation for the 68th & 69th sessions of the SPS committee in March 2017

AU-IBAR organized discussion forum for African delegates to the SPS Committee in order to discuss and prioritize SPS issues of interest to the African region. Priority matters for the 68th & 69th session of the SPS Committee were agreed on.

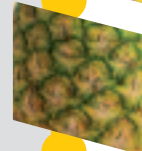
AU-IBAR organized a 4-day training workshop on SPS and Codex in June 2017 for members of the Liberia SPS Committee and National Codex Committee on SPS and Codex issues.

The African Union Inter African Phytosanitary Council (AU-IAPSC)

The African Union Inter African Phytosanitary Council (AU-IAPSC) is the Regional Plant Protection Organization (RPPO) for Africa and responsible for the coordination of plant health related matters in the continent. AU-IAPSC participated in the 12th Session of the Committee on Phytosanitary Measure (CPM-12) of the International Plant Protection Convention (IPPC) held in Incheon, South Korea from 5th to 11th April 2017. AU-IAPSC convened meetings of African delegates in the margins of CPM-12 to discuss strategic issues for Africa, particularly the rapid spread and infestation of fall army worms.

AU-IAPSC also organized its annual General Assembly in Cairo, Egypt to discuss governance and management of plant health in Africa. AU-IAPSC convened three preparatory meetings of the AU Member States represented in the meeting to prepare common position to respond to matters arising in CPM-12.

The 2nd AU-EU Agriculture Ministers Conference under the theme "Making Sustainable Agriculture a future for the youth in Africa"



2017 INTERNATIONAL PLANT PROTECTION CONVENTION REGIONAL WORKSHOP FOR AFRICA

11-13 September, 2017- Lomé, Togo



Group photo of the 2017 IPPC Regional workshop for Africa
Yaoundé September, 2017

The International Plant Protection Convention (IPPC) in collaboration with the Inter-African Phytosanitary Council of African Union (AU-IAPSC) and the National Plant Protection Organization (NPPO) of Togo organized from 11th to 13th September, the 2017 IPPC Regional Workshop for Africa in Lomé, Togo, under the 2017 theme of Plant Health and Trade Facilitation. It was attended by 22 participants from 14 member states, IPPC, FAO-RAF and AU-IAPSC.

1 - Workshop procedure

The workshop was structured around three points: the opening ceremony, the workshop activities and the closing ceremony.

1.1- The Opening ceremony

The opening ceremony was chaired by the Secretary General of the Ministry of Agriculture, Livestock and Water Resources of Togo, representing her Honourable Minister and was marked by 4 interventions:

- (1) Words of welcome from the Director of NPPO-Togo, who, after thanking the participants, wished them a cordial welcome;
- (2) The speech of the Director of AU-IAPSC;
- (3) The Representative of the IPPC; and
- (4) The Opening Speech by the Secretary General of the Minister of Agriculture, Livestock and Hydraulics.

The Secretary-General thanked the organizers for the choice of Togo to host this workshop. She reassured the participants of the goodwill of the authorities of Togo for hosting the workshop. She invited them to give the best of themselves for the smooth running of the workshop and declared the workshop open.

1.1.2 Election of the bureau

The meeting elected the following as members of the workshop bureau:

Chair: Mr. Damas Mamba Mamba (Democratic Republic of Congo),

Rapporteurs:

English- Ms. Ephrame TUMU BOINE (Uganda)

French- Mr. Kodjo ASSOGBA (Togo)

Secretariat: Mr. Flaubert Nana Sani (AU-IAPSC)

1.1.3 Adoption of the agenda

The agenda of the workshop was adopted with minor modifications.

2. Activities of the workshop

As the objectives indicate, the activities of this workshop revolved around several points. Several presentations were made.

2.1. Workshop objectives and updates

2.1.1 A video projection

An introductory video from the IPPC Secretary was played, emphasizing the theme of the workshop which is Plant health and Trade facilitation. The video related to plant health and the Trade Facilitation Agreement (TFA). The TFA came into force in 2017 and links phytosanitary agencies and customs, working side by side to facilitate the clearance of goods at exit/entry points.

2.1.2 Objectives of the workshop

The objectives of the workshop were presented by Ms. Leanne Stewart, Representative of IPPC Secretariat. Ms. Stewart recalled the theme of the workshop: Plant Health and Trade Facilitation and emphasized on the three objectives which include:

1. Learn how to analyze draft ISPMs and formulate productive comments

2. Build phytosanitary capacity and raise awareness on all IPPC related activities and exchange of experiences at the regional level.

3. Updates from CPM 12 and current projects

In this agenda item, the IPPC Representative touched on several issues, including the IPPC themes for the year 2017 and 2018 (Plant Health and Environmental Protection), the adoption of ISPMs 38, 39, 40 and 41 at the twelfth session of the Commission on Phytosanitary Measures (CPM 12), CPM 12 decisions, IPPC governance, IPPC Secretariat activities of 2016 and 2017 and the 2016 annual report.

3.1- The status and funding mechanisms of the IPPC

In her presentation, the Representative of the IPPC referred to issues such as:

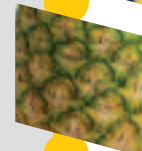
- The status of the annual funds of the IPPC;
- Sources of funding;
- Funding for certain projects;
- The need to make funding sustainable;
- The proposed mechanism to be adopted by the CPM in 2020 to solicit voluntary funding
- Provisions for the anticipation of the IPPC Budget that will be made one year in advance.

3.2 New improvements to the IPPC website

In this presentation the representative of the IPPC provided information about the International Phytosanitary Portal (IPP), where information can be found and improvements made to the site, how to navigate the website, the homepage links where contracting parties can find information on Calls and events in the Calendar. Subsequent interventions highlighted the need for connection at regional workshops for practical work and access to "login" in countries.

3.3 Standards Committee

The IPPC Standards Committee was established in 2006 and their responsibilities can be found on the IPP. The membership is representative of the FAO regions and contracting parties. Africa has 4 members and other regions 2 or 3 members.



3.4 Implementation and Capacity Development (IC)

- The Capacity Development Committee (CDC) has been replaced by the Implementation Capacity and Development Committee (IC), established by CPM 12.

- There are two members from Africa, Kenya and Zambia, as well as representatives from the SC and RPPOs.

3.5 Complication from contracting parties on commenting on draft standard

- Resources at country level to conduct consultation are limited.

- Consult the SC member for Africa to provide technical support. The IPPC Secretariat does not coordinate national discussion on draft standards.

- Highlighted the need to technically and financially support process.

3.6 Other Updates from CPM-12 and IPPC Secretariat activities

- The IPPC Representative highlighted the activities of the CPM such as, adoption of standards and annexes, treatments and some other decisions and recommendations.

- The International Cooperation activities (WCO, World Bank, CBD) were presented at the CPM-12.

- Sustainable funding for IPPC activities was proposed.

- SC, 2017 have redesigned their webpages and made the standards more user friendly and have been translated in 21 languages.

- The 5 PCE trainings for 40 participants and 41 lawyers with funding from STDF accomplished.

a) Technical expert meetings and national reporting obligation resource materials including the newsletters have been provided to contracting parties.

Integration and Support Activities

- The IPP homepage, calendars, news, seminars and work area to be accessed online. Several advocacy materials have been developed.

- The IPPC annual report made available can also

be accessed online.

b) Sustainable Funding for IPPC work plan

- The presentation explained the funding mechanism for IPPC activities. The 50% of the funding to IPPC work plan is unsustainable.

Suggested Mechanisms to sustain funding included

1. Proposed 2020 decision to make voluntary contribution from contracting parties

2. Contracting parties may continue to contribute resource as they have been doing.

3. Budgeting process will be one year ahead i.e. two year budget to increase transparency.

Proposals from the group to sustain funding of IPPC

- Review the criteria for accessing the IPPC funding to take care of the particular country's situation. Several countries are excluded in the funding of IPPC activities according the World Bank criteria.

- A team was formed to brainstorm on funding support mechanism (IAPSC, Togo, and Liberia, FAO, South Africa).

Updates from FAO-RAF activities

Mr. Reda AMEZROU from FAO-RAF, in his presentation highlighted the main intervention areas including emergency pests such as Fall Armyworm. The pest has been detected and officially reported to FAO regional office. Several emergency responses include expert meetings, farmer field schools and impact monitoring. Partnerships with Centre for Agriculture Biosciences International (CABI) and International Maize and Wheat Improvement Centre (CIMMYT) at continent level and other support mechanism of the Fall Armyworm are ongoing. The members requested FAO to consider;

1. Initiatives by countries to inform FAO of emergency pests that need their intervention

2. Involve the RPPO of the AU more and member states in FAO and other projects by any agency for sustainability and efficiency.

3. Application to FAO for support in interventions of specific regional or national nature, as most countries would be facing similar challenges.

4. The vector of Asian citrus greening bacteria, an

emerging pest that should be given priority once reported to IPPC.

5. Collaborate with the Association for Strengthening Agricultural Research in East and Central Africa (ASARECA) in organizing a meeting to discuss the Fall Armyworm issues in Africa.

Streamline communications from FAO national offices and NPPO for follow up.

Updates from AU-IAPSC activities

An update on AU-IAPSC activities was provided by Mr Flaubert Nana Sani with focus on the 2017 office budget programme implementation, drawn from its 10 year strategic plan 2014 - 2023 and as approved by the African Union Commission. He recalled the brief history of AU-IAPSC, its organization, vision, mission and goal and core function as stated in Article IX of the Convention. AU-IAPSC discussed the workshop on the improvement and strengthening cooperation on migratory pests between countries and Regional Economic Communities (RECs) held in Cairo, Egypt. He listed the emerging plant pests and plant health issues in Africa and discussed the outcome of the recent 27th General Assembly and 11th Steering Committee. Workshops on invasive alien plants and pest biological control are scheduled to take place end of September and November 2017. The ongoing workshop to review draft ISPMs was not left out.

Database collection on Invasive alien plants and pest biological control are been carried in a number of countries not forgetting specific investigation mission to Seychelles for the fungus gnats outbreak. Main challenges to address are pests' outbreaks like Fall Armyworm as well as resource mobilization and awareness creation of decision makers.

Section1- Reinforce the capacity of contracting parties to formulate comments on draft standards for consultation in 2017

Online Comment Systems (OCS) and the latest developments

The presentation of the new Online Comment System (OCS) was given by the IPPC Representative. Highlights included:

- Contracting parties need training in the use of the new system.
- Users were consulted to have input into the new system.
- The system was launched in July 2016. The new system is faster, simplified, and compatible, license shared and makes it easier to comment using the navigation mechanism. Comments by multiple users are possible.
- The multiple use icon allows external sharing by sub-teams (IPPC Secretariat, IPPC contact point, deputy and up to two reviewers.
- Features available on the OCS are: Navigation panel, draft ISPMs and commenting panel.
- The members encouraged to liaise with official IPPC contact point and IPPC Secretariat for support to make comments online.

Overview of the standard setting process

The presentation of standard setting process was given by the IPPC Representative, the following points can be noted: the process takes approximately five years but can take longer, there are several opportunities for contracting parties to participate and make suggestions, during the consultation period (1 July to 30 September), providing information to the IPPC contact point, and the need for contracting parties to insert comments after the regional workshop. This insertion must be done by the IPPC contact point.

Emphases were also on:

- 4 stages of the standard setting process explained to include: submission of topics, drafting standards, consultation and review, and adoption and publishing.
- Call for submission topics done biannually.

6 Discussions on draft ISPMs

A total of three draft standards were reviewed.



These include the phytosanitary glossary, the draft standard on fumigation and the draft standard for the international movement of cut flowers.

2017 Amendments to ISPM

(Glossary of phytosanitary terms) (1994-001)

Draft ISPM 5 Glossary of terms and the suggested revision.

- Survey: the definition is clearer and revision accepted
- Confinement (for regulated article) (subset of quarantine) deleted
- Growing period - agreed with revision
- Growing season: deleted
- Mark: deleted because the definition was extracted from ISPM 15 that does not take care of other ISMPs.

Comments

Members agreed that a proper definition for the 'mark' be obtained to take care of its use in all other ISPMs.

In short, comments on the draft amendment to the phytosanitary glossary addressed the following points:

- Amendments to the definition of growth period: the contracting parties found the new definition clearer and more concise and more comprehensive, so the revision was adopted by the participants.
- Paragraph 50: the proposal to define the investigation. The parties found the old proposal very broad and vague. They found the new clearer, more understandable and in line with the revised standard so the proposal is accepted.
- The deletion of the word confinement: some members did not find the reasons for deleting this word.

But after the exchange, members agreed that the deletion should be accepted but asked for more explanation from the Standards Committee



Meeting plenary hall

- The deletion of the term vegetation period: the members thought it opportune that this expression be deleted because it bears confusion.

- The deletion of "mark" in paragraph 87: members found that the word has several meanings in various texts. This poses a question of consistency and its deletion can bring more clarification. They also explained that the word "trademark" is clear defined in ISPM 15 and therefore took note of its deletion.

Requirements for the use of fumigation as a phytosanitary measure (2014-004)

- Technical schedule for fumigation is only stated in the ISPM 28. The need for other additions to bring harmony in the uses of various fumigants and other specifications need elaboration.
- Further details on the appendices of the draft standard or as part of the draft further discussed.

Comments

- Members enquired of the African position on methyl bromide (MeBr) which is banned by the Rotterdam Convention and sulphuryl fluoride which is not readily available.
- Members suggested that in Para 66 these banned chemical should be removed from the list.
- Some members suggested that MeBr still remain on the list since the Appendix show a list of alternative fumigants.

- Members clarified that MeBr for phytosanitary purposes is still allowed and is being used for such purposes. Other members are facing difficulties trading with countries who accept MeBr. Some members expressed infrastructural difficulties to handle the fumigant that hinders their use.

- It was suggested that the IPPC provides an update on use of MeBr for phytosanitary treatment by referring to CPM recommendation on use of MeBr.

- **Paragraph 68** on the retention of MeBr in the list of fumigants: members found the IPPC recommendation published in March 2017 and other recommendations (the Rotterdam Convention for example) prohibited the use of MeBr in the list of fumigants. They do not consider it appropriate to keep it on the list of fumigants. Participants sought clarification on this point from the Standards Committee.

Para 108: Fumigation procedure

- Member suggested that fumigation procedures should take care of the commodity types since fumigants may be specific. Further reference may be made to annexes in ISPM 28 (Phytosanitary treatments) and ISPM 32. The efficacy of the fumigant may be affected by the commodity types.

- **Paragraph 109:** Concern about the concentration (dose) of fumigants, which is not explicit, Liberia requested that the doses of the fumigants be added to be used. After exchange, the participants found no requirement at this point.

- **Paragraph 169:** authorization for fumigation of economic operators by NPPOs or the competent authority and the quality of fumigation equipment, in particular tarpaulin. Members did not bring any requirements.

Authorization procedures

- Members mentioned that the NPPO is not a body to authorize fumigation entities but that NPPO issue licenses to private entities. Other members suggested plant protection services need guidance on a model authorization procedures to enforce this measure.

- Members mentioned that fumigation entities are authorized and there is regular monitoring of those certified to fumigate.

- Members suggested that the authorization of fumigation entities be dependent on the national legislation that should be acceptable to trading partners.

Some of the implementation issues of the standard

- **Cameroon:** Enclosures and equipment are sub-standard

- **Togo:** The standard is too detailed. Entities authorized to fumigate may not meet the efficacy requirements. NPPO may find it an option to carry out fumigation of commodities efficiently.

- **Gambia:** Plant Protection Act need to be updated to incorporate the issues of fumigation.

- **Nigeria:** Some countries need the appendices maintained in the standard.

- Format of the fumigation certificate should be uniform.

- Use of MeBr is being replaced or reduced and there is need to approve alternatives. Reference to appendix 2.

Technical observation: Members considered that the table of fumigants mentioned is maintained but in the appendices (The tables should be appended on the standard).

International movement of cut flowers and foliage (2008-005)


A complete reading of the draft of the relative standard on the international movement of cut flowers was made. Comments and exchanges on this standard took place around the following paragraphs:

Title: International Movement of cut flowers and foliage

- **Paragraph 40:** Liberia: who noted that the definition is not related to cut flowers but rather to short-lived flowers and therefore proposed the modification of either the title or the definition. The discussions kept the part unchanged;

- **Paragraph 66:** South Africa which proposed the addition of: probability of cut flower stems and other propagules that are used as propagation materials. He justified his intervention by refer-





ring to paragraph 113. After a lengthy debate, the audience retained that: the stems of the cut flowers are considered to be included in the propagules referred to in paragraph 66.

Para 66: Propagule include stems.

Para 68: *Request for clarity on the last sentence. It is not clear whether juvenile stages of leaf miners post a lower risk. Gall formers are likely to escape and develop in the process. Need clarification* on which groups of pests are affected by this statement

Paragraph 69: Nigeria asked for an explanation of the last sentence of this paragraph. After the exchanges, the foundation decided to send the request for clarification on this sentence to the standards committee.

Para 72: Because many aphids often do not need to mate or find places to oviposit during the growing season (clarify).

Third sentence Paragraph 72----- not many aphids do not need to be replaced with many aphids do not need -----

Paragraph 72: One member wanted pathogens to be classified as high-risk pests. But it was eventually retained after the exchanges not to make any modification.

78] Pathogens. In the case of most pathogens, infected cut flowers are likely to be asymptomatic. However, because few of the genera associated with cut flowers can propagate easily, systemic plant pests (for example, viruses) may only rarely escape the pathway. (Transfer to high list of high risk pests) by South Africa).

[88] *Surveillance for pest free areas to replace surveillance for pest freedom*

Added: Surveillance for Areas of low pest prevalence

Paragraph 88: One member wished to add: surveillance of areas with low prevalence. But the clarification of one and the other has made it possible to find satisfaction.

Para 120: Testing explained and retained

Paragraph 120: Concerns have been raised about what is meant by test. After some explanation, it is retained that the word test refers to analyses

other than the usual visual inspections; The presence of tables in the body of the standard: the audience made a substantive comment on this case. They wished that the tables of the harmful organisms should be appended as in the case of standard 38.

General Comment: The tables to be removed from the main text and put as appendices

Session2: Implementation and awareness raising in the framework of the IPPC-FAO-RPPOs

Draft diagnostic protocols

The following draft diagnostic protocols were not discussed during the workshop:

2004-024 Draft annex to ISPM 27: *Xylella fastidiosa*
2006-018 Draft annex to ISPM 27: *Puccinia psidii* Winter
2006-020 Draft annex to ISPM 27: *Ips* spp.
2006-026 Draft annex to ISPM 27: *Bactrocera dorsalis* complex
2013-002 Draft annex to ISPM 27: *Conotrachelus nenuphar* and
2016-007 Draft revision of Annex 2 to ISPM 27: Plum pox virus

Presentations

ISPM 14 The use of Integrated measures in a systems approach for pest risk management, and the beyond compliance tool

Piloted in South East Asia. The details of the project can be obtained from the presentation.

Several measures and control points along the production chain to manage the pest risk and evaluated and their verification means to provide cumulative effect. Examples included fruits and vegetables.

More case studies will be evaluated in the next project "Beyond compliance Global STDF/PG/503". The NPPOs will be called upon to participate using a set of criteria. The calls will be made to contracting parties by IPPC for participation.

Experts needed at national level to assess the risk

(qualitative/quantitative), negotiation skills, and availability of infrastructure, skills in statistics and modelling.

Emerging issues in plant health

Through this presentation, the speaker highlighted the process of data collection, analysis of these data, and prioritization of emerging issues at the international and regional (African) levels.

The IPPC Secretariat call for phytosanitary treatments

This presentation outlined the context, the approaches, and the deadline for this call.

FAO-RAF phytosanitary capacity development activities

The presentation was made by the FAO Representative, Africa Zone. During his presentation, he touched on the political and regulatory aspects. He placed particular emphasis on FAO's pest control projects such as banana bacteria, Tuta absoluta, fruit flies and fall armyworm. He briefly presented the activities of TCP / BOT / 3502 projects in Botswana, TCP / MAU / 3502 Mauritius, TCP / NIG / 3601 Nigeria and TCP / GAMBIA / GAMBIA.

The capacity building activities of the NPPO staff through FAO concerned:

1. Technical cooperation projects (TCP) which have an element of capacity building. He mentioned the following countries : Botswana, Mauritius, Nigeria and Gambia.

2. Capacity building on fall armyworm.

A lot has been done and include:

- Four training workshops in Africa Training of Trainers (ToT) identification, surveillance, damage and impact. Sharing of knowledge on available management options and how to use systemic insecticides. Skills are given on contingency planning.

- TCP on fall armyworm is also provided to countries especially through the task force.

- FAO collaborates with other stakeholders as a coordinator of the efforts among countries and Regional Economic Communities.

- Training of trainer's workshop for precautionary measures along the borders for the ECOWAS including Liberia for experts and extension workers about the pest.

- Equatorial Guinea has also reported the presence of the pest to FAO.

- Countries need to be supported to develop technical cooperation project.

Pytosanitary capacity development activities in Africa

Achieving Sustainable Development Goal (SDGs) .2 i.e. end hunger, achieve food security and improved nutrition and promote sustainable agriculture, remains a challenge to be addressed. Highlights on capacity development which is one of the four key program of AU-IAPSC's ten years strategic plan 2014-2023, was presented by Mr. Flaubert Nana Sani. These were implemented by various institutions across the continent and include:

- Workshop on migratory pests for NPPOs and RECs was organized in Cairo, Egypt where 17 participants from 10 member states were trained;

- Workshop in supporting countries to boost trade facilitation and enforce rigorous phytosanitary measures against invasive plant pests was organized in Tunisia;

- Database on capacity development activities in Africa;

- Phytosanitary capacity evaluations in Madagascar, Guinea on 13 modules of PCE; and

- Phytosanitary technical resources, experts and reporting obligation compiled.

Upcoming events.

Invasive species and biological control workshops to develop the capacity of the member states on these areas.

Observations

- AU-IAPSC is to publish some of the proceedings of the workshops on its website for access to the wider community. The website has been hacked, but work is ongoing to remedy the situation;



- The phytosanitary newsletters are distributed to contracting parties (hard copies) regularly.
- Countries were encouraged to report to the AU/IAPSC through National Contact Point.
- Efforts are required for better coordination and networking with African NPPOs and international institutions.

Session 3: Moving together ideas to action

Presentations discussion and recommendations

Understanding what is the Phytosanitary Capacity Evaluation (PCE) tool

This topic was facilitated by Ms. Tokozaba Alphonsine LOUHOUARI, Standards Committee member. Countries' case studies on PCE experiences of Madagascar, Kenya and Mozambique were presented. The PCE's 13 modules were conducted in Madagascar and Mozambique, while Kenya only get capacitated on priority modules.

Case study of Kenya

In the case of the assessment of phytosanitary capabilities, Kenya made reference to the trainings that took place, the situation analysis to identify the phytosanitary strengths and weaknesses. This situation analysis enabled Kenya to identify phytosanitary capacity gaps. Out of the 13 PCE modules, Kenya has applied the first six at the moment. It ended with Kenya's prospects for the implementation of the PCE.

Case study of Madagascar

Madagascar presenter touched on the following: procedure with the authorities, with the Africa Solidarity Trust Fund (ASTF) and the IPPC, the context, the actors including the supervisors (three experts from the IPPC) and the national (multi-sectoral) actors, the methodology (the different workshops). Madagascar worked on the 13 modules. She ended her presentation with the benefits of the evaluation.

Case study of Mozambique

The presenter introduced their NPPO before discussing the phytosanitary capacity assessment. He subsequently touched on points such as the PCE

procedure in Mozambique and the trainings that took place. According to him, Mozambique has applied the first 12 modules out of the 13. He highlighted the search for funds, the usefulness of the PCE for Mozambique and the confidentiality of the PCE.

2020 International Year of Plant Health

The IPPC Representative briefed participants on the 2020 International Year of Plant Health (IYPH2020) and mentioned that Chad and Zambia are members of the Steering Committee, among others from the seven regions of FAO. She urged member states to mobilize resources and define priority activities for this upcoming world event.

Demonstration of the IPP and of the Phytosanitary info webpage and surveys on IPPC contact points

The IPPC's representative presented the various components of the IPP website.

IPPC implementation pilot program on surveillance

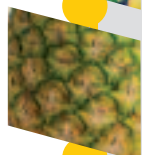
In this presentation by the representative of the IPPC, the parties were informed of the conclusions on pest monitoring of the Capacity Development Committee and the Technical Consultation of Regional Plant Protection Organizations, the revision of ISPM 6: Guidelines for Surveillance, the IPPC pilot program on monitoring of: *Xylella fastidiosa*, *Bactrocera dorsalis* and invasive ants.

Success stories of implementations of pests control management from contracting parties

Management of pests by Kenya

Participants shared Kenya's experience in pest management. The presenter highlighted the globalization of pest problems. She shared the case of fruit fly management through integrated management, post-harvest management and certification in Kenya. The country avocado pest management was presented to meet the stated import requirements to South Africa.

Capacity building of litchi exporters in Madagascar for compliance with international standards



Participants also shared the experience of Madagascar on the example of collaboration between NPPOs (South Africa and Madagascar) in the compliance of standards. The background, objectives, implementation, expected results, methodology, end result of this capacity building were highlighted. Learning from the presentation on strengthening Madagascar capacity for the production and export of litchis to South Africa was appreciated by participants.

Conclusion and Recommendations

After brainstorming on the 2017 draft ISPMs and discussing the presentations made, participants to the workshop addressed the following recommendations to:

NPPOs/Member states

- National Reporting Obligations (NROs) activities should be incorporated into NPPO's work plans including preparation for regional workshops to discuss draft International Standards on Phytosanitary Measures (ISPMs).
- The derived comments during the discussion on ISPMs will be shared with the participants for onward submission through Online Comment Systems (OCS) before 30th September 2017.
- Member countries to streamline implementation issues on the use of fumigants in their national legislations once the standard is adopted.
- Member countries may use the treatments as phytosanitary treatments annexes to ISPM 28, and the relevant recommendations while those posted on the Phytosanitary Resources webpage may need bilateral negotiations for market access.
- Members encouraged to show their interest in training opportunities on the use of Phytosanitary Capacity Evaluation (PCE) tool to IPPC and other financial and technical (development) partners.
- NPPOs should share information on current surveillance resources for *X. fastidiosa*, *Bactrocera* sp., *Spodoptera frugiperda* and other pests to promote surveillance in the region and prepare to share success stories at the next CPM.

- Request for Technical Cooperation Programme (TCP) support from FAO especially on emergency pests should follow official channels of individual countries and AU-IAPSC should be informed by the contracting parties.

- To brief their permanent Representative Ambassadors at the African Union Commission on the necessity to put plant protection matters in the top ranking priorities of the agenda of the African Union (AU).

- To maintain good communication with AU-IAPSC, so as to permit it to play its role as coordination body at the regional level.

- Initiate at country and regional level mechanism to voluntarily contribute funds to the activities of AU-IAPSC for IPPC.

AU-IAPSC

- Set up mechanisms involving Regional Economic Communities (RECs) to hold internal preparations for better participation in the regional and CPM meetings.

- Capacity building activities by AU-IAPSC and FAO to be widely communicated to member countries through print and digital media.

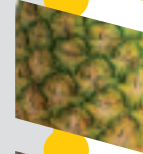
- There is need to strengthen coordination and collaboration of member countries, RPPO and other SPS stakeholders.

- The RPPO needs reports from the TC-RPPO meeting posted on the IPP portal,

- Editors and Official Contact Points to be trained on the use of the new IPP and Online Comment System.

- African Union Commission to help the Inter African Phytosanitary Council of the AU to support the African group for better participations to the FAO meetings (Codex Alimentarius and IPPC).

- **AU-IAPSC, FAO** should train on the use of complicated models to enable users comprehend the systems approach and other agencies may have to take up this activity.





IPPC/FAO

- Review the criteria for sponsoring countries to participate in IPPC regional workshops and other related activities, with regard to the World Bank classification.

- More case studies on the use of integrated measures in system approach to pest management needs during the next project Beyond Compliance Global especially from Africa.

- Emerging issues from Implementation Review and Support System (IRSS) should be widely publicized at different levels for appropriate action including African Union, FAO and member countries.

- **IPPC/FAO** should continue to provide financial support to AU-IAPSC to organize the regional meetings.

- In order to ease the use of the new tools developed by IPPC, African contracting parties request IPPC to organize trainings sessions.

ALL. (Contracting parties, AU-IAPSC, IPPC, FAO...etc.)

- Continue with the preparations for the International Year of Plant Health 2020 through the nominated members of the planning committee.

Tentative dates and location for the next regional workshop

It was proposed the 2018 IPPC Regional workshop for Africa shall take place during the second week of September 2018, in Madagascar.

Adoption of the report

Recommendations were adopted and the draft report to be circulated for adoption.

Closing ceremony

The ceremony was chaired by the Director of Plant Protection (PV) of Togo, who represented the Minister of Agriculture, Livestock and Hydraulics. It was marked by four speeches: the words of thanks of the contracting parties from the Director of NPPO of Madagascar, the words of thanks of the Director of the AU-IAPSC, those of the Representative of the IPPC, and the closing speech of the Director of the Togolese PPO.

The contracting parties expressed their sincere thanks to the Government of Togo and its Ministry of Agriculture and the Togo DPV, AU-IAPSC and the IPPC for the success of the workshop.

The Director of AU-IAPSC expressed his appreciation and thanked all those who contributed to the success of the workshop. He thanked the authorities of Togo particularly for his development policy. He ended his words by thanking the Togolese Plant Protection Directorate, the IPPC and the FAO.

The Representative of the IPPC in turn thanked all participants, the EU for providing support to many participants of the workshop, and AU-IAPSC for coordination. Her sincere thanks go to the authorities of the Togolese Republic, to the Ministry in charge of Agriculture and to the Directorate of plant Protection (NPPO) of Togo.

Concluding the work, the Director of the Togolese PV, representing his Minister, conveyed the words of his Minister to the participants. The Director first congratulated the participants on their hard work. The message from the Secretary General (SG) on behalf of the Minister of Agriculture who appreciated the quality of the work done.

The Director of NPPO, Togo thanked participants for their fruitful contribution to the success of the workshop; wished them safe journey and declared the workshop close at 7pm on Wednesday 13 September 2017.

AU-IAPSC to set up mechanisms involving Regional Economic Communities (RECs) to hold internal preparations for better participation in the regional and CPM meetings.

REGIONAL STRATEGY WORKSHOP ON FALL ARMYWORM MANAGEMENT IN EASTERN AND CENTRAL AFRICA

Entebbe, Uganda - 18th – 20th September 2017



Group photo of participants

The Sub-Regional Office for Eastern Africa (SFE) of the Food and Agriculture Organization of the United Nations (FAO) is a multi-disciplinary technical and policy advisory centre based in Addis Ababa, Ethiopia. SFE serves eight countries - Burundi, Djibouti, Ethiopia, Kenya, Rwanda, Somalia, South-Sudan and Uganda – each of which has a FAO Country Representative. The SFE office, is composed of a Multi-disciplinary Team with technical expertise in crop and animal production, forestry and natural resource management, land and water management, fisheries and aquaculture, agribusiness and enterprise development as well as policy development among others, provides technical and field support to the implementation of initiatives and programmes across the eight countries in the sub-region.

For more information on the FAO Subregional Office for Eastern Africa activities or copies of this document, contact:

FAO Sub-regional Office for Eastern Africa
P.O Box 5536
Addis Ababa
ETHIOPIA
Email: FAO-SFE@fao.org

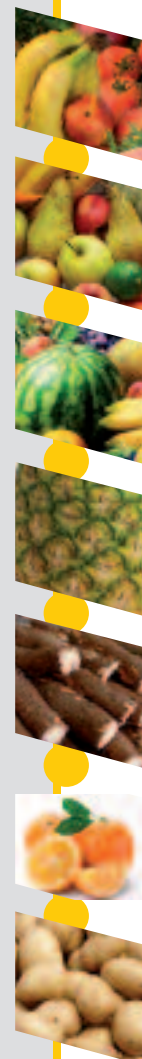
About the Association for Strengthening Agricultural Research in Eastern and Central Africa (ASARECA)


The Association for Strengthening Agricultural Research in Eastern and Central Africa (ASARECA) is a not-for-profit sub-regional organization of the National Agricultural Research Systems (NARS) of 11 member countries, namely: Burundi, the Democratic Republic of the Congo, Eritrea, Ethiopia, Kenya, Madagascar, Rwanda, South Sudan, Sudan, Tanzania and Uganda.

ASARECA brings together scientists from the national agricultural research institutions of the member countries, national agricultural extension service providers and other strategic development oriented partners to generate, share and promote knowledge and innovations to solve common challenges facing agriculture in the member countries.

*For more information on ASARECA, contact:
ASARECA Secretariat*

Plot 5 Mpigi Road
P.O.Box 765 Entebbe, Uganda
Tel: 256 414 320556/320212 Fax: 256 414 321126
Email: secretariat@asareca.org,
URL: www.asareca.org





This report contains the proceedings and outcomes of the joint FAOSFE-ASARECA Regional Strategy Workshop on Fall Armyworm (FAW) for Eastern and Central Africa (ECA) held from 18 -20 September 2017 in Entebbe, Uganda. The main objectives of the workshop were: i) to create awareness on FAW among countries in the sub-region; ii) to discuss effective and rational sub-regional management of FAW building on the continental FAW management framework; iii) to strengthen linkages and information exchange among the concerned stakeholders; and iv) to review and validate ECA sub-regional emergency response plan and develop an action research strategy/proposal on FAW for possible funding. Participants at the workshop included Regional Economic Communities (EAC, IGAD, COMESA), Ministries of Agriculture, National Agricultural Research Institutes (NARIs), Universities and the National Plant Protection Organizations (NPPOs) of eastern and central Africa, ASARECA, FAO, USAID, DFID, World Bank. Other organizations involved in key crop value chains threatened by FAW including CIMMYT, ICRISAT, IITA, CABI, DLCOEA, AATF, ICIPE, AFAAS, NPPOs, Private Sector actors also participated in the meeting. FAO staff from the Sub-regional Office for Eastern Africa (FAOSFE) and the eight SFE country offices also participated and provided support to the workshop. During the workshop information was presented which highlighted the status of FAW in the sub-region including national and sub-regional interventions and action plans related to FAW. Thematic areas of the workshop included: i) Update on the status of FAW in ECA and ongoing response activities; ii) identification and monitoring of FAW in ECA; iii) Damage caused by the FAW on crops and the economy of ECA; iv) FAW management measures; and iv) strategic partnerships and coordination around the control of FAW in ECA. The workshop participants were divided into five groups and discussed on the following FAW strategic intervention areas and developed draft strategic plans on: i) Development of a FAW monitoring and forecasting system for FAW early detection and action; ii) Management options of FAW in the ECA sub-region; iii) Coordination, communication and awareness on FAW manament; iv) FAW impact assessment; and v) Resource mobilization for sustainable FAW management in the sub-region.

While speaking at the close of the workshop, the FAO Sub-Regional Coordinator for Eastern Africa and Representative to the AU and UNECA, Patrick Kormawa, noted that Fall Armyworm is a regional challenge that requires a coordinated solution in terms of monitoring and forecasting, management, communication and awareness, impact assessment, and resource mobilization. He added that the sub-regional strategy identifies institutions and partners responsible for various tasks, at sub-regional and national levels. He thanked national governments and development partners for allowing FAO to take leadership in coordinating this effort. “FAO is grateful to countries in the sub-region for giving us the coordination role in tackling the Fall Armyworm problem”, he said. “Our mandate is to end hunger in the world and we are taking it seriously”, he added.

Director General National Agricultural Research Organization of Uganda (NARO) and Board Chair of ASARECA — who represented the Minister of Agriculture, Animal Industry, and Fisheries (MAAIF) – Ambrose Agona said: “Since different countries are at different levels of agricultural research and development, a comprehensive, transboundary, and coordinated approach will support resource-constrained countries to fight pests and diseases, while reducing their risks of becoming reservoirs for crop pests”.

On his part, the Interim Executive Secretary of ASARECA - Cyprian Ebong, emphasized the need for collaboration and joint scientific interventions, especially since “the level of agroecological heterogeneity in Eastern and Central Africa is very high”.

Overall, the workshop was successful with high quality presentations and excellent discussions.

Acknowledgements

FAO acknowledges the support of ASARECA for co-organizing this sub-regional strategy workshop on FAW management in the sub-region. USAID played vital role not only by supporting participation of some important technical colleagues but also its senior staff members participated in the workshop and actively involved

in the discussions which led to producing very important strategic document for FAW management in the sub-region.

This workshop was facilitated and the outcome (implementation plan for the FAW management strategy) is compiled by Winfred Hammond – a consultant at FAO RAF. The final report is prepared by Mathew Abang and Solomon Gelalcha, crop production team from the FAO Sub-regional Office for Eastern Africa (FAOSFE) in Addis Ababa, Ethiopia

1. Workshop Opening

Food and Agriculture Organization of the United Nations (FAO)

The sub-region already suffers from conflict, war, internal displacement, youth urban migration and refugee migration. FAW has the potential to aggravate the situation. Strategies need to encompass; short, medium and long-term solutions. Farmer knowledge /local practices needs to be investigated and evaluated, this as well as local germplasm. Farmer have to be provided with up to date knowledge of factors affecting their production to help improve farming practices e.g. rainfall forecasts. Information needs to be shared routinely with farmers. Resource mobilization needs to be based on evidence based data and a solid implementation strategy. Research and interventions have to be farmer focused. Pesticides have been the main recourse but more has to be done to make farmers aware of their dangers. GMOs maybe promising but there is no supporting biosafety regulation to enable their usage.

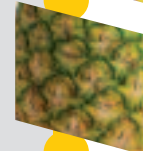
A continental frame work exists but now needs to be cascaded to the Sub regional and national level for effective implementation and in a coordinated manner. There is a need to harness synergies and avoid duplication – e.g. manual preparation. The rapid spread in Africa in just one year justifies the need to act swiftly and appropriately.

Major milestones for the sub region include AGRA CIMMYT meeting in April that was Global with several partners USAID, DFID, WB etc. FAO is given leading role in coordination of efforts in FAW management in Africa. Base on the April meeting, progress has been made in developing projects and programs focusing on FAW. Farmer in some countries are able to intervene directly based on knowledge acquired.

For effective FAW control, theory of change has to be adopted; i.e. Farmers must be empowered; there needs to be better coordination at national and sub regional level; communication amongst all stakeholders has to be improved; there has to be impact assessment done to determine the effect of FAW; efforts has to be towards sustainable management.

Key roles FAO is playing in coordinating FAW management in Africa includes:

- Policy advocacy by FAO / AU at high level (FAW is on the agenda of the next technical committee meeting);
- FAO is already strengthening capacity of several African countries via TCP and other projects;
- Advocacy by AU level, AU reps and diplomatic mission in Addis Ababa fully briefed;
- Head of state and Minister briefing to take place in due course;
- Progress is being made in collection, processing and sharing of data at sub regional level. At the Sub regional level, several efforts done on FAW management and some countries already have action plans in place others are in development stage. TCP projects are already ongoing in some countries while other are in development. ToT has been organized at sub regional level to support countries. The sub region has received funding from OFDA / USAID to support setup of a early warning system in six countries (Burundi, Ethiopia, Kenya, Rwanda, Uganda and Tanzania).





Association for Strengthening Agricultural Research in Eastern and Central Africa (ASARECA)

FAW places the livelihoods of over 200 million people at risk and may impact goal to eliminate hunger by 2030 by affecting key staples in the region maize, sorghum, millet and pasture. There are already several parties actively involved with FAW management in the sub region. Efforts for management in Africa have to be stepped up to prevent rapid spread beyond the continent. ASARECA is in a strong position to fulfil mandate in collaboration with other development partners including RECs, FAO, CGs, AGRA, Governments and other Development partners. Impact is adverse and FAW will impact differently on the commercial farmer and the small scale/ subsistence farmer. The impact will also be different on agriculture based household, household head headed / dominated by women girls. Impact on investment being made and already made on agriculture by Government and partners e.g. refugee program in Uganda. There is a need to quickly convert research findings into action as well as apply currently available knowledge to begin solving farmer problems. And also a need to strengthen alliances and synergies amongst institutions. Strong leadership is required for FAW management and a Sub regional approach is the way forward. There is a need to share of key messages on FAW widely. Recourses are limited and there is a need to form strong partnerships and align priorities for maximum leverage. To reach out to all partners and form inclusive partnerships and at the same time understand and appreciate each partner's value addition requires coordinated frame work required. Solutions have to be practical and address government concerns and priorities.

FAW will lead to a deficit of 2 billion USD in grain production in Africa. More than 30 countries in the continent are already affected and the situation is likely to get worse, aggravated by the effects of climate change. The next destination of the pest is likely to be Europe from Africa. We need to know the impact climate change will have and which countries are likely to be most affected. We need what condition will aggravate the impact

of the pest. There is need to predict the future impact and spread based on the effects of climate change.

ASARECA has looked at models based on Latin America where the pest occurs and linked this to areas in Africa with similar conditions to predict the future scenario in Africa. Based on similar climatic conditions in Latin America only a small proportion of the continent has been affected this means there is still potential for the pest to spread further in to other areas in the continent. Based on the occurrence of ideal ecological condition in Middle East, Asia and Europe, FAW is likely to spread to new continent is not managed in Africa. Presently FAW does not seem to prefer tropical forests but as climatic conditions change the situation is likely to favor FAW. Africa currently rely more on reactionary measures e.g. emergency, chemical generally considered fire brigade approaches. There is a need to generate information that will allow evidence based decision making for FAW management in Africa.

Eastern African Fall Armyworm Management Strategy and Implementation Plan (EAFAMSIP)

2. Background

The invasive fall armyworm (*Spodoptera frugiperda*), FAW, is a pest ravaging crops in over 25 African countries. It is native to the Americas but recently spread to Africa and was first reported in Nigeria in West Africa in early 2016. It soon spread to in southern Africa in late 2016 and by early 2017 was confirmed in East Africa. FAW attacks more than 80 different plant species including maize, a major food staple in sub-Saharan Africa upon which more than 300 million people depend. If it is not effectively controlled, it is expected to cause \$3bn loss to maize in Africa along with serious food shortages in the next year (IAPPS, 2017). Millions of East African farmers are on the way to recovery from last year's shocking drought that resulted in a humanitarian crisis.

At continental level, the pest is reported to have so far affected maize and other crops in at least 25 countries, 6 of which are in Eastern Africa. Since its introduction to the Eastern Africa sub-



region, FAW caused quite significant damage to maize production. Recent reports show that in Ethiopia about 600,296 ha (about 60% of total); in Kenya, about 250,000 ha (12.5% of total); in Rwanda, about 20,626 ha (about 32% of total); and in Uganda about 980,000 ha (about 75% of total) of maize have been infested with FAW.

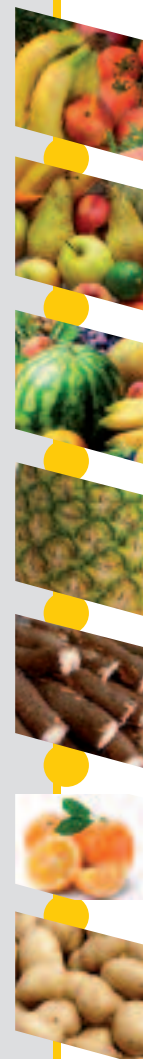
Affected countries in that sub-region have already started interventions by implementing their national action plans facilitated by FAO. Most of the countries have so far managed to control FAW through regular monitoring, pesticide application, and hand picking of FAW larvae. Some countries have already prepared their action plans on FAW prevention and control (e.g. Ethiopia, Kenya, Rwanda, Uganda) while others (Burundi, Djibouti, Somalia, South Sudan) are yet to do so. The pest is yet to be reported in Somalia and Djibouti. Support is being provided to South Sudan to prepare its action and contingency plans.

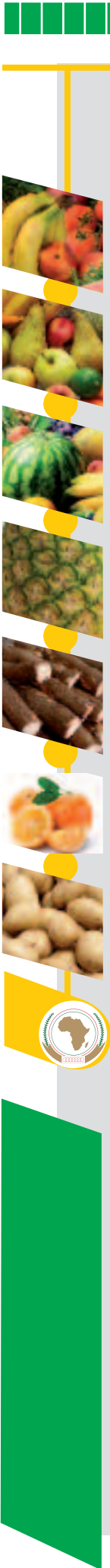
Combining the estimated current and projected economic losses to yield for maize and sorghum only, for the African countries where FAW has been confirmed, suggests that the insect is already threatening nearly 9% of the total combined agricultural GDP of these countries (CABI Evidence Note, 2017). This is based on an assumed average of 52% area of crops infested over the next year and 30% average yield loss to maize; 16% to sorghum. This assumption does not take into account possible additional losses through impacts on associated industries (e.g. seed farms) or other crops. In all confirmed and suspected FAW presence countries, these form a total value at risk of over \$13.3 billion. For instance, Uganda produces close to four million metric tons of maize grain annually, which supports the livelihoods of over 3.6 million households (UBOS, 2014). Based on estimated yield loss of 15% - 75% elsewhere, the presence of the fall armyworm in Uganda could translate to an annual loss of at



least 450,000 metric tonnes of maize equivalent to US \$ 192, 857,000. FAW is a highly dangerous transboundary pest with a high potential of spreading out due to bioecological and trade aspects. The control of FAW in Brazil cost USD 600 million per year, giving an idea of the magnitude of damage.

The sudden appearance of fall armyworm in the sub-region is a major concern in that it comes after a prolonged drought and at the onset of the main cropping season. This will negatively impact recovery efforts that had been put in place by the various governments in the sub-region. In addition, the fall armyworm attacks crops that are key to the livelihoods of most rural communities in all eight countries in the sub-region. It is estimated that over 31 million hectares of food crops (representing different genera of Poaceae) that constitute the main diet of most of the residents in the countries are under attack. If not managed, this pest would have devastating impacts on the immediate food security of millions of households and have the potential of causing famine, population displacement and civil unrest.





Though the fall army worm prefers to feed on members of the Poaceae, it can be equally destructive on cotton, often feeding on the squares and causing them to drop off, severely affecting yield. Cotton is one of the few cash crops that the countries in the sub-region promote as a cash crop with the aim of helping small scale rural farmers diversify their production and build resilience.

FAO has been facilitating information and knowledge exchange among countries within Eastern Africa and between the various sub-regions and enhancing South-South Cooperation, e.g. facilitation of the visit of Sudanese experts to Ethiopia. FAO will be implementing a project funded by USAID/OFDA on “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. 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. Nine countries from the East Africa participated. The trained will in turn train other staff and farmers on management of the pest in their respective countries. Topics covered included FAW identification and diagnosis, scouting, early warning systems, contingency planning, impact assessments and integrated management options for the pest.

Recognizing that FAW is a regional challenge that requires a coordinated response (in terms of FAW monitoring and forecasting, management, communication and awareness, impact assessment, and resource mobilization), FAO and ASARECA recently (18-20 September 2017, Entebbe, Uganda) organized a workshop during which stakeholders in Eastern Africa developed a strategy and implementation plan (EAFAMSIP) that involved all the major actors in the sub-region concerned with the

fight against the invasive pest.

1. Rationale

FAW is a community threat and effective management requires a community-based integrated Pest management approach. Due to inadequate knowledge on this new pest, governments of affected countries embarked on massive chemical spray operations accompanied by awareness campaigns in an attempt to contain the pest. Likewise, desperate affected farmers applied different types of pesticides with little guidance on appropriateness, human safety or environmental considerations. Testimonies from farmers indicate that farmers felt the need for repeated pesticide applications which in most cases were not effective against the pest. This could potentially have long term socio, economic and environmental impacts on the region.

Unguided use of pesticides may not only result in environmental contamination, it can also increase the cost of production through frequent costly and ineffective spraying. This poses a real challenge to sustainable and profitable production of the maize among smallholder farmers given current low productivity levels and low input production systems in Southern Africa. There is also the extra risk of heightened pesticide residues in the production environment and in consumed produce. Women are responsible for performing most farming tasks including application of pesticides. An increased demand on pesticide application to protect the crop from the FAW will translate into more pesticide exposure for women.

Given that the pest is new, the challenge for its management will be to establish a baseline on the impact of FAW, in terms of losses but also the economic and environmental impacts of FAW control, on vulnerable smallholders. This would be part of the case for investment in programs aimed at improved practices for control of the pest at lower economic and environmental costs. It would also be an element in mo-

monitoring progressive efforts to reduce the impact of the pest.

Integrated Pest Management (IPM) is an effective and environmentally sensitive approach to pest management that relies on a combination of common-sense practices. Through IPM approach EAFAMSIP will use current and comprehensive information on the life cycle of the pest (FAW) and its interaction with the environment. Therefore, IPM is basically knowledge intensive approach to safely manage the pest and keep the damage below economic threshold level. Unlike the single pest control methods such as use of pesticides, IPM follows and makes use of bottom-up approach wherein the farmers are empowered in decision making on whether or not to use available pest management option. IPM is an ecosystem-based strategy that focuses on long-term prevention of pests or their damage through a combination of techniques such as biological control, habitat manipulation, modification of cultural practices, and use of resistant varieties. Pesticides are used only after monitoring indicates that they are needed according to established guidelines, and treatments are made with the goal of removing only the target organism. Pest control materials are selected and applied in a manner that minimizes risks to human health, beneficial and non-target organisms, and the environment. In effect, no any single FAW control method is found to be effective. For instance, even though mechanical control interventions such as hand picking in Ethiopia and other countries in the sub-region seems helpful, it was not effective by itself because of lack of appropriate technique to efficiently remove the naturally hiding larvae without damaging the crop. Furthermore, most available pesticides are not effective to control FAW once the larvae enters into whorl of the maize.

Community-based approaches to pest management provide opportunities for public engagement in local decision-making processes. Outcomes include learning about alternative

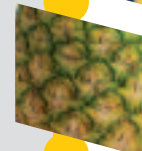
pest management practices, human and natural environments, and safer pesticide use.

Many of the technologies developed in pest management have not been effectively disseminated to farmers due to technical, institutional and socio-economic constraints. Such constraints will also contribute to proven FAW management techniques to be poorly implemented in affected communities. These constraints mainly arise from:

- lack of a reliable extension infrastructure and the inefficiencies of the top-down R&D approach,
- farmers' poor knowledge of the biology of FAW,
- farmers' lack of access to FAW resistant/ tolerant crop varieties,
- poor understanding and application (by researchers, extension agents and farmers) of the joint learning activities needed to promote IPM,
- the weakness of the mechanisms available to scale up and scale out proven IPM options,
- weaknesses in the mechanisms used to forge productive partnerships at the community level,
- ineffective project monitoring and evaluation and
- Lack of standardized FAW impact assessment

2. Scope of the Strategy

The proposed strategy will have a two tiered and phased approach covering the immediate and short term actions (0-18 months), as well as medium term (18 - 36 months) actions. The strategy will cover all Eastern Africa (SFE) countries that have been affected by the FAW (Burundi, Ethiopia, Kenya, Rwanda, South Sudan, Uganda) as well as those at high risk (Djibouti, Somalia). Partners will implement their own activities that contribute to specific outputs. FAO will provide coordination to enable sharing of information among the partners.



3. Objective

The objective of the strategy would be to support countries in the sub-region to strengthen the capacity of smallholder farmers to effectively contain and manage the FAW so as to minimize its impact on food security and livelihoods of farming households in Eastern Africa.

4. Beneficiaries and Stakeholders

The main beneficiaries will be an estimated 210 million male and female farmers and their households in eastern Africa, their households, as well as farm workers whose food security and economic livelihoods are dependent on agriculture and its value chains.

5. Alignment and Strategic Fit

This strategy fits perfectly within the “Framework for the Coordinated Management of Fall Armyworm in Africa”, which has four main components for management of FAW - early warning and monitoring, impact assessment, management options, and coordination. FAO-SFE has been actively involved in the development of the Framework and will ensure that EAFAMSIP activities are aligned/coordinated with planned interventions in the Framework.

The All Africa Meeting on FAW in Nairobi (27-28 April 2017) came up with an action plan/recommendations for putting in place a multi-institutional continent-wide operational framework for the control of FAW involving FAO, CIMMYT, IITA, AGRA, MoAs, NPPOs, regional research institutions, and regional economic communities (RECs) across Africa. EAFAMSIP fits within the continental action plan and brings together key actors required for a coordinated response to FAW.

The objectives of this sub-regional strategy are directly linked to FAO’s Strategic Objective 5 “Increase the resilience of livelihoods to threats and crises” and to the FAO Regional Office for Africa (RAF) Regional Initiative 3 “Building

Resilience in the Drylands of Africa”, and are designed to reduce vulnerability to disasters and shocks affecting food and nutrition security and to develop capacities to cope with these threats. It is also linked to Regional Initiative 2 – “Sustainable production intensification and value chain development in Africa”, as FAW poses a direct threat to the productivity of major crops and the development of these crop value chains. The proposed actions are also relevant to the Country Programming Frameworks and the United Nations Development Assistance Framework (UNDAF) of all SFE member states as they address pertinent issues related to capacity building, disaster risk management and gender effective response to food and agricultural threats that all the eight countries are striving to address. More specifically, they relate the following: Ethiopia, UNDAF Pillar 1, Outcome 4; Djibouti, UNDAF Pillar 1 and 2; and Kenya, UNDAF Strategic Result #4- Outcome 4.2; Rwanda, UNDAF Outcome 3.3; Uganda, Strategic Intent #3- Outcome 3.1. The proposed action is also aligned with respective UNDAF for the other countries including Burundi – UNDAF 2012-2016.

6. Strategy and methodology

EAFAMSIP (itself aligned to FAO’s Framework for the Coordinated Management of Fall Armyworm in Africa) has 4 major components: i) FAW monitoring and forecasting of FAW, ii) sustainable management of FAW, (iii) FAW impact assessment, and iv) coordination communication & training of FAW management. The strategy follows the community-based IPM approach in all the components in order to: i) improve access to and know-how of the proven IPM options by the farmers; ii) ensure community ownership and uptake of available FAW IPM interventions, and iii) make use of farm resources and farmer’s capabilities to avoid or manage risks (such as sudden FAW infestation) that would otherwise have serious consequences in the farming system.

The strategy is expected to be imple-



mented in two phases: the immediate to short term (0-18 months) and the medium term component (18-36 months). The interventions will be implemented concurrently by the various organizations and institutions identified by the Entebbe workshop participants. Institutions that were identified to lead the work in specific thematic areas will be responsible for harnessing synergies among the relevant collaborating institutions for joint action in the development and delivery of solutions to the FAW menace. For instance, CIMMYT will lead efforts at subregional level (working very closely with national research institutes) to develop and deliver farmer-preferred FAW resistant maize varieties. FAO will provide overall coordination of the sub-regional programme. The implementation plan of the Eastern African Fall Armyworm Management Strategy (Table 1) provides details of the thematic areas, lead organizations and collaborating partners required for successful achievement of the expected outputs of the strategy.

7. Component 1: FAW, Monitoring and Forecasting (SMF)

This component has been partially funded under a project titled “Establishing an emergency community-based Fall Armyworm monitoring, forecasting, early warning and management system (CBFAMFEW) in Eastern Africa”

Output 1. Monitoring and forecasting system for FAW early detection and action developed

A. Community Level

- Conduct district meetings
- Identify high risk villages
- Village meetings
- Identify Community Focal Persons (scouts)
- Training community focal persons in scouting, monitoring of presence or absence of FAW, and reporting
- Community awareness and field days

B. National Level

- Monitoring and forecasting
- Create awareness (bulletins)
- National and district level ToT for Community-based forecaster training (FAW biology, ecology, management, monitoring, monitoring, safety – IPM)
- National plant protection officers’ conduct regular seasonal monitoring
- Incentives for plant protection officers and extension agents
- Assign focal persons at different government levels (national, district...)
- Centralizing data at national level and create data base
- Procurement of tools and equipment (Pheromone trap set, rain gauges, magnifying lenses, GPS, vehicles, stationary, GIS)
- Preparation of manuals, field guides and posters, data sheets, etc.

C. Sub-regional Level

- Sub-regional organizations take on FAW coordination (monitoring, data storage “link with continent wide data repository – FAOHQ”, Information sharing)
- Provide harmonized protocols for monitoring and reporting to national levels
- Designated FAW Diagnostic Labs (linked with international and national entities)
- Communication networks and linkages strengthened (SMS-based data collection, reporting and regular information sharing)
- Sub-regional trainings, workshops, research
- Set up regional server, website,
- Adapt available harmonized standard field guides and protocols

8. Component 2: FAW Management Options

Following the outbreak of the FAW in Eastern Africa, the predominant control approach by farmers and governments in the affected countries was by synthetic pesticides (especially or-





ganophosphates, synthetic pyrethroids, a few neonicotinoids, and in some cases cocktails of pesticides). These were mostly emergency responses, not based on any efficacy evaluation, except in a few countries such as Uganda and South Africa. Old pesticide molecules, recognized as hazardous and banned in industrialized countries, are readily available and widely used in African countries. These products posed unacceptable risks to human health and the environment under the local condition of use. Furthermore their use may result in pesticide residue levels that become a constraint to marketability of crops both on domestic and export markets. The intervention will support farmers to efficiently manage the FAW through FFS, Lead farmer and other participatory extension models to deliver training for existing multi-stakeholder proven approaches such as Integrated Pest Management (IPM) which provides a more cost-effective and sustainable long-term management. There will be a huge scope to take stock of which practices are already known to be effective and to invest in further research to increase the range of management options. EAFAMSIP will advocate for policies and regulations that protect people and the environment from highly hazardous pesticides.

EAFAMSIP will facilitate the training of farmers in the management of the FAW. Other existing approaches in reaching out to farmers and working with the national extension approaches in the countries will also be explored. Such training will be led by the extension staff supported by the Crop Protection Units/NPPOs as well as other organizations such as CABI and CIMMYT and other key CGIARs.

Core principles of this ecological pest management include: understanding the biology and ecology of FAW, preserving and enhancing the natural control by generalist predators (ants, earwigs, and birds), specialized parasitoids (egg & larvae parasitoids) and pathogens (bacteria, fungi and virus). As of today, very few countries have identified indigenous natural enemies

against FAW. The parasitoids *Telenomus remus* and *Cotesia marginiventris* were reported to be effective in Brazil and the USA; the potential of these and additional biological agents such as *S. frugiperda* nucleopolyhedrovirus need to be further researched. The use of botanical and biological insecticides (certain strains of *Bacillus thuringiensis* (Bt), fungi and virus to manage FAW in an IPM context has been reported to be effective in several sources, but bio-pesticides are not always locally available in the affected countries.

Some information/observations on the efficacy of cultural control options, such as handpicking (e.g., Ethiopia, Rwanda), early planting (in many countries), and management of crop residues have already been made. Increasing plant diversity in the field may make the field less attractive to adult female moths and affect oviposition on crop plant. In an IPM strategy for FAW, the use of pheromone traps may also play a role in local decision-making, especially if farmers can quickly be alerted to scout their fields and make the proper decisions.

Management Strategies

To encourage community ownership of FAW management techniques, EAFAMSIP will promote community-based effective and appropriate IPM practices among farmers through training so as to reach out to the affected farming communities. It will work very closely with extension officers, NGOs, Farmers Associations and other partners to ensure the quickest and greatest dissemination of effective and sustainable FAW management practices. Key awareness and education avenues on the pest will be:

1. Farmer Field Schools
2. National Extension Services
3. CABI Plantwise Plant Health Clinics
4. Mass communication campaigns

FAW management options include three phases: i) immediate action; ii) short-term; and ii) medium term interventions

Component 2.1 Management of FAW (Immediate Actions)

Output 2.1.1 Existing knowledge on behavior and ecology of FAW (based on the CABI evidence note) improved

- Analyze the CABI evidence note II, identify the gaps in the report
- Transmit information on gaps to CABI

Output 2.1.2 Effective FAW management in the sub-region promoted

- Make available the FAW field management manual to stakeholders

Output 2.1.3 Management of FAW using bio-control options (pathogens and parasitoids) promoted

- Inventory of available bio-pesticides for FAW management
- Advocate for fast-track of registration of bio-pesticides for control of FAW
- Raise awareness and training on BioControl agents and their identification by farmers
- Development of user friendly protocol for identification of BioControl agents by farmers

Output 2.1.4 Management of FAW using effective cultural practices promoted (Examples: Crushing egg masses, Hand-picking of larvae, Planting time, Fertilizer application, Indigenous farmer knowledge, Intercropping (not crop rotation), Agroforestry, Habitat management (plant diversity, hedgerows))

- Inventory on farmer practices to manage FAW
- Avail guidelines in the manual on cultural control
- Awareness and training on FAW life-cycle for application of cultural management practices (egg crushing, hand picking)

Output 2.1.5 Management of FAW using effective botanicals (Neem, Tephrosia...) promoted

- Inventory of available botanicals for FAW management

- Quick evaluation of botanicals present with farmers
- Raise awareness and training on botanicals for FAW management

Output 2.1.6 Management of FAW using low-risk and effective synthetics pesticides supported

- Generate and avail the HHP list to all countries in the sub-region
- Disseminate information on HHPs to stakeholders
- Generate the list of available low-risk synthetic pesticides
- Fast track registration of low risk chemicals.
- Advocacy and awareness creation on pesticide risk involving all stakeholders
- Promotion and training of spray service providers (SSPs) for safe use of chemicals.

Output 2.1.7 Host Plant Resistance I (Natural/Conventional breeding) developed and promoted (44 insect resistant maize hybrids and OPVs already released in SSA)

- Screen already released insect resistant maize germplasm (inbred lines, hybrids and OPVs) for possible resistance to FAW

Output 2.1.8 Evidence based advice on option of transgenic host plant resistance provided

- High level policy consultations on the use of transgenics minimizing pesticide use on FAW
- Testing the locally available Bt germplasm against introduced FAW

Component 2.2 Management of FAW (Short term Actions)

Output 2.2.1 Management of FAW using bio-control options (pathogens and parasitoids) developed and promoted

- Inventory of indigenous natural enemies (pathogens and parasitoids)



- Select and evaluate efficacy of the bio-control agents

- Testing and registration of biopesticides proven for other pests to manage FAW

- Demand assessment and promotion of registered biopesticides to manage FAW

- Establish/ review/harmonize the regulatory framework for registration of biopesticides

Output 2.2.2 Management of FAW using effective cultural practices developed and promoted

- Evaluation of effectiveness of farmer practices

- Evaluate effect of different crop combinations on population dynamics of FAW and its natural enemies

- Verify the push-pull system for FAW management

- Promotion of proven cultural practices

Output 2.2.3 Management of FAW using effective Botanicals (Neem, Tephrosia...) promoted

- Bioassay and determination of effective rates of applications

- Field validation of botanicals

- Promotion of proven botanicals

Output 2.2.4 Management of safe and low-risk synthetics pesticides supported

- Evaluation of the efficacy of low risk pesticides

- Awareness creation on low risk pesticides.

- Harmonization of pesticide legislation/ registration

- Training on pesticide resistance management plan

Output 2.2.5 Host Plant Resistance I (Natural/ Conventional breeding) developed

- Identify sources of resistance to FAW in

sorghum

- Evaluation of FAW resistant maize germplasm from CIMMYT

Output 2.2.6 Host Plant Resistance II (Transgenics)

- Humanitarian licensing of transgenes

Component 2.3 Management of FAW (Medium term Actions)

Output 2.3.1 Management of FAW using bio-control options (pathogens and parasitoids)

- Scaling out of the bio-pesticides

- Release of proven natural enemies

Output 2.3.2 Host Plant Resistance I (Natural/ Conventional breeding) developed

- Intensify breeding activities for FAW resistance in maize and sorghum germplasm

- Fast tracking release and registration of new varieties with FAW resistance

- Adoption of harmonized seed policies for sharing of FAW resistant varieties

Output 2.3.3 Evidence base for option of transgenic host plant resistance strengthened

- Evaluation of new Bt genes for FAW resistance

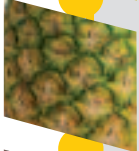
- Training on insect resistance (Bt genes) management

Output 2.3.4 Effective IPM package to manage FAW developed

- Evaluate a complete package of control measures for effective

9. Component 3: FAW Impact Assessment – Ex-ante, midterm, and ex-post analysis

The impact of the FAW needs to be identified and assessed qualitatively and quantitatively in order to inform decision making and to evaluate the relevance and effi-



ciency of the FAW management interventions. During the Addis Ababa FAO-SFE ToT workshop on FAW management in Eastern Africa, it has been agreed by the participants from all the 8 SFE countries and FAO-Eritrea that a common assessment tools should be used for the various FAW assessments including field infestation, yield loss and impact on food security and livelihood. Though some assessments to quantify impact have been done, these still require to be systematized and harmonized. EAFAMSIP will provide support to increase the capacity of countries to ascertain and quantify the impact of the FAW on household food security and the livelihoods of smallholder farming households as well as to estimate physical and economic damage and losses caused by the pest at national and sub-regional level. The massive use of pesticides to control the FAW could have serious environmental consequences. EAFAMSIP will develop assessment tools to evaluate the impact of FAW on the environment. The impact assessment component will provide baseline data as well as establish a broader monitoring and evaluation system for management of FAW, linking closely with the Early Warning and monitoring components and acting as an important information source for the overall FAW management interventions. The outputs of the impact monitoring system will feed into and inform broader food security analytical processes and products including vulnerability assessments, Integrated Phase Classification (IPC) analysis and FAO and other partner Global Early Warning Information Systems. The following will be the key activities:

Output 3.1 Capacity of stakeholders to assess the incidence and severity of FAW infestations strengthened

- Farmers to scout for the presence of FAW

(eggs, larvae pupa and the moth) (Cost of scouting)

- Assess the level of infestation/damage from the corners of the garden along the diagonal transect (cost of assessment)
- Indigenous knowledge assessment should be document and advised
- Farming input to cover additional cost incurred by farmers

Output 3.2 Yield and post-harvest losses caused by FAW established

- Conduct Field experiment (controlled vs uncontrolled) (-Research needs) to develop FAW assessment tool
- Estimate yield loss (Typical harvest against atypical harvest, with control (cost estimate)
- Assess price differential due to FAW damage
- Identify and record changes along the value chain (research needs)

Output 3.3 Impact of FAW damage on HHs food security, livelihood systems and trans-boundary activities determined

- Sub-regional Training of trainers for National plant protection staff and extension staff on FAW assessments
- Quantify the available and accessible stock (seed and food)
- Quantify the impact of FAW on HHs income and expenditure
- Document changes in consumption behavior and energy requirement (context specific)
- Assess livelihood changes, coping strategies and vulnerability (community and national level)
- Document the impact of FAW on social behavior and gender roles and responsibilities
- Assess the effects of FAW on GDP, Exports,





and imports

Output 3.4 Impact of pesticide use for FAW management evaluated

- Formation of interagency FAW Impact Assessment Technical Working Group
- Assess transboundary (trade, population movement etc.) impact
- Assess Human health hazard caused by pesticide use due to FAW
- Document environment damage caused by use of chemical pesticides
- Assess impact of pesticide use on natural enemy
- Advocacy and integration of FAW assessment tools in country level vulnerability and food security assessment initiatives
- Transform the interagency FAW Impact Assessment Technical Working Group into a FAW M&E unit to ensure development of harmonized framework
- Share information on FAW impact through various food security coordination mechanisms

10. Component 4: Coordination, Communication and Awareness

Effective containment and management of the FAW is a necessity that requires commitment from governments in the sub-region as well as the active participation of all stakeholders through a well-coordinated and coherent road map. Key FAW implementation partners include governments, DLCO-EA, RECs (EAC, IGAD, COMESA), CIMMYT, AGRA, CABI, ICIPE, IITA and others. This coordination will be at national and regional level. Coordination will aim to provide advocacy for FAW investment, harness the collective capacities of stakeholders through synergistic actions; development of standard assessment tools, standard training curriculum, multi-stakeholder contingency planning, and sharing

of best practices, knowledge and lessons learned in FAW containment and management. Some countries have already adopted the approach of creating a national FAW task force or committees. These are chaired by Ministry of Agriculture, this would include research, extension, National Plant Protection Organization, private sector, farmers' organizations and others. The project will support formation of these structures, drawing lessons from the community-based Armyworm Monitoring, Forecasting and Early Warning System (CBAMFES) and sub-regional projects on management transboundary plant pests and diseases (TPPDs) such as maize lethal necrosis disease (MLND), cassava brown streak disease (CBSD), etc in Eastern Africa. Among key activities of this component are:

Component 4.1 Coordination (streamline FAW actions in ECA within existing institutions)

Output 4.1.1 Functional sub-regional FAW coordination platform established

- Develop coordinated subregional strategy and action plan for research and management of FAW
- Conduct policy advocacy and awareness creation on FAW in line with existing RECs policies and protocols
- Strengthen sub regional capacity development for management of FAW
- Facilitate coordinated communication among stakeholders
- Create a central web portal to serve as a one-stop point for FAW information on FAW initiatives from other portals
- Form and support the working groups in their

mandate (e.g. identify FAW research and management priorities for TWGs)

Output 4.1.2 Functional Sub regional technical work groups (adhoc) established

- Collaborate in implementation of project activities towards defined FAW Research and Management
- Collaborate in development and management of knowledge and Information (e.g. FAW manual, phytosanitary info)
- Collaborate in policy advocacy
- Collaborate in quality control (e.g. peer review of technical documents)

Output 4.1.3 Functional national FAW coordination platforms established/ strengthened

- Coordinate national efforts to manage FAW among different organizations, to ensure coherent, consistent response and including monitoring, awareness campaigns, mobilizing resources for training programmes, etc.;
- Engage with the relevant regulatory authorities to fast-track testing, validating and registering of FAW control options that are not available in the local market;
- Monitor status of FAW in the country, and produce progress reports regarding field efforts to improve farmers capacity to manage the pest (through Farmer Field Schools and other means), maps (in association with the early warning component, building national capacity to use mapping tools) and guidance documents (may include a “data analysis” sub group);
- Mobilize resources from within government and/or from development partners for national programme activities (promotion of management approaches, including Farmer Field Schools, early warning and monitoring activities & information, etc.).

Output 4.1.4 Functional National technical

work group established

- Collaborate in implementation of project activities towards defined FAW Research and Management
- Collaborate in development and management of knowledge and Information (e.g. FAW manual, phytosanitary info)
- Collaborate in policy advocacy
- Collaborate in quality control (e.g. peer review of technical documents)

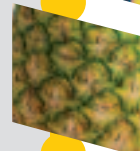
Component 4.2 Communication and Awareness

Output 4.2 Development and wide dissemination of appropriate information on management of FAW ensured

- Establish communication working group at sub regional to national levels
- Develop, packaging, dissemination

11. Project Monitoring and reporting

The project will develop a participatory and harmonized implementation approach and monitoring and evaluation using a Results framework with clearly defined outcomes, and outputs, milestone and progress indicators. This will provide a bases for assessing the progress and impacts of implementation of activities as well as setting the bench marks for achievement and reporting.



1. FAW MONITORING AND FORECASTING (SMF)

Outputs	Activities	Lead Institution	Collaborating Institutions	Timeframe
Output 1. FAW monitoring and forecasting system for FAW early detection and action developed	A. Community Level <ul style="list-style-type: none"> • Conduct district meetings • Identify high risk villages • Village meetings • Identify community focal persons (scouts) • Training community focal persons in scouting, monitoring of presence or absence of FAW, and reporting • Community awareness and field days 	NPPOs	MoA (Plant Protection) Farmer s Unions, Local NGOs	August –July for five years *Planting Seasons of each countries varies
	B. National Level <ul style="list-style-type: none"> • Monitoring and forecasting • Create awareness (bulletins) • making long term plans at national levels, • resource mobilization • National TOT (FAW biology, ecology, management, monitoring, safety – IPM) • National plant protection officers' conduct regular seasonal monitoring • Incentives for plant protection officers and extension agents • Assign focal persons at different government levels (national, district...) Centralizing data at national level and create data base <ul style="list-style-type: none"> • Procurement of tools and equipment (Pheromone trap set, rain gauges, magnifying lenses, GPS, vehicles, stationary, GIS) • Preparation of manuals, field guides and posters, data sheets, etc. 	NPPOs	International Organizations including NGOs.(- FAO, CIMMYT, ICIPE, , DLCO-EA, IRLCO-CSA, AU, ASARECA, CABI, etc. National Offices)	August –July for five years *Planting Seasons of each countries varies
	C. Sub-regional Level <ul style="list-style-type: none"> • Regional organizations take on FAW coordination (monitoring, data storage “link with continent wide data repository – FAOHQ”, Information sharing) • Provide harmonized protocols for monitoring and reporting to national levels • Designated FAW Diagnostic Labs (linked with international and national entities) • Regular information sharing • Regional trainings, workshops, research • Set up regional server, website, • Adapt available harmonized standard field guides and protocols 2.1 MANAGEMENT OF FAW (Immediate Actions)	FAO	Member countries DLCO-EA, IRLCO-CSA, .AU, ICIPE, ASARECA, CIMMYT, CABI, EAC and COMESA, IGAD Development and Humanitarian partners	August –July for five years

2.1 MANAGEMENT OF FAW (Immediate Actions)

Outputs	Activities	Lead Institution	Collaborating Institutions	Timeframe
Output 2.1.1 Existing knowledge on behavior and ecology of FAW (based on the CABI evidence note) improved	A. Community Level Analyze the CABI evidence note II, identify the gaps in the report	ASAREC A	NARIs (11 members countries in ECA)	31st Oct 2017
	Transmit information on gaps to CABI	ASAREC A		31st Oct 2017
Output 2.1.2 Effective FAW management in the sub-region promoted	Make available the FAW field management manual to stakeholders	CIMMYT	USAID FAO icipe CABI AGRA IITA ICRISAT ASARECA NARIs...	15th Oct 2017
Output 2.1.3 Management of FAW using bio-control options (pathogens and parasitoids) promoted	Inventory of available bio-pesticides for FAW management	CABI	IITA icipe NPPOs Private Sector	30th Nov 2017
	Advocate for fast-track of registration of bio-pesticides for control of FAW	FAO	NPPOs RECs AU-IAPSC EAFF National Farmer Organizations Private Sector	Start by 1st Jan 2018
	Raise awareness and training on BioControl agents and their identification by farmers	NPPOs	Private Sector National Farmer Organizations FAO CABI	Start by Jan 2018
	Development of user friendly protocol for identification of BioControl agents by farmers	CABI	NPPOs NARIs National Farmer Organizations Private Sector	30th Oct 2017
Output 2.1.4 Management of FAW using effective cultural practices promoted Examples: Crushing egg masses Hand-picking of larvae Planting time Fertilizer application Indigenous farmer knowledge Intercropping (not crop rotation) Agroforestry Habitat management (plant diversity, hedgerows)	Inventory on farmer practices to manage FAW by farmers	NPPOs	NARIs, FAO National Farmers Organizations	31st Oct 2017
	IAvail guidelines in the manual on cultural control	CIMMYT	NPPOs NARIs, FAO	31st Oct 2017
	Awareness and training on FAW life-cycle for application of cultural management practices (egg crushing, hand picking)	NPPOs	CABI NARIs FAO	31st Oct 2017



Output 2.1.5 Management of FAW using effective botanicals (Neem, Tephrosia...) promoted	Inventory of available botanicals for FAW management	IITA	icipe NPPOs Private Sector CABI	30th Nov 2017
	Quick evaluation of botanicals present with farmers	NARIs	NPPOs National Farmer Organizations	31st Dec 2017
	Raise awareness and training on botanicals for FAW management	NPPOs	NARIs Private Sector National Farmer Organizations FAO, CABI	Start by Jan 2018
Output 2.1.6 Management of FAW using low-risk and effective synthetics pesticides supported	Generate and avail the HHP list to all countries in the sub-region	FAO	NPPOs, National Pesticide Control Organizations	31st Oct 2017
	Disseminate information on HHPs to stakeholders	NPPOs	FAO National Pesticide control organizations	31st Oct 2017
	Generate the list of available low-risk synthetic pesticides	FAO	FAO National Pesticide control organizations	31st Oct 2017
	Fast track registration of low risk chemicals.	National Pesticide control organizations	Private sector NARIs, NPPOs, FAO	Start by 31st Oct 2017
	Advocacy and awareness creation on pesticide risk involving all stakeholders	FAO	NPPOs National Farmer Organizations Private Sector	Start by 31st Oct 2017
	Promotion and training of spray service providers (SSPs) for safe use of chemicals.	NPPOs	NARIs, FAO National Farmer Organizations Private Sector	Start by 31st Oct 2017
Output 2.1.7 Host Plant Resistance I (Natural/ Conventional breeding) developed and promoted 44 insect resistant maize hybrids and OPVs already released in SSA.	Screen already released insect resistant maize germplasm (inbred lines, hybrids and OPVs) for possible resistance to FAW	CIMMYT	Screen already released insect resistant maize germplasm (inbred lines, hybrids and OPVs) for possible resistance to FAW	44 insect resistant maize hybrids and OPVs already released in SSA.
Output 2.1.8 Evidence based advise on option of transgenic host plant resistance provided	High level policy consultations on the use of transgenics minimizing pesticide use on FAW	National Science Councils/ Commissions	National Biosafety Authorities Private Sector NPPOs, NARIs, IFPRI AATF	30th Nov 2017"
	Testing the locally available Bt germplasm against introduced FAW	NARIs	Private Sector NPPOs CIMMYT BeCA Universities	Start by 31st Oct 2017



2.2 MANAGEMENT OF FAW (Short term Actions)

Outputs	Activities	Lead Institution	Collaborating Institutions	Timeframe
Output 2.2.1 Management of FAW using bio-control options (pathogens and parasitoids) developed and promoted	Inventory of indigenous natural enemies (pathogens and parasitoids)	IITA ²²	icipe CABI NARIs BecA JKI-Germany	Start by 1st Jan 2018
	Select and evaluate efficacy of the bio-control agents	NARIs	NARIs NPPOs Private Sector Universities JKI-Germany icipe, CABI BecA	2018
	Testing and registration of biopesticides proven for other pests to manage FAW	NARIs	NARIs NPPOs Private Sector Universities JKI-Germany icipe, CABI, BecA	2018
	Demand assessment and promotion of registered biopesticides to manage FAW	NPPOs	NARIs, FAO Private Sector	2018
	Establish/ review/harmonize the regulatory framework for registration of biopesticides	FAO (with RECs)	NPPOs, CABI AU-IAPSC	Start by 1st Oct 2017
Output 2.2.2 Management of FAW using effective cultural practices developed and promoted •Crushing egg masses •Hand-picking of larvae •Planting time •Fertilizer application •Indigenous farmer knowledge •Intercropping (not crop rotation) •Agroforestry •Habitat management (plant diversity, hedgerows)	Evaluation of effectiveness of farmer practices	NARIs	NPPOs, FAO	Start by 1st Jan 2018
	Evaluate effect of different crop combinations on population dynamics of FAW and its natural enemies	icipe	ASARECA NARIs, NPPOs	Start by 1st Jan 2019
	Verify the push-pull system for FAW management	icipe	CABI NARIs, NPPOs	Start by 1st Jan 2019
	Promotion of proven cultural practices	NPPOs	CABI FAO, CABI, NARIs, ²³ icipe	1st Jan 2019
Output 2.2.3 Management of FAW using effective Botanicals (Neem, Tephrosia...) promoted	Bioassay and determination of effective rates of applications	icipe	NARIs BecA Universities	Start by 1st Nov 2017
	Field validation of botanicals	NARIs	icipe, CIMMYT Private Sector Universities	Start by 1st Jan 2019
	Promotion of proven botanicals	NPPOs	NARIs, FAO, icipe CIMMYT, CABI Private Sector	Start by 1st Jan 2019
	Evaluation of the efficacy of low risk pesticides	NARIs	NPPOs Private Sector	Start by 1st Nov 2017



Output 2.2.4 Management of safe and low-risk synthetics pesticides supported	Awareness creation on low risk pesticides.	NPPOs	NPPOs Private Sector	Start by 1st Nov 2017
	Harmonization of pesticide legislation/ registration	FAO (with RECs)	National Pesticide control organizations Crop Life, CABI FAO	Start by 1st Nov 2017
	Training on pesticide resistance management plan	NPPOs	NPPOs, NARIs, CABI	Start by 1st Nov 2017
Output 2.2.5 Host Plant Resistance I (Natural/ Conventional breeding) developed	Identify sources of resistance to FAW in sorghum	ICRISAT	NARIs, IITA Universities IAEA, INTSORMIL	Start by 1st Nov 2017^
	Evaluation of FAW resistant maize germplasm from CIMMYT	NARIs	IITA CIMMYT Universities	Start by 1st Nov 2017
Output 2.2.6 Host Plant Resistance II (Transgenics)	Humanitarian licensing of transgenes	CIMMYT	National Biosafety Authorities Private Sector NARIs	2018

2.3 MANAGEMENT OF FAW (Medium term Actions)

Outputs	Activities	Lead Institution	Collaborating Institutions	Timeframe
Output 2.3.1 Management of FAW using bio-control options (pathogens and parasitoids)	• Scaling out of the bio-pesticides	NPPOs with Private Sector	NPPOs NARIs	2019
	• Release of proven natural enemies	NARIs	icipe, IITA, CABI FAO, NPPOs	2019
Output 2.3.2 Host Plant Resistance I (Natural/ Conventional breeding) developed 44 insect resistant maize hybrids and OPVs already released in SSA.	• Intensify breeding activities for FAW resistance in maize and sorghum germplasm	CIMMYT, ICRISAT	IITA NARIs!	2018
	• Fast tracking release and registration of new varieties with FAW resistance	NARIs, NPPOs	CIMMYT ICRISAT IITA Private Sector	2019
	• Fast track delivery and adoption of harmonized seed policies for sharing of FAW resistant varieties	NPPOs	RECs Private Sector FAO Public Seed Sector Seed Traders Associations	2018
Output 2.3.3 Evidence base for option of transgenic host plant resistance strengthened	• Evaluation of new Bt genes for FAW resistance	CIMMYT	AATF NARIs National Biosafety Agencies	2019
	• Training on insect resistance (Bt genes) management	CIMMYT, AATF	Icipe NPPOs NARIs	2019
Output 2.3.4 Effective IPM package to manage FAW developed	• Evaluate a complete package of control measures for effective	NARIs	NPPOs	2020

3. FAW IMPACT ASSESSMENT (Ex-ante, midterm, and ex-post analysis)

Outputs	Activities	Lead Institution	Collaborating Institutions	Timeframe
Output 3.1 Capacity of stakeholders to assess the incidence and severity of FAW infestations strengthened	Farmers to scout for the presence of FAW (eggs, larvae pupa and the moth) (Cost of scouting)	NARIs	Farmer and Farmer groups Extension	Oct 2017 and continuous
	Assess the level of infestation/damage from the corners of the garden along the diagonal transect (cost of assessment)	NARIs	Extension, Farmer and Farmer groups	Oct 2017 and continuous
	Indigenous knowledge assessment should be document and advised	CABI	NARIs ASARECA Farmer Groups	Jan 2018
Output 3.2 Yield and post-harvest losses caused by FAW established	Conduct Field experiment (controlled vs uncontrolled) (-Research needs)	NARIs	Academia Farmer [^] and farmer groups, extension	March 2018
	Estimate yield loss (Typical harvest against atypical harvest, with control (cost estimate)	NARIs	Academia Farmer and farmer groups	April 2018
	Assess price differential due to FAW damage	ASARECA	FEWS-NET, FAO Farmer and farmer groups, academia ASARECA	Jan 2018
	Identify and record changes along the value chain (research needs)	FAO	Farmer, farmer groups, Academia	July 2019
Output 3.3 Impact of FAW damage on HHs food security, livelihood systems and transboundary activities determined	Quantify the available and accessible stock (seed and food)	FAO	Extension services NARIs, ASARECA	Oct 2017
	Quantify the impact of FAW on HHs income and expenditure	Food Economy Group (FEG)	IFPRI Farmer and farmers group	Jan 2018 Jan 2021 Jan 2023
	Document changes in consumption behavior and energy requirement (context specific)	ASARECA	Farmers groups, NARIs	Mar 2019
	Assess livelihood changes, coping strategies and vulnerability (community and national level)	FEWS NET (Famine Early Warning Systems Network)	Farmer and farmer groups Academia FEG ASARECA	March 2019
	Document the impact of FAW on social behavior and gender roles and responsibilities	ASARECA	Extension NARIs FAO Academia	Jan 2018 Jan 2021 Jan 2023
	Assess the effects of FAW on GDP, Exports, and imports	EPRC/IFPRI	National Bureau of statistics Academia	Jan 2019, Jan 2023
Output 3.4 Impact of pesticide use for FAW management evaluated	Assess transboundary (trade, population movement etc.) impact	ASARECA	NARIs Academia FAO	Jan 2019, Jan 2023
	Assess Human health hazard caused by pesticide use due to FAW	Academia (University/ School of Public Health)	Ministry of health, ICIPE, National Bureau of Standards	Jan 2019, Jan 2023
	Document environment damage caused by use of chemical pesticides	icipe	Academia NARI, NEMA CABI	Jan 2019, Jan 2023
	Assess impact of pesticide use on natural enemy	icipe	CABI Academia Extension Farmer and farmer groups	Jan 2019, Jan 2023



4. COORDINATION, COMMUNICATION AND AWARENESS

4.1 Coordination (to streamline a mechanism for coordination FAW actions in ECA/Africa within existing institutions)

Outputs	Activities	Lead Institution	Collaborating Institutions	Timeframe
Output 4.1.1 Functional sub-regional FAW coordination platform established	<ul style="list-style-type: none"> • Develop coordinated subregional strategy and action plan for research and management of FAW • Conduct policy advocacy and awareness creation on FAW in line with existing RECs policies and protocols • Strengthen sub regional capacity development for management of FAW • Facilitate coordinated communication among stakeholders • Create a central web portal to serve as a one-stop point for FAW information on FAW initiatives from other portals • Form and support working groups in their mandate (e.g. identify FAW research and management priorities for TWGs) 	FAO	National Task forces, ASARECA, RECs, DLCO/EA, AU, EAGC, EAFF, CABI, ICIPE, CIMMYT, ICRISAT, USAID, USAID/FEWSNET, DFID, WB,	Oct to Dec 2017
Output 4.1.2 Functional Sub regional technical work groups (adhoc) established	<ul style="list-style-type: none"> • Collaborate in implementation of project activities towards defined FAW Research and Management • Collaborate in development and management of knowledge and Information (e.g. FAW manual, phytosanitary info) • Collaborate in policy advocacy • Collaborate in quality control (e.g. peer review of technical documents) 	Lead will depend on thematic focus	Lead will depend on thematic focus	On going starting Oct 2017
Output 4.1.3 Functional national FAW coordination platforms established/strengthened	<ul style="list-style-type: none"> • Coordinate national efforts to manage FAW among different organizations, to ensure coherent, consistent response and including monitoring, awareness campaigns, mobilizing resources for training programmes, etc.; • Engage with the relevant regulatory authorities to fast-track testing, validating and registering of FAW control options that are not available in the local market; • Monitor status of FAW in the country, and produce progress reports regarding field efforts to improve farmers capacity to manage the pest (through Farmer Field Schools and other means), maps (in association with the early warning component, building national capacity to use mapping tools) and guidance documents (may include a "data analysis" sub group); • Mobilize resources from within government and/or from development partners for national programme activities (promotion of management approaches, including Farmer Field Schools, early warning and monitoring activities & information, etc.). 	NPPOs	Broad-based Public-private partnership	Oct to Dec 2017

Output 4.1.4 Functional National technical work group established	<ul style="list-style-type: none"> • To collaborate in implementation of project activities towards defined FAW Research and Management • To collaborate in development and management of knowledge and Information (e.g. FAW manual, phytosanitary info) • To collaborate in policy advocacy • To collaborate in quality control (e.g. peer review of technical documents) 	Lead will depend on thematic focus	Depending on technical thematic area	On-going Starting Oct 2017
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4.2 Communication and Awareness

Output 4.2 Development and wide dissemination of appropriate information on management of FAW ensured	<ul style="list-style-type: none"> • Establish communication working group at sub regional to national levels • Develop, packaging, dissemination 	CABI /MoA, ASARECA, NARI communication team, FAO, NGOs, farmer associations, private sector	<ul style="list-style-type: none"> • Working group by Sept 2017 • Ongoing
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WORKSHOP ON INVASIVE PLANTS SPECIES

Lilongwe – Malawi.

25th to 27th September 2017;



1- Workshop Background

Invasive Alien Plants are major biotic constraints to agricultural production and food security in Africa. They pose a global threat to pastoralism, and to the conservation of biodiversity through their proliferation and spread, displacing or killing native flora and fauna and affecting ecosystems. They further displace native species, transform ecosystems and are difficult to control. They can lower water tables and affect the survival of native vegetation and the availability of water resources to animals and man over vast areas. Invasive Alien plants and noxious weeds are toxic to livestock and do cause about 25-30% crops yield loss in African countries.

For many years, AU-IAPSC has undertaken measures to prevent the introduction and spread of organisms which are harmful to plants in Africa. Cultivated as well as wild plants can be

threatened by the introduction and spread of pests, and notably by invasive alien plants which disturb and destroy natural plant communities. In 2011 the office started to work more specifically on invasive alien plants with member States and partner institutions and has produced a list of 22 major noxious weeds in Africa that seriously jeopardize crops/ crop products and trade.

Several workshops were organized in 2012 and in 2014 to analyze the risks presented by specific invasive alien plant species in the continent and to recommend measures to prevent their introduction and spread via international trade.

NPPOs officials were urged to provide information on invasive alien plants in their respective countries, to conduct studies on risk analysis of specific

invasive alien plants, and recommend measures to prevent their introduction and spread and introduce measures to eradicate, suppress and contain invasive alien plants already introduced.

The regional workshop was attended by a total of 26 participants drawn from FAO, CABI, AU-IAPSC and 11 member states. Countries were represented by experts from NPPOs and in addition, South Africa had a representative from the Ministry of Environment.

The workshop kicked off with remarks by the Head of NPPO Malawi, Mr David Kamangira. This was followed by welcome remarks by the Director for AU-IAPSC who emphasized on the importance of Invasive Alien Plants species (IAPs) and made reference to the August 2017 meeting for draft ISPMs for NPPOs in Africa which was held in Lome, Togo. The Director also thanked FAO, CABI and RECs for the continued support accorded to AU-IAPSC, and the NPPOs for honoring the invitation to the workshop.

The official opening of the workshop was by Mr. Nelson Mataka who represented the Permanent Secretary for the Ministry of Agriculture of Malawi. He referred to the negative impacts of IAPs on agriculture and their effects on the environment, animals, human health and biodiversity. He reminded the delegates of the reaffirmation of the African governments of the priority of agriculture for economic development, livelihoods and food security as reflected in the Malabo Declaration. As such, addressing the impacts of the IAPs on agriculture is pivotal to realizing the targets set in the Malabo Declaration and for countries to ensure effective sharing of information on the IAS.

2. Adoption of the Agenda

The agenda was discussed and adopted. The representatives from CABI and FAO were appointed as rapporteurs and the facilitator together with participants from Seychelles, South Africa and Malawi to support the drafting of the general report and recommendations of the workshop.

3. Purpose / Objective of the workshop

The facilitator from AU-IAPSC, Professor Abdel Fattah, outlined the purpose of the workshop as to provide participants with a regional forum to discuss issues related to Invasive Alien Plant Species' (IAP's) problems and challenges, and charting a way-forward in the management of IAPs in the African continent. The discussions would help participants gain a better understanding of the national, regional and international impact of IAP's and provide a basis for better coordination, cooperation, access and sharing of information on prevention and management of IAP's.

The general objective of the workshop provided by AU-IAPSC focused on strengthening Member States capacities on invasive alien plants risks assessment and management, review and update Quarantine Legislations and Laws. The specific objectives of the workshop were the following:

1. Raise awareness on the Invasive Alien plants problem and opportunities to manage them;
2. Strengthen and expand cooperation between sectors and between NPPOs and other stakeholders;
3. Train NPPOs weed scientists from different African regions on weed risk assessment and post border weed risk management;
4. Exchange information on Invasive Alien Plants and on NPPOs action plans;
5. Prepare the basis for the development of a comprehensive regional strategy to address IAPs problem in the continent.

4. Methodology Adopted

The meeting was facilitated by Dr. Rose Njeru in collaboration with Professor Abdel Fattah of AU-IAPSC. The workshop started with an introduction of all participants present.

The workshop methodology consisted of presentations, question and answers, plenary discussion, interaction and recap of the day. Presentations were made by CABI, FAO and all participants from the different member States.



1. Opening of the workshop

The participants from all member states were given a guideline for presentation preparation prior to the workshop.

5. Thematic Presentations

The first presentation was delivered by AU-IAPSC's Senior Scientific Officer-Entomology Professor Abdel Fattah. He elaborated on the following points:

- Threat and impact of IAPs on the African continent;
- Lessons learnt with regard to the introduction and spread of *Bactrocera dorsalis*, *Tuta absoluta* and currently the invasion of *Spodoptera frugiperda*;
- The need for coordinated management efforts and information exchange/sharing within the continent;
- Weeds introduction and spread;
- Challenges regarding chemical dependency for controlling pests, weeds and IAPs.

The second presentation was delivered by CABI (Dr. Arne Witt) focusing on the following points:

- An overview of Invasive Alien Plant Species (IAP's) globally and in Africa
- Introduction, Spread, Establishment, Distribution and Economic Impact
- Prevention, Early Detection, Eradication and Integrated Approach
- Management practices adopted and implemented including Biological Control
- Challenges and area of intervention needed for capacity building

The deliberation from CABI expounded on the following as critical in addressing IAP issues:

- IAPs become difficult to control once established.
- Legal and Institutional requirements
- Establish good Coordination
- Good collaboration and Sharing of Information
- Ensure Education and Awareness programs
- Make Risk Analysis a priority
- Authorization Procedures
- Development of IAP's species List

- Ensure effective Quarantine and Border Control
- Comply with Reporting Obligations
- Early Detection and Rapid Response is critical
- Integrated approach in managing IAP's including biological control
- Prioritize control program in relation to economic impact
- Comprehensive assessments and advocacy is vital

The speaker emphasized that the first line of defense is the prevention of entry of the introduction. Prevention is most effective when there is Early Detection and Rapid Response. The line of defense is weakened by the fact that countries do not have a database of what is present. To facilitate early detection of new invasions, it is important to take surveillance of high risk area including sea port and airport facilities, protected areas and those frequented by tourists such as lodges. Species to look for should include the following: (i) species from black list (unwanted organisms list), (ii) potential IAP's that have been introduced in the past but were successfully eradicated (iii) those that arrived previously but not established.

In managing IAPs, ecosystem management approach is most effective so as to avoid the situation where you control an IAP and it is replaced by another. The need for thorough analysis of the effects of the introductions of biological control agents when used as an option in management is essential.

During the discussions, Dr. Arne Witt emphasized that ideally, the cost/benefit should definitely include the direct and indirect costs related to health and environment impact. It is also important to ensure that the potential benefits of an IAP do not undermine the appreciation of the potential harmful effects. The turnover time for the countries to realize their mistakes (unforeseen risks) is long, about 30 years e.g. Eucalyptus is introduced for firewood and quick growth and only 30 years after the cultivation produce the negative impacts on water as realized in Zimbabwe.

He also stressed the need to improve awareness creation of consumers as well as policy makers on pesticides risks.

Consumers in particular should demand only products that are free of pesticide residues.

Scientists, politicians, researchers and universities and research institutes must work together for the improvement of Early Detection and Rapid Response (EDRR).

5b. FAO Presentation

The presentation from FAO (Dr .Joyce Mulila-Mitti) was mainly focused on high impact trans-boundary pests (HITPs) in the continent. These include: Tuta absoluta, Asian fruitfly, Banana Fusarium Wilt (Tropical Race 4), Maize Lethal Necrotic Disease, Banana Bunch Top Disease and Fall Armyworm. She also gave examples of how FAO is responding to the pests with emphasis on the current FAW programme framework for Africa. The speaker also stressed on the potential economic, environmental and social impacts of *Spodoptera frugiperda* and alluded to challenges on capacity for early detection and rapid response. She also commented on the potential for substantial negative impact of HITPs on the economy, noting that agriculture, food security, environment, biodiversity and the economy stand to experience the biggest impact.

6. Member states presentation

The presentations delivered by member states mainly focused on the following:

- Status of IAPs in individual countries
 - Policy legislation and regulations related to IAPs
 - List of country IAPs
 - Partnerships Network and “best practices” for preventing and managing IAPs in the respective countries
 - Challenges in addressing the country IAP
- Participants were invited to take note of the presentations delivered at this workshop and utilize them as they felt appropriate in their intervention, comments, discussion and proposal. These presentations helped to share information on the situation of IAPs at country level and Member States can learn from each other for further improvement in the management of IAPs.

The participatory approach of this workshop also led to identifying the gaps, opportunities and enhancing capacity of all participating member states with regard to IAPs.

The presentations enriched the participants and the regional body (AU-IAPSC) with information pertaining to IAPs and to understand the actual situation at country level.

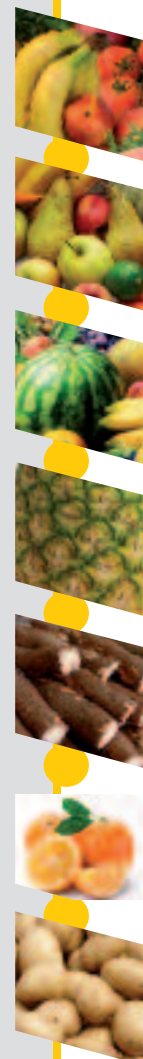
A key observation from the presentations is the increase in the incidence, spread and establishment of IAPs at national and regional level with significant attribution to the increase in trade, travel and transportation as well as effects of climate change.

The absence of a strategic approach to the management of IAPs at country level has been a major obstacle to the effective prevention, control and eradication of IAPs. The fundamental challenges are directly related to limited capacities, low funding, limited coordination efforts and inadequate commitment at both national and regional level. It was identified that currently, there is no system in place for the systematic evaluation and monitoring and resources to evaluate the economic impact of Invasive Alien Plant species (IAP's).

7. Major Challenges Reported by the Participating Countries

The following are key challenges raised by most member states:

- Policies and legislation are fragmented, making advocacy, enforcement and implementation difficult to address the issues related to IAPs
- Inadequate technical capacity for IAPs Risk Analysis
- Insufficient resources, financial and technical capacity for surveillance, monitoring and diagnostic activities to develop credible inventories of existing IAPs, and their biological, economic aspects as well effective management programs
- Insufficient resources for pre-border, border and post border inspections for preventive, interventions, early detection, rapid response and management programs



- Poor collaboration and coordination between different agencies

- Dependency on pesticide use instead of an integrated approach for the control and management of IAPs

- Biological control programs are still weak at national level

- Limited trained human resources and scientists/professionals to undertake specific tasks of IAPs diagnosis and research activities.

- Limited political will and mobilization of funds from government to support IAPs work program and ongoing projects for sustainability

- Inadequate Knowledge & Learning Networks for prevention and management of incursion and /or occurrences of IAPs

- Capacity to establish and maintain database system and web portal for effective and consistency in IAPs collection and management of information is insufficient.

- Inadequate ability to identify national IAPs capacity gaps and develop and implement capacity building programs in appropriate sectoral and civil society agencies

- Limited support for research and development and training of scientists in fields related to invasive alien plant species through the establishment of a research fund accessible to the responsible entities including universities and government research facilities.

8. Best Practices shared

Examples of best practices were shared by Seychelles and South Africa regarding aspects of coordination and comprehensive legislation. South Africa has established clear roles and responsibilities for the key sectors involved in IAPs management, while the Seychelles has recently established a national biosecurity agency that brings all key stakeholders together. In both cases, the countries also have addressed relevant legis-

lation in a comprehensive manner.

9. Workshop recommendations from participants

The workshop deliberations went on well and after fruitful sessions and discussions, the following major recommendations were captured and summarized as:

- Enhance coordination of IAPs management initiatives at national, regional and continental level in addition to developing national biosecurity plans; creating an apex body with clarity of roles and responsibilities of the different actors to address IAPs. Facilitate the establishment of Biosecurity Agencies which will house Plant Health, Food Safety and Animal Health Issues at National, Regional and Continental levels

- AU-IAPSC to consider inviting representatives of other relevant agencies involved in the management of IAPs besides NPPOs to their various events.

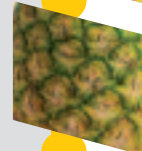
- Strengthen advocacy to the government, private sector and other relevant stakeholders on the importance of IAPs to promote investments to support IAPs agenda.

- National Prioritization of IAPs for focus depending on capacity, PRAs, potential negative impacts and comprehensive cost benefits.

- Strengthen the support/promotion of Integrated Production and Pest Management (IPPM) of IAPs to reduce impacts on the environment and human and habitat.

- Strengthen the capacity of NPPOs for IAPs surveillance, use of community-based participatory approaches for the management of IAPs.

- All National, Regional IAPs activities to be aligned to AU-IAPSC strategic plan.



SECOND ORDINARY SESSION OF THE SPECIALIZED TECHNICAL COMMITTEE (STC) ON AGRICULTURE, RURAL DEVELOPMENT, WATER AND ENVIRONMENT

05 - 06 October 2017

The Ministerial Segment of the Second Ordinary Session of Specialized Technical Committee (STC) on Agriculture, Rural Development, Water and Environment (herein referred to as 'the STC') took place at the African Union Conference Centre in Addis Ababa, Ethiopia, from 05 to 06 October 2017 under the theme "Enhancing environmental sustainability and agricultural transformation to achieve food and nutrition security in advancing Agenda 2063"

The main objective of the Second STC Meeting is to review progress made in implementing the AU decisions since the inaugural STC meeting that took place in October 2015, discuss and adopt reports and recommendations that will be presented for consideration by the Executive Council of the African Union in its next meeting.

Participation

Ministers, State/Assistant/Deputy Ministers and Delegates of Ministers from the Member States of the African Union participated in the STC: Congo; Equatorial; Guinea; Rwanda; Tanzania; Gabon; South Sudan; Burundi; Burkina Faso; Liberia; Guinea; Bissau; South Africa; Swaziland; Zambia; Mauritania; Sahrawi Arab Democratic Republic; Uganda; Ethiopia; Botswana; Morocco; Egypt; Cote d'Ivoire; Sudan; Cape Verde.

Also in participation of the STC were representatives of Africa's Regional Economic Communities (ECOWAS and IGAD), sectoral ministerial committees (AMCEN, AMCOW and AMCOMET) and invited Development Partners (FAO and AfDB) as observers.

Adoption of Agenda and Program of Work

The STC considered and adopted the agenda and programme of work without modification.

Consideration of the Report of the Preceding STC Meeting

The STC requested that the report of the Inaugural Session of the STC be made available to them for study. After some deliberations, the STC adopted the report with minor changes.

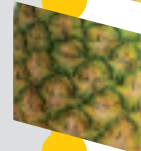
Election of New Bureau


In accordance with the Rules of Procedure governing STCs, the Bureau of the STC was constituted as follows:

Chair:	Burkina Faso
1st Vice Chair:	South Africa
2nd Vice Chair:	Mauritania
3rd Vice Chair:	Rwanda
Rapporteur:	Republic of Congo

Official opening statements

The AUC Commissioner for Rural Economy and Agriculture, Her Excellency Mrs. Josefa Sacko, noted that African food security had been affected in the last two years by external shocks especially climate change-related ones, leading to unprecedented droughts, pests and diseases including the devastating Fall Armyworm. She stated that this meeting would be used to assess the progress made in the implementation of the Malabo Declaration. Mrs. Sacko further informed the meeting that the AUC and NEPAD Agency, working closely with the RECs and technical partners, developed the biennial review mechanism, trained country teams from 51 out of the 55 AU member states, adding that to date, 43 countries had submitted their reports which would be discussed during this meeting. She reported that after





the endorsement by this meeting, the consolidated continental report and the African Agricultural Transformation Scorecard would be presented at the AU Assembly of January, 2018. She noted that Africa had succeeded in having a common position on the different Conferences of Parties (CoP) to the United Nations Framework Convention on Climate Change which culminated in the 2015 Paris Agreement on Climate Change. She called for concerted efforts at the national level to implement the nationally determined contributions through validation and integration into national development plans. She also proposed the establishment of an Africa-led monitoring and reporting mechanism on the implementation of the Paris Agreement. She expressed the hope that as priority is given to sustainable investments in agriculture, green and clean policies, Africa would be able to reach its continental and global commitments captured in the Malabo Declaration, the Paris Agreement, Sendai Framework, the Agenda 2063 and the SDG 2030.

In his statement, the Representative of the Government of the Federal Democratic Republic of Ethiopia, Mr. Dejene Abesha, noted that since the adoption of CAADP in 2003, CAADP has become the central focus of efforts by African governments, the African Union and NEPAD Agency to accelerate agriculture-led economic growth and poverty alleviation. He stated that Ethiopia has made significant progress in its implementation of CAADP. He informed the meeting that a lot is expected from the African Union in supporting member states to ably track reliable and accurate data against the set of indicators put forward for evaluating performance of Malabo commitments. He reminded delegates of the threat posed by the Fall armyworm and called for collective action against the infestation for its control. He also mentioned the adverse effects of climate change on livelihoods and production systems and requested the African Union to measures against it through its member states. Concluding his statement, he ex-

pressed appreciation to the African Union Commission for its efforts in bringing together member states to discuss key agenda items on operationalizing CAADP-Malabo commitments.

The Chair of the Bureau of the 1st STC and the State Minister of Agriculture of the Republic of Congo, Honourable Henry Djombo, recalled that the inaugural STC was held in October, 2015 in line with the decision of AU Heads of State and Government during which the bureau of the 1st STC was given the mandate to handle the affairs of the STC for two years. He then elaborated on the achievements chalked by the first bureau, such as the adoption of the Rules of Procedure of the STC and the establishment of five sub-committees. He added that additional sub-committees and adhoc working groups could be established as deemed necessary. He stated that the first STC discussed a number of issues such as land, ecological organic agriculture, climate change, meteorology, disaster risk reduction, water and sanitation. In addition, a number of recommendations were made, some of which are being implemented. After the inaugural session, the Bureau met on 29th February, 2016 and adopted the report of the 1st STC and forwarded it to the AU Executive Council for consideration. Unfortunately, the required procedure was not followed, so the report could not be tabled as planned at the AU Assembly in 2016. He reported that the Bureau of the 1st STC met again on 4th October, 2017 and revised sections of the report and unanimously agreed that the report should be forwarded for adoption by this meeting and later by the policy organs of the AU. He thanked delegates for their understanding and support during his tenure and requested that the same support should be extended to the new Bureau. In conclusion, he wished the meeting a successful outcome and declared the meeting formally opened.

The Chair of the Bureau of the 2nd STC and the Minister of Agriculture of Burkina Faso thanked delegates for the confidence reposed in Burkina Faso and electing him as the chair of the bureau

for the next two years. He thanked the first Bureau for the commitment with which they discharged their duties and responsibilities. He used the platform to call upon all delegates to ensure that agriculture becomes the driver of economic development in their respective countries. He expressed the hope that he can count on the support of delegates during the next two years.

Highlights of statements from member states

In his speech, the Deputy Minister of Agriculture of the Republic of Sudan, El-Sadiq Fadal-lah Sabah-Elkheir, underlined the place that Agricultural development occupies in Sudan, more so the sector's role in poverty alleviation, employment generation, food security as well as in curbing illegal migration of youths. He pointed out that Sudan's youth employment policy is hinged on agricultural development.

The Head of the Algerian Delegation, Ms. Saliha Bouakline, who represented the Minister of Agriculture, Rural Development and Fisheries, enlightened the STC about the focus of her country on use of irrigation facilities and agricultural mechanization to tackle the environmental challenges posed by aridity, adding that construction of green dams to facilitate access to water is one of the priority projects. She reported that most rural development initiatives in Algeria also hinged on agricultural development.

In his speech the Minister of Agriculture and Rural Development of the Republic of Cote d'Ivoire, Mr Mamadou Sangafowa COULIBALY, who is the sitting Chair of African Regional Conference of Ministers of Agriculture, congratulated the experts for their contribution to Second STC prior to the Ministerial Session. He stressed the importance of reviewing the progress in implementation of CAADP through country-by-country comparisons for the benefit of peer learning. He pointed out the relevance of CAADP principles and unpacking its miles-

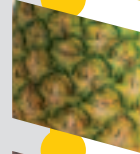
tones for Africa. He also underscored the significance of knowing where we are 14 years on since the Maputo Declaration was endorsed. He further reinforced the importance of public investment for motivating private sector investment; thus the consideration of the Maputo Declaration's 10% becomes relevant.


On the issues of environment and climate change, the Minister recognized the success Cop-21 achieved, especially on the commitment of 100 million Euros per year for the agricultural sector. He observed that agriculture has not been at the heart of the debate on climate change. Meanwhile, Africa has all the resources to combat climate change and does contribute minimally to global pollution. He pointed out that 36 countries are vulnerable to climate change in Africa and, therefore, Africa must be able to benefit from the resources earmarked to reducing climate change effects. Honourable Coulibaly then appealed for African Member States to prioritize adaptation to climate change effects. He proposed the incorporation of the triple A into the STC discussions.

The Representative of the Minister of Agriculture, Irrigation and Agricultural Equipment of the Republic of Chad, Honourable Kanye POMBE, the Secretary-General of the Ministry, urged for strong involvement of the private sector in agriculture.

The Minister of Community Development of the Republic of Burundi, Mr Jeanne d'Arc KAGAYO, highlighted that her country's National Agricultural Plan is coherent with the needs of local communities. She added that Burundi is poised to learn from other countries.

The Deputy Minister of Agriculture and Livestock of the Republic of Gabon, Mr Patricia TAYE ZODI, gave a quote from H.E the President of the Republic of Gabon and Coordinator of the Committee of African Heads of States and Government on Climate Change who said "Environmental protection is a challenge for Africa because Africa's development will depend on our ability to ensure the rational and





sustainable management of our natural resources, while ensuring the benefits of development for our peoples "

She informed the STC that her country has a critical focus on protecting the environment; monitoring of the ecosystem and forests. She pointed out that Gabon has put in place a system for remote sensing and satellite imaging. She stated that land use for agriculture is another key area among many other areas that have been prioritised in the sector. She pointed out that as the current chair of ECCAS, Gabon supports the implementation of various activities under CAADP by Member States, despite the fact that there are delays in the processes in the region. She informed the STC that the ECCAS region has developed its Regional Agriculture Investment Plan.

Mr TAYE ZODI further stated that despite the availability of vast arable land, ECCAS remains a net importer of food. She observed that ECCAS, however, believes that agriculture is a potential driver of economic development and growth in the region. She further informed that the President of Gabon is expected to chair a regional meeting of Ministers of Agriculture soon, to discuss development in the sector. She expressed concern that while ECCAS has insisted on receiving regional reports on the Malabo Declaration on Agriculture, the AUC has not followed up with implementation support to ECCAS Member States. She disclosed that in line with the vision of the country to develop agriculture and its competitiveness, Gabon has in place an action plan that seeks to enhance food and nutrition security.

The Head of Delegation of the Kingdom of **Morocco**, Mr. Abderrahim Houmy, the Secretary-General for Water and Forestry, expressed the happiness of Morocco for getting the privileged to be part of the STC for the first time, which has presented an opportunity to engage other countries through agriculture. He assured that Morocco is keen to increase investment in agriculture to improve productivity and to strengthen the sector through a multi-sectoral

approach. He pointed out that Morocco has experienced 6% sector growth in both production and investment. He also underlined that Morocco allocates up to 20% investment to the agriculture sector. This illustrates the country's interest in agriculture development towards eliminating hunger. He revealed that Morocco has worked with FAO to improve the agriculture sector and in making agriculture more competitive as a vehicle for change. He assured that these objectives are in line with the objectives set in CAADP. He further assured the STC that Morocco will endeavor to work closely with AUC to ensure the goals set for Africa are aligned. He underscored that his country believes that agriculture is an important sector of the economy. Morocco reminded the meeting that, regarding the vision enshrined in the triple A initiative, Member States are encouraged to ensure the inclusion of agriculture on the adaptation agenda of the next CoP. He reiterated that Africa is part of the solution and not part of the problem.

The Minister of Agriculture of the Republic of **Mauritania**, Mrs. Lemina Mint Elghottob Ould MOMA, observed that her government launched a number of activities to combat poverty and address vulnerability of Climate Change in areas of production, productivity and water management. She pointed out that Mauritania has formulated clear policies and has designed its NAIP 2015-2025. She went on to say that Mauritania has a number of environmental projects and has expanded its cultivation areas including wheat plantations. She also informed the STC that Mauritania has projects that focus on building dams to conserve water resources and also to support access to water and sanitation. Mauritania, she adds, is keen to support scientific innovations and to also advance livestock. The STC was also informed that Mauritania has in place a mechanism of governance for strengthening the preservation of fisheries and that the country is self-sufficient in red meat.

Mr. Eduardo Jorge Silva, of the Republic of **Cabo Verde**, speaking on behalf of the Chair of AMCO-

MET highlighted the role of AMCOMET in providing political leadership, policy direction and advocacy in the provision of accurate and timely weather, water and climate information and services for informed decision-making, in planning and preparedness to reduce disaster impacts and in key development sectors such as agriculture, public health, water resources, energy and transport, among others. Mr. Silva also emphasized that one of the key objectives of the Integrated African Strategy on Meteorology (Weather and Climate Services) key is to enhance cooperation between African countries and strengthen the capabilities of meteorological services.

Highlights of remarks from invited partners

Representing the Assistant Director General for FAO Africa Regional Office, Dr Abebe Haile Gabriel, stressed three key priority areas of FAO, which include: hunger and malnutrition; vulnerability to shocks (such as climate change, diseases and pests, and conflicts) and; poverty reduction. He observed that Africa needs to promote value chain development to address some of the challenging issues on the continent. He informed the STC that FAO's strategic interventions look at addressing these multiple challenges in alignment with the SDGs and the Malabo Declaration. He further disclosed that FAO encourages an integrated M&E approach for the SDGs and Malabo. He assured the STC that FAO continues to enjoy a cordial partnership with AUC.

The delegate of the **African Development Bank**, Dr Damian Ihedioha, AfDB, pointed out the importance AfDB attaches to value agricultural chains development and the need to reduce the Continent's high import bill of over 35 billion US Dollars per annum. He underscored the need to focus development on commodities with intrinsic value chain potential, but that constitutes a huge drain on national reserves. He lamented the absence of bankable projects at country level to attract financing support from the bank. It urge the Ministers to work closely with the finance ministry who are the borrowers to develop bankable projects for the banks' support. He further

highlighted the issue of malnutrition that affect a large number of Africa's children and the adverse effects that stunting inflicts on future productivity. Dr. Ihedioha then urged Member States to consider supporting the fight to curb the menace of child and maternal malnutrition. He invited Ministers and Member States to participate in the bank's flagship programme on Post Harvest Loss reduction coming up in November 2017.

Presentation of the Senior Officials/Experts report

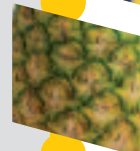
The Rapporteur of the Bureau of the Senior Officials/ Experts Session of the STC read through the draft report of the proceedings of their two-day Session that took place from 2nd to 3rd October 2017. Ministerial Delegates deliberated and proposed changes to report and then adopted the report with the proposed amendments.

Presentation and adoption of the Ministers report

The report of the Second Session of the STC on Agriculture, Rural Development Water and Environment was adopted at the Headquarters of the African Union in Addis Ababa by the Senior Officials of the Specialized Technical Committee on Agriculture, Rural Development, Water and Environment on 04 October 2017.

This report will be submitted to the STC at ministerial level for consideration and for their onward submission to the policy organs of the January 2018 Summit.

The main objective of the Second STC Meeting is to review progress made in implementing the AU decisions since the previous STC meeting



THE 29TH TECHNICAL CONSULTATION AMONG THE REGIONAL PLANT PROTECTION ORGANIZATIONS

30th October to 3rd November 2017 - Paris, France



The 29th Technical Consultation (TC) among Regional Plant Protection Organizations (RPPOs) was held from the 30th October to 3 November 2017 in Paris France. The meeting was organized and hosted by the European Plant Protection Organization (EPPO) with the attendance of 9 RPPOs, and the Caribbean Agricultural Health and Food Safety Agency (CAHFSA), the proposed RPPO for the Caribbean region.

Meeting participants received welcome addresses from the EPPO Director Martin Ward, and IPPC Secretary Jinyuan Xia. The Director General for Food representing the French Minister of Agriculture, Agri-food and Forest, Patrick Dehaumont also welcomed participants, and highlighted positive collaboration with EPPO. Mr. Ward was elected as the Chair of the meeting and Juliet Goldsmith was elected as meeting Rapporteur. RPPOs presented their recent activities including

technical and capacity development achievements, emerging pests and issues of their respective regions, surveillance projects and activities, and proposals for future collaborative efforts. A special highlight of the meeting was the endorsement by RPPOs recognizing the Caribbean Agricultural Health and Food Safety Agency (CAHFSA) as an RPPO. A recommendation supporting CAHFSA as an RPPO will be presented to CPM-13 (2018).

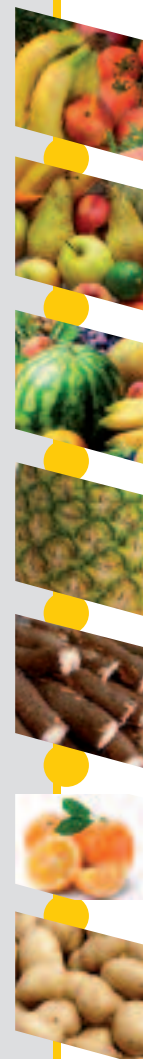
Remember that a Regional Plant Protection Organization (RPPO) is an inter-governmental organization functioning as a coordinating body for national plant protection organizations (NPPO) on a regional level. Not all contracting parties to the IPPC are members of RPPOs, nor are all members of RPPOs contracting parties to the IPPC. Moreover, certain contracting parties to the IPPC belong to more than one RPPO.

Meeting participants discussed enhancing the engagement of RPPOs in the IPPC Standard Setting process, streamlining the IPPC regional workshops, and the potential role of RPPO collaboration with the work of the Implementation and Capacity Development Committee (IC). The role of RPPOs in supporting the implementation of electronic certification to facilitate trade was discussed together with Peter Neimanis from the Department of Agriculture and Water Resources Australia and the Chair of the IPPC e-phyto steering group. He presented an update of the project to RPPOs which received active discussion and numerous comments on the technical aspects of the project. The RPPOs made several recommendations aimed at increasing information exchange between RPPOs and the project's future ePhyto activities.

RPPOs were asked to consider several elements related to RPPO contributions towards implementation of ISPM15, RPPOs support towards resource mobilization activities, and RPPOs support in advocating the International Year of Plant Health 2020 (IYPH) initiative. RPPOs agreed to support each activity where possible. RPPOs reviewed their workplan from 2017 and agreed upon an annual work plan for 2018. They agreed to work on systems approaches related to Huanlongbing, fruit flies, *Fusarium oxysporum* f. sp. *Cubense* (TR4), to collaborate on research related to TR4, to participate in the development of the new Strategic Framework, and to participate in the IYPH steering group, among other actions.



EPPO 2017. TC-RPPO meeting delegates at the EPPO Headquarters in Paris, France
The next TC-RPPO will be hosted by the Comunidad Andina (CAN) October 29 – November 2, 2018.



COMMITTEE ON SANITARY AND PHYTOSANITARY MEASURES WORKSHOP ON "TRANSPARENCY"

Geneva-Switzerland 30 October - 3 November 2017

The Secretariat of the World Trade Organization organized a workshop on the transparency provisions of the Agreement on the Application of Sanitary and Phytosanitary Measures (SPS Agreement), that held in Geneva, Switzerland, on 30-31 October 2017. The workshop was followed by informal and formal meetings of the SPS Committee, lasting until Friday, 3 November 2017. Representatives of Members, Observers and Observer Organizations were all invited to participate in the transparency workshop as well as the subsequent meetings of the SPS Committee.

Document G/SPS/GEN/997/Rev.7 provided information on the workshop. The WTO, with the financial assistance of the Doha Development Agenda Global Trust Fund (DDAGTF), sponsored the participation of approximately 40 government officials from developing member countries and Observers in the workshop. The Secretariat selected participants to be sponsored among applications from government officials in charge of the implementation of the transparency provisions of the SPS Agreement.

The workshop was intended to be a highly interactive, hands-on event, including training on the use of the improved SPS Information Management System (SPS IMS) and on-line submission system of SPS notifications (SPS NSS), as well as on the ePing SPS/TBT notification alert system. Delegates planning to attend the hands-on training sessions were invited to bring along their laptops.

The workshop also provided a forum for discussion and experience sharing on developments, challenges and practices in the area of SPS transparency. In addition, it was an occasion to continue the discussions on transparency started as part of the Fourth Review of the implemen-

tation of the SPS Agreement.

WTO members raised a range of trade concerns on pesticides in food products at the Committee on Sanitary and Phytosanitary Measures (SPS) on 2-3 November 2017 in Geneva, Switzerland. Meanwhile, they were unable to bridge gaps on a proposed decision on pesticide residues at the forthcoming 11th Ministerial Conference (MC11).

Attendance

Close to 180 participants attended the workshop, including Geneva- and capital-based delegates and regulators as well as participants from intergovernmental organizations (one participants from AU-IAPSC) and speakers from the private sector. The workshop was also attended by WTO-funded participants from the 2017 Advanced SPS Course

Objectives of the meeting

The objective of the workshop was to bring together officials responsible for the implementation of the SPS Agreement, as well as the relevant international standard-setting organization and scientific bodies for in-depth discussions, at a technical level, on maximum residue levels. More specifically:

- Participants reviewed the SPS Agreement and MRLs, including the relevant provisions of the Agreement and jurisprudence;
- Participants reviewed the Codex approach to establishing MRLs. This included relevant information on the respective work of Codex and scientific bodies, such as the Codex Committee on Pesticide Residues (CCPR) and the Joint FAO/WHO Meeting on Pesticide Residue (JMPR);
- Participants were exposed to the relevant in-

ternational, regional and bilateral work being undertaken on pesticide residues; and
d. Participants discussed their experiences in complying with MRLs and establishing MRLs, including information on their domestic regulatory and legal infrastructures.

Thematic SPS presentations

This session include the following themes:

- The SPS Agreement and Pesticide Maximum Residue Levels (MRLs)
- Codex Approach to Establishing Pesticide MRLs
- Relevant Bilateral, Regional and International Work on Pesticide Residues
- Domestic Frameworks and Approaches for Establishing MRLs and Import Tolerances
- Experiences in Implementing and Complying with Codex MRLs
- Impact of MRLs on International Trade

Panel Discussion on the Role of the Private Sector in the Establishment and Implementation of MRLs

Through the use of specific examples, speakers in this session explored the various ways in which the private sector can be involved in the establishment of MRLs and their experiences in the implementation of MRLs. In particular, this session highlighted the role of the private sector in providing support for the scientific review process through data sharing, expert consultation and contribution of financial resources to support the review process.

Specific trade concerns

Members highlighted a range of measures that set standards on food safety and animal and plant health, which many agri-exporters said were too stringent and impeded trade, especially to the detriment of farmers from developing countries. A record number of WTO members and observers intervened at the meeting.

EU: maximum residue levels for pesticides

Peru voiced concerns over the European Union's maximum residue levels for three pesticides - acrinathrin, matalaxyl and thiabendazole. In particular, thiabendazole is commonly used to control fungal infection in mangoes, and the low residue limits imposed by the EU have caused a decline in Peruvian mango exports. Peru argued that the requirement set more stringent limits than is recommended by the Codex Alimentarius and is more trade-restrictive than necessary.

The concern was shared by a wide range of WTO members, including Bolivia, Brazil, Colombia, Costa Rica, Dominican Republic, Ecuador, Guatemala, Nigeria and the United States, which noted that the standards have a negative impact on trade of a number of agricultural products. The US added that the new standards also affected its sweet potato exports.

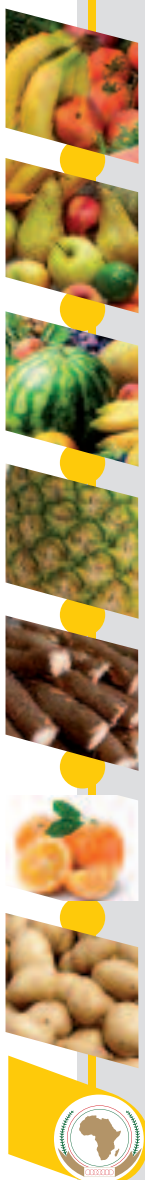
The EU, in its response, noted the stricter standards were based on scientific studies by the European Food Safety Authority (EFSA), and it had also provided information on alternative plant protection products to replace thiabendazole use on mangoes.

EU: maximum level for cadmium in foodstuffs
Peru further questioned the European Union on its maximum permitted level of cadmium in foodstuffs, particularly in cocoa products. As one of the major cocoa producers in the world, Peru was concerned that the EU's intended requirements could impede its cocoa exports and were already affecting the international price of the commodity.

The concern was echoed by other Latin American and African cocoa exporters, including Colombia, Costa Rica, Cote d'Ivoire, Dominican Republic, Ghana, Guatemala, Madagascar, Nigeria and the Economic Community of West African States (ECOWAS).

Colombia noted that cocoa cultivation is part of its national strategy to diversify from illicit products, and the EU's regulation on cadmium levels could affect the progress of this initiative





and the livelihood of farmers. Costa Rica said cadmium is naturally present in cocoa due to the soil conditions, and called on the EU to take into account the discussions under way in the Codex Alimentarius Commission regarding cadmium in cocoa.

The EU, in its response, said that it had already deferred the implementation of the maximum cadmium limits until 2019 due to concerns by its trading partners. The scope of the regulation had also set the limits on blended products, such as cocoa powders or chocolate products, rather than on cocoa beans, to facilitate compliance. The EU further listed studies to justify that the limit was based on a risk assessment and was necessary to protect human health.

India: fumigation requirements

India's fumigation requirements once again received strong reactions among WTO members. Colombia questioned India's requirement for teak tree wood imports to be fumigated using a chemical called methyl bromide. The concern was shared by Belize, Costa Rica and Liberia. They argued methyl bromide had been banned in many countries because it damages the ozone layer, and India's requirement hinders both their exports and their efforts to protect the environment.

In a separate agenda item, Senegal repeated its concern about a similar fumigation requirement for cashew nuts, supported by Burkina Faso, Colombia, Madagascar, Mozambique, Nigeria, Togo, Ukraine and the United States. Some members noted that India's fumigation requirement also affected other agricultural products, such as peas and pulses. They stressed that although members respected India's right to protect plant health, measures should be commensurate with the risks, and urged India to acknowledge other treatments that could achieve the same level of protection.

Russia withdrew a concern about fumigation of grain imports at the start of the meeting, repor-

ting that it had made progress in bilateral discussions.

India, on its part, said that it had relaxed the measure to make sure that imports can be fumigated upon arrival, and is in consultation with members to find alternative solutions.

EU: criteria to identify endocrine disruptors

Some 20 members once again expressed concerns with the European Union's proposed criteria to define chemicals that can interfere with hormone systems — endocrine disruptors. The concern was initially raised by Argentina, China and the United States, and supported by Australia, Brazil, Canada, Colombia, Costa Rica, Guatemala, India, Israel, Madagascar, Mozambique, New Zealand, Nigeria, Peru, Senegal, Thailand, Togo and Uruguay.

The US noted that in October 2017, the European Parliament had rejected the European Commission's proposed criteria for identifying endocrine disruptors, with members essentially calling for stricter criteria that would lead to many additional substances being classified as endocrine disruptors and subsequently banned. It added that prolonged uncertainty on how the EU will move forward with regulating endocrine disruptors was detrimental on many fronts.

The EU, for its part, responded that it had acted in full transparency to inform WTO members of the proposed measure and its regulatory process. It explained that the original proposal on criteria for plant protection products had been rejected and returned to the Commission, and the latter was currently reflecting on the next steps.

EU: restrictions on poultry meat due to salmonella

Brazil raised concerns regarding the European Union's inspection and rejection of poultry meat shipments due to the detection of salmonella. Brazil argued that the EU authorities had applied a stricter standard than publicly announced. Brazil also requested the EU to provide scientific evidence as to why there are two separate criteria for fresh poultry meat and meat preparations.

The EU replied that its microbiological criteria for meat preparations are stricter than for fresh poultry meat. As salt is normally added to fresh poultry meat intended for export to the EU, the end product falls under the definition of meat preparations, and thus stricter standards apply.

EU: use of international standards on glyphosate

Under an agenda item on monitoring the use of international standards, Argentina and the United States took issue with the ongoing delays in the European Union to renew the authorization for glyphosate. The concern was also echoed by Australia, Brazil, Canada, Colombia, New Zealand, Peru and Uruguay. Glyphosate is an herbicide widely used for weed control. Last month, EU member states failed to agree on whether to renew the approval of glyphosate.

The US said members' actions to restrict the use of glyphosate appear to lack scientific justification. It reminded members that the scientific body assessing risks that international standards rely on – the Joint FAO/WHO Meeting on Pesticide Residues (JMPR) - concluded that glyphosate does not pose a risk to consumers or public health when used appropriately.

The EU said that there had been intensive internal discussions on the possible renewal of glyphosate, and the EU is committed to finding a solution that ensures a high level of protection for human health and the environment, and that is based on sound science.

No consensus on pesticide ministerial decision
Members were unable to reach consensus to endorse a decision on pesticide maximum residue levels (MRLs), which proponents hoped to put forward to trade ministers at the 11th WTO Ministerial Conference (MC11) in Buenos Aires this December.

A pesticide MRL is the maximum amount of pesticide residue permitted to remain in or on food products to ensure that there is no risk to human health. The proposal from Kenya, Uganda and the United States noted that agricultural producers report growing concerns over the impact of missing and misaligned MRLs on their exports.

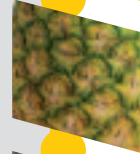
The three members circulated a draft ministerial decision, along with a set of recommendations to address the issue of pesticide MRLs, to the SPS Committee earlier in October. The latest revision of the document (G/SPS/W/292/Rev.2) contains five recommendations to enhance standards development, transparency and cooperation on the use of MRLs.

The proponents highlighted that missing MRLs, as well as differences between MRLs applied in different countries, can impede international trade in agricultural products, and urged members to share information and experiences on the development of MRLs on a voluntary basis. They also suggested strengthening the process for developing international standards, to promote harmonization. They stressed that bringing this matter to the highest decision-making body of the WTO would help raise the profile of MRL-related issues, injecting momentum to address the problem.

The Committee Chair, Mr. Marcial Espínola Ramirez (Paraguay), reported that he had heard broad support for both the recommendations and the proposed ministerial decision. A few members indicated support for the recommendations but voiced concerns about a ministerial decision, while one member felt the recommendations and proposed decision did not fully address the full spectrum of issues related with MRLs, and therefore considered it premature to recommend the proposal to a higher WTO decision-making body.

In conclusion, the Committee Chair urged members to continue the discussion with their capitals and with each other, with a view to finding a solution.

The objective of the workshop was to bring together officials responsible for the implementation of the SPS Agreement, as well as the relevant international standard-setting organizations and scientific bodies for in-depth discussions, at a technical level, on maximum residue levels



THE IPPC STANDARDS COMMITTEE

13-17 November 2017 Rome, Italy

The Standards Committee (SC), with 27 participants representing all seven FAO regions, met between 13-17 November 2017 at FAO-HQ in Rome, Italy. The SC led by its Chairperson, Mr Ezequiel FERRO (Argentina), had fruitful discussions on topics of major concern to the phytosanitary world.



The IPPC Secretary, Mr Jingyuan XIA, opened the meeting and welcomed the participants to Rome. He reminded the Standards Committee (SC) that this was the 65th anniversary of the IPPC and listed the many achievements over the last year. He informed the SC of progress with the implementation of the recommendations from the IPPC Secretariat enhancement evaluation.

The Secretary announced that Mr Avetik NERSISYAN had been appointed as the new manager of the Standards Setting Unit (SSU). The Secretary stressed the importance of standard setting and reminded the SC that they are part of the only standard setting organization in the world for plant health standards. He also praised the achievements of the Standards Officer and the SSU over the years. After adoption of a large number of standards, it was now important for the IPPC community to increase focus on implementation of the Convention and the standards. It was also important to enhance cooperation between the SC and the Implementation and Capa-

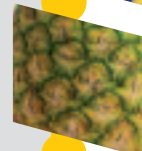
city Development Committee (IC).

The SC elected Ms Laurence BOUHOT-DELDUC (France) as Rapporteur.

Mr Corné VAN ALPHEN introduced a paper highlighting items of specific relevance to the SC from the CPM Bureau meetings held in June and October 2017, the focus group (FG) to develop the process and criteria for a joint call for phytosanitary issues in October 2017 and the Strategic Planning Group (SPG) 2017 meeting.

The FG to develop the process and criteria for a joint call for phytosanitary issues was composed of representatives from the SC, the IC, the Bureau and the Secretariat. The FG developed criteria based on the existing criteria for standards setting with modifications to make them applicable for topics for both standards and implementation. A flow chart of the process was developed, which included a new Task Force to review submissions and develop recommendations for the SC and IC. It was proposed that a call could take place every three years and the process could start in November 2018.

The SPG reviewed the outcomes of the FG and requested further work on the paper.



The proposed Task Force could work via virtual meetings and the process would require the active participation of the Chairs of the SC and IC. The SPG noted that priorities would be given to topics with the largest global impact and the relation to trade was also emphasized. The SPG considered the call would be a great opportunity to increase the cooperation between the SC and IC and suggested that both bodies should also be able to submit topics that had been identified through other tools such as the IRSS survey or discussions at workshops. The process should help identify whether a standard or a manual would be the best way to address an issue and, if necessary, which should be developed first. The SPG also recommended that there were Secretariat-wide work plans with clearer linkages between standards and their implementation tools

Particularly, a long sought compromise was reached on the reorganization of the suite of fruit fly standards. The reorganization will be presented to the CPM-13 (2018). The reorganization should help countries, especially developing countries, have a better and more logical framework to implement the phytosanitary measures related to fruit flies.

The SC reviewed several draft standards and has recommended four to CPM-13 (2018) for adoption. Out of these, the revision of ISPM 6 (Surveillance) is especially awaited by many countries as it plays an essential role in the management of pests. Another new standard on the Requirements for temperature treatments will also help countries improve their application of internationally agreed Phytosanitary treatments (annexes to ISPM 28 (Phytosanitary treatments for regulated pests)) using temperature and other temperature treatment approved bilaterally.

The SC also discussed the two commodity standards pertaining to grain and cut flowers. The SC was divided on the level of requirements required for these commodities which are normally considered low risk. The SC noted several issues that they need direction on and agreed to propose to the

Bureau that time be set aside for a thorough discussion on this issue at CPM-13 (2018).

“Contaminating pest”, “contamination” (revisions). One comment had asked for the revision of the definition of “infestation (of a commodity)” (i.e. “Presence in a commodity of a living pest of the plant or plant product concerned. Infestation includes infection”) so that it explicitly would cover the presence of pests that are not only “in” but “on” a commodity, and so that “infestation” would not be defined only for “commodities”. This did not affect the proposed revised definitions of “contaminating pest” and “contamination”. Several SC members noted that pests could be in, on, or with commodities. The SC also noted that the term “infestation” could apply more broadly, but in these cases the common understanding of the word would apply. The SC did not feel there was an immediate need to consider this term further, but a proposal could be made to the SC in a discussion paper.

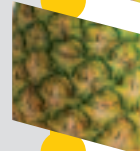
Harmonization of survey and specific protocols.

Some consultation comments called for more guidance on protocols or surveillance methodologies for different phytosanitary situations in appendixes or annexes to the ISPM or in manuals. The SC considered that harmonized guidance would be difficult to provide in the standard due to the number of possible options involved and the issue could be considered as an implementation issue.

Data collection and reporting of the absence of pests.

Some comments had indicated that requirements for data collection and reporting of pest presence and absence were different. They had therefore proposed adding a list of requirements for data collection when determining pest absence.

An SC member explained that guidance on reporting of absence is not yet well developed. It





is important to ensure that surveillance for pest absence is based on factors including pest biology, host distribution and environment. This provides evidence for importing countries that the surveillance data used for the determination of pest status when the pest is absent are robust. Other members supported the concept but noted that such considerations are also important for determining low pest prevalence.

The SC deferred in-depth discussion on this Agenda item to the next SC meeting. The SC representative in the IYPH asked the SC members to consider the Secretariat update on this issue to support the proclamation of IYPH and encouraged SC members to promote the IYPH at national and regional events.

The Secretariat provided an update on the IPPC regional workshops⁸. Seven IPPC regional workshops had been organized involving 206 participants from 117 countries. The Secretariat has been standardizing arrangements and agendas, ensuring that all parts of the Secretariat and CPM bodies contribute topics for the agenda, and also that regional issues are discussed.

Information management system.

The SC considered that the Information Management System was part of the supporting infrastructure and therefore adjusted the numbering and added a new box in Figure 1. Although Records could be considered as part of Documentation, moving this section would involve a major change. “Records” and “Analysis and Reporting” were therefore retained as separate sections.

Pest Records. A global change was made from “surveillance records” to “pest records” as a result of a comment. The term “surveillance records” is not defined in the Glossary, whereas “pest records” is defined and used in ISPMs and includes recording absence of pests. In cases where the meaning had changed, the SC adjusted the text.

Minimum requirements for pest records. The SC considered that it was not always appropriate to have minimum requirements for

pest records from general surveillance, which may involve general gathering of data. The SC therefore clarified that the minimum requirements should be from specific surveillance, and from general surveillance wherever possible.

Having the involvement of SC members and Secretariat staff was considered valuable by IPPC regional workshop participants and the Secretariat is working to improve the IPPC regional workshops based on feedback. Some SC members made proposals, including: merging the Latin American and Caribbean workshops; scheduling meetings to maximize SC participation and not changing meeting dates without consultation; involving SSU staff at the IPPC regional workshops; ensuring there are follow up actions when regional pest issues are identified e.g. at the TC-RPPOs.

The Secretariat stressed the importance of participation by SC members, who should make the presentations on the draft ISPMs. The Secretariat expressed appreciation for the planning being done for the 2018 IPPC regional workshops and the SC was requested to consider topics for the agenda.

Draft ISPMs for approval for the first consultation:

International movement of grain (2008-007), Priority 1. Steward introduced the revised draft, Specification 60 and Steward’s notes. The standard had been re-drafted following comments from the SC May 2017, a small SC group and an online forum. An appendix had been added with a list of some major storage pests associated with grain. Steward acknowledged the input from experts, SC members and the Secretariat. He reminded the SC that, as indicated in the Bureau update, commodity standards need to contain requirements. Steward explained that there were two key concerns with the draft: - exporting countries were concerned that importing countries were setting too stringent import requirements that were not technically justified given the relatively low pest risk and the end-use of grain; - importing countries were

concerned that grain poses a more serious pest risk than that suggested by exporting countries, but there was great difficulty in assessing this risk. He stressed the importance of wide discussions with industry to explain the aim of the draft ISPM, increase understanding of issues and alleviate industry concerns. SC members welcomed the work done to improve the draft, particularly the separation of industry activities from NPPO responsibilities.

The SC discussed specific concerns including: “Extraneous material”. The Steward expressed that exporting countries consider this a quality issue while importing countries consider it a pest risk because it can contain regulated articles. It is difficult to conduct a pest risk analysis (PRA) for such material and this can result in low tolerances being set in phytosanitary import requirements, and consequently very different requirements for the same commodity. Some SC members stressed that grain was a low risk commodity and were concerned about the introduction in the draft of non-technically justified tolerances for such material. One member also noted the lack of clarity in the use of, and inclusion of, associated tolerances for weed seeds, regulated articles, and extraneous material.

“Grain import system”. This is a new concept and some SC members were concerned about including requirements relating to grain import systems. The Steward explained that, although a manual could be produced on these systems, the concept had been included in order to address diversion from the intended use. It is the responsibility of the importing country to manage risks from material that has been imported, which should not be the responsibility of the exporting country. Moreover, in some parts of the draft, a grain import system was qualified as mandatory and in other parts it was suggested to be optional.

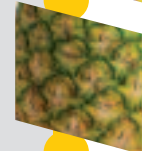
Traceability. The EWG had identified that traceability was appropriate back to the consolidation stage of grain rather than to the


production area. However, one SC member expressed the need to be able to trace back to growers or fields, which could be done through documentation and some contracting parties already include traceability to an area in their phytosanitary import requirements. Some SC members commented that traceability to a field or grower would not be possible and one SC member stated that traceability should be considered a tool to identify the origin, not a phytosanitary measure. Some SC members were concerned on the inclusion of requirements of traceability in the draft when the specification did not include traceability.

Pests. The SC had recommended that the ISPM only refer to “quarantine pests” (QPs) rather than to “pests”. However, there are no internationally agreed QPs and the draft now refers to “potential quarantine or contaminating pests”. The Steward explained that the aim was to produce guidance that ensured that commodities could meet the import requirements of most importing countries without additional measures being applied. One SC member was concerned to ensure that the draft did not go beyond PRA-based phytosanitary import requirements. Another was concerned about the inclusion of “potential quarantine or contaminating pests” and considered this could hamper trade.

Lastly, the SC approved the Specification 66: Audit in the phytosanitary context and proposed that its priority be changed from 2 to 1, as audits are needed to support other phytosanitary actions. This increased priority would allow the IPPC Secretariat to start working on this important topic already in 2018.

SC recommendations for CPM-13 (2018) decisions and discussions (including proposals for discussions on concepts and implementation issues related to draft or adopted standards, special topics session and side-event) [182] The Secretariat reminded the SC





of their decision at the May 2017 SC meeting relating to the challenges associated with Next Generation Sequencing (NGS) technologies as a diagnostic tool for phytosanitary purposes. As the topic applied to diagnosis, but was also relevant for PRA and surveillance, the SC had considered that it should be brought to the attention of the CPM.

The SC: invited the CPM to note the challenges associated with the use of the NGS technologies. Implementation issues raised at CPM-12 (2017) and at SC May 2017. The SC agreed to discuss the implementation issues associated ISPM 41 (International movement of used vehicles, machinery and equipment) in an e-forum.

Agenda items deferred to future SC Meetings : The following items were deferred:

- Updates on the IYPH (including development of a promotional paper)
- Updates on the Sea Containers Task Force
- Guidelines for expert drafting groups
- Implementation issues associated ISPM 41 (International movement of used vehicles, machinery and equipment).

Future SC e-decisions: The Secretariat

stressed the need for all SC members to actively participate in SC e-decisions. The following SC e-forums are tentatively planned between SC November 2017 – SC May 2018:

- Guidelines for a consistent ISPM terminology. DPs for approval for consultation period
- Begomoviruses transmitted by Bemisia tabaci (2006-023)
- Candidatus Liberibacter spp. on Citrus spp. (2004-010)

- DPs for approval for DP notification period
- Revision of DP 2: Plum pox virus (2016-007)
- Bactrocera dorsalis complex (2006-026)
- Conotrachelus nenuphar (2013-002)
- Ips spp. (2006-020)
- Xylella fastidiosa (2004-024)
- Puccinia psidii (2006-018)

Review of the Standard Setting Calendar: The Secretariat recalled that the standard setting calendar is presented on the IPP28. He informed **the SC** of planned standard setting activities during 2018.

Date and Venue of the Next SC Meeting: **The next SC meeting** was scheduled from 14 to 18 May 2018 in Rome, Italy.

The Standard Committee is responsible for:

- Overseeing the IPPC Standards setting process
- Managing the development of international Standards for Phytosanitary Measures
- Providing guidance and oversight to the work of the Technical Panels and Expert working Groups

DEVELOPMENT OF SPS INFORMATION SYSTEMS AND ENHANCING ADVOCACY, AWARENESS AND COMMUNI- CATION TO ENSURE AVAILABILITY OF SUFFICIENT SAFE BIOLOGICAL CONTROL AGENTS

27th – 29th November 2017; Addis Ababa-Ethiopia



Group photo of participants

1. Opening ceremony

The opening ceremony was marked by a welcome address by the Director of AU-IAPSC. During his address, Dr Jean Gerard MEZUI MELLA thanked the participants for leaving other activities to be part of the workshop, and that this shows their commitment. He pointed out how pesticides are causing harm to the environment and leading to pest developing resistance. With the advice of invasive pest and especially the Fall Army Worm, he called for the need to strengthen our Biological control systems. He also gave a background to biocontrol on the continent and promised to provide necessary technical support to ensure that biological control agents are used for safe control of pest and disease, especially the Fall Armyworms.

This was followed by self-introduction of participants at the workshop.

ADOPTION OF THE AGENDA

The agenda of the workshop was read and as no

changes were made.

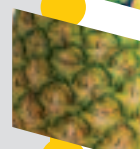
ELECTION OF RAPORTEURS

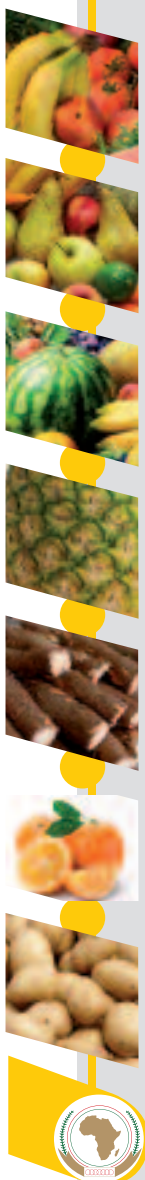
The meeting elected Ghana as rapporteurs, AU-IASPC as moderator and Secretary of the workshop.

2. Objectives of the workshop

The AU-IAPSC's Senior Scientific Officer, Prof. Abdel Fattah MABROUK AMER presented the objectives of the workshop which included:

1. Promote and improve continental plant protection through biological control and Integrated Pest Management (IPM).
2. Improve and strengthen cooperation between countries on migratory/invasive pests' issues and by improving pest alert systems.
3. Encourage and create awareness among member states to be compliant and implement International Standards for Phytosanitary Measures (ISPMs) so as to produce healthy and quality crops.





4. Build SPS capacities of member states to understand International Standards and Policies that guide the implementation of biological control of pest and diseases.

5. Complete the list of biocontrol agents in Africa

3. Presentations

3.1. Experts presentations

Subject 1:

Technical Mechanisms for the Development of Parasitoids and their impact on Pests

Prof. Agboka Komi started his presentation by giving a brief background of parasitoids used in biological control and the need to use biological control because of the effect pesticides are having on the environment and on human beings.

He explained the technical mechanisms of parasitoid development which include:

1. Correct identification of the pest and the parasitoids;
2. Detail knowledge on the biology and ecology of the pest and the parasitoid;
3. Develop adequate techniques for parasitoid mass rearing;
4. Optimization of environmental conditions for parasitoids release.

It was important to note that misidentification of the parasitoid and the pest leads to importation of inappropriate parasitoids and waste of time and resources and consequently failure of Biological control.

To adequately produce and ensure quality and effectiveness of the parasitoid, the knowledge of the bio-ecology of the parasitoid and its host and a well-equipped laboratory helps

He also stated that conservation of natural enemies based on their bio-ecology includes the use of “soft” insecticides with reduced rate of application and agricultural diversification using SNAP. SNAP summarizes four main ways in which resources for natural enemies can be en-

hanced in agriculture: Shelter, Nectar, Alternative prey/hosts and Pollen. Care should be taken to choose appropriate flowering plants.

He presented various invasive pest on the African continent and the biological control agents that are able to control them. Some biological agents (*Telenomus remus*, *Cotesia marginiventris*, *Chelonus insularis*) are being assessed for mass rearing and release for the control of Fall Armyworm.

In conclusion he said for parasitoid availability and efficiency it is necessary to have very good knowledge of the parasitoid and its host, an equipped laboratory for mass producing the parasitoid, enabling environmental conditions and to develop and implement biological control as a component of IPM.

Subject 2:

The Use of Biological Method for Plant Diseases Control

Prof Bouzid in his introductory remarks mentioned that biocontrol of diseases is more difficult than and not as successful as in the control of insects. He defined plant disease biological control as the use of any organism to control a pathogen, including the resistance of the host plant itself as a natural and effective form of biological control or the use of antagonistic organisms (generally microorganisms) to reduce attacks of crops by pathogens. The attack or effect is due to introduced organisms or manipulation of existing organisms. Definition is also extended to any natural products extracted from living organisms or from other sources such as soil.

The mode of action of the various plant disease control organisms or agents were explained. The types based on mode of action include; Hypovirulence, Competition, Siderophores, Lytic enzymes, Antibiotics, Parasitism, Suppressive Soils, Use of soil pathogens, Use of aerial pathogens, Use of postharvest pathogens, Mycorrhiza Case, and the combination of biocontrol agents. With suppressive soils, soilborne pathogens develop much less and cause much milder diseases than in conducive soils. Antagonist like fungi and

bacteria are produced and sold commercially for biocontrol of plant diseases.

Practical aspect of biological control of plant diseases is still limited, particularly in field conditions. Unlike in the laboratory, in the greenhouse and in the storage depot (or any other confined spaces), results in the field are not usually successful.

The major problems encountered were:

- (1) Introduced microorganisms generally fail to compete with the existing microflora or
- (2) Soil amendments are not too selective to increase only the antagonist populations.

Subject 3:

Tackling Invasive Species through Sustainable Use and Exchange of Biological Control Agents in Africa

CABI addresses issues of global concern such as food security, through science, information and communication. CABI is supporting a number of countries in Africa to tackle invasive pest species through sustainable use of biocontrol agents.

Dr. Ivan Rwomushana defined Invasive species as living organism which has been moved outside of its natural range, as a result of human activities and has established and proliferated to the detriment of biodiversity, human or animal health, crop or pasture production, economic development, etc. Invasive species includes both fauna and flora. Example of Invasive species are Tomato leafminer, Maize Lethal Necrosis Disease, Famine weed, Opuntia, Devil weed and Fall Armyworm.

Invasive species can reduce crop yields by more than 90%. Economic impact, both yield and monetary, were presented and examples of effects of witchweed, cassava mealy bugs, tomato leafminer, devil weed (*Chromolaena* sp), famine weed (*Parthenium* sp) in certain African countries and Larger grain borer in West Africa. Eleven of the twenty countries at risk of being infested with Invasive species are in Africa.

Invasive Species can best be managed through

prevention, early detection and rapid response (surveillance) and pest control (physical, chemical, biological, integrated, host plant resistance) CABI invests in all types of Biological Control globally. CABI supports member countries in implementing Biological Control including setting up mass rearing programs for natural enemies; training courses on setting up Biological Control programs using robust mass rearing techniques and quality control procedures for Biocontrol Agents. And enhance collaboration between research institutes in beneficiary countries. CABI also involves local research institutes in training, collection and screening of potential natural enemies.

Subject 4:

Institutional Mechanisms to Ensure the Effectiveness of Parasitoids

Prof. Komi started the presentation by stating that strong country institutions are needed for the use of parasitoids or bioagents to control plant pest and diseases.

Institutions need to have a well-equipped quarantine laboratory and other facilities, qualified technical staff and financial resources for mass rearing of biological control agents.

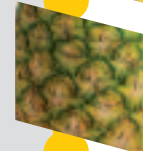
Institutions need to strengthen collaboration at different levels; national level - between NPPOs and research and extension institutions. And at regional level: between NPPOs and international research centers.


Regulations on biological control agent should be established and regulation on pesticides reinforced.

NPPOs should increase awareness and communication on biocontrol, explain and demonstrate the importance of Biological control to policy makers, farmers and consumers.

Practical, tested and efficient pest management technologies can be available but their adoption would depend on good and efficient extension system. There is the need to strengthen the expertise of NPPO in controlling pests, professional training of staff in special areas needed by the NPPO

Develop training and extension technical manuals relevant to Biocontrol





He concluded by stating research must be supported in delivering findings for biocontrol.

3.2. Country Presentations on Current Situation of Biological Control

10 country's reports were alternately presented by the NPPOs delegates following the template submit to them by AU-IAPSC. From these presentations, it appears that:

1. All countries perceive BC as an applicable means of pest control but complex in its application.
2. The legislation on BC is recent for some countries, present through the adoption of IPM for others and non-existent for some one. This last group of countries makes use of the national law of Plant Protection. They sometimes refer to the IPPC Guidelines for Exporting, Shipping, Importing and Releasing BC Agents and other useful organisms and also to the SPS Agreements. However, the LB is regulated in Kenya, under the Kenya Standing Technical Committee on Imports and Exports (KSTCIE), in Ghana and in Tunisia
3. Formally structured or not, the partnership network for the establishment and management of BC agents in countries brings together public services, academia, research institute, the private sector, NGOs and individual experts for specific missions.
4. All countries have a list of parasitoids. Challenges countries encounter in using Biocontrol Agents include;

1. Lack of capacity to conduct the risk analysis when importing new biological agents
2. Sensitization of farmers to use pesticides with low toxicity to maintain biological agents
3. Financial resource to import biological agents
4. Lack of resources and capacity to monitor the BC agents after its establishment
5. Lack of appropriate legislation for LB agents or inappropriate legislation
6. Failure BC establishment in some regions within the country

3.3. Discussions and Observations of the Presentations

3.3.1 Concept of Biological Control

Most countries presentation was in line with ISPM 3 but the level of implementation was not optimal. Countries were advised to invest more in the use of Biological control as a means of sustainable crop production

3.3.2 Policy Legislation Related to Biological Control

Most countries do not have policies or legislation related to biological control.

Member countries were advised to seek the assistance of their Ministers to develop these policies and regulations to guide biocontrol in their respective countries.

A country can do without a provision prior to the adoption of the BC. In this case it is necessary to refer to the result obtained in another country. If the tests are made for a parasite and the country wants to use it for another similar one, it is necessary to make a test of convenience.

3.3.3 Partnership Network

It was observed most partnerships were not strong and not well structured.

Networking should be improved among member countries and with researchers.

Ghana will send information on the papaya mealybug to the AU-IAPSC which will then share it with other countries.

Sudan needed support to develop the capacity of staff on Fall armyworm identification and control. It was observed there was the need for the two countries to develop policies and legislations to support the use of bioagents to control pest and diseases.

3.3.4 Best Practices for Establishing and Managing Biological Control

Failures in establishment of bioagents in most countries was observed.

Countries were advised to invest more in biocon-

trol by developing their human resource and conducting environmental assessment before releases. Farmers should be trained not to use excessive pesticides.

The resurgence of the papaya mealybug in Gabon, although the imported parasitoid is increasing in Gabon, being the same species as the autochthonous species

3.3.5 Challenges Confronting Biological Control

Lack of mass rearing facilities, untrained personnel, lack of funds, failures in establishment of bioagents were some of the challenges presented.

It was suggested awareness of biocontrol of pest and diseases should be created for major stakeholders.

3.3.6 The Situation of Fall Armyworm in Africa and the roll of Biological Control

The fall armyworm is to be considered a major enemy for which a war is declared. All experts must come together to find a strategy for its eradication. A publication is underway in this direction. Another document on the publication of specimens of parasitoids and their origins is currently in preparation.

It is wise to know the environment that hosts parasitoids. If the environment is polluted, there is a risk of reduced efficiency.

It is up to countries to delimit free areas in order to stop the spread of the FAW.

Efficacy tests of two parasitoid strains of the fall armyworm are in progress. At the same time studies on these parasitoids are underway to prevent possible negative setbacks. CABI is willing to support actions that will go in this direction. The fall armyworm has been reported in Gabon since the end of September 2017

4. Recommendations

1. **NPPOs** to create awareness about Biological Control of pests in their respective countries.

2. **NPPOs** are encouraged to seek the assistance

of their Ministers to develop the policies and regulations to guide production, release and monitoring of biocontrol agents in their respective countries.

3. **NPPOs** to build capacities of staff to become experts in biological control – experts in mass rearing, pre-release risk assessment, how to conduct successful releases and how to conduct post release assessment.

4. **NPPOs** to support staff to undertake professional training to specialize in Crop Protection so as to master in pest identification, and molecular techniques among others.

5. **NPPOs** to develop or update list of pests and their biocontrol agents for publication in country and share information.

6. **NPPOs** to strengthen collaboration with research institutions and universities to carry out more studies on biocontrol agents so as to have more information on sustainable biological control of pests to improve crop protection and agricultural productivity.

7. **NPPOs** to develop registration procedures for the introduction of Bioagents into their countries.

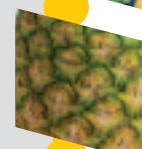
8. **NPPOs** to encourage use of bioagents by engaging authorities to reduce registration fees of bioagents.

9. **AU-IAPSC** to develop an effective Mechanism to coordinate at the continental level actions on biological control of pests.

10. **AU-IAPSC** to collaborate with all partner agencies to support countries that need laboratories or facilities for mass rearing of bioagents.

11. **AU-IAPSC** to collaborate with other partners to develop Biocontrol Manuals to guide the identification, mass rearing and the release of bioagents.

12. **AU-IAPSC** to identify five countries in the Eastern, Western, Central, Northern and Southern sectors of the African continent and support them to mass rear bioagents for countries



that lack facilities for rearing bioagents for the control of Fall Armyworms and other invasive pests.

13. **AU-IAPSC** to follow and monitoring the implementation of activities after the workshop.

14. **AU Commission** through **AU-IAPSC** to convene a special workshop to deliberate on a holistic strategy to control the Fall Armyworm.

Lists of biological control agents in countries

KENYA

* *Eretmocerus eremicus* (Hymenoptera, parasitoid) for control of whiteflies (*Trialeurodes vaporariorum* and *Bemisia tabaci*) in green houses

* *Coccidoxenoides perminutus* (Hymenoptera, parasitoid) for control of mealybugs on Roses

* *Diglyphus isaea* (Hymenoptera, parasitoid) control of leaf miner (*Liriomyza* spp.) in flowers and vegetables

* *Aphidius transcaspinus* (Hymenoptera, parasitoid) for control of aphids (*Acrosiphum* spp and *Aphis* spp.) in vegetables.

* *Encarsia formosa* (Hymenoptera, parasitoid) for control of whiteflies (*Trialeurodes* spp.) on flowers and vegetables.

CONGO

* *Exochomus flaviventris* (Coleoptera, Predator) for control of *Phenacoccus manihoti*

* *Hyperaspis senegalensis* (Coleoptera, Predator) for control of *Phenacoccus manihoti*

* *Anagyrus* sp (Hymenoptera, parasitoid) for control of *Phenacoccus manihoti*

* *Trichogramma* sp (Hymenoptera, parasitoid) for control of *Spodoptera frugiperda*

MOZAMBIQUE

* *Anagyrus lopezi* and *Apoanagyrus lopezi*, (Hymenoptera, parasitoid) to control Cassava Mealybug (*Phenacoccus manihoti*)

* *Cotesia flavipes* (Hymenoptera, parasitoid) to

control Dotted stem borer (*Chilo partellus*)

* *Xanthopimpla stemmator* (Hymenoptera, parasitoid) to control Sugar cane borer (*Chilo sacchariphagus*)

* *Typhlodromalus aripo* (Arachnida, Mesostigmata, parasitoid) to control Cassava Green Mite (*Mononychellus tanajoa*)

* *Fopius arisanus* (Hymenoptera, parasitoid) to control Fruit fly *Bactrocera dorsalis*

* *Cotesia plutellae* (Hymenoptera, parasitoid) to control Diamond Backmoth (*Plutella xylostella*)

GHANA

* *Anagyrus lopezi* and *Apoanagyrus lopezi*, (Hymenoptera, parasitoid) to control Cassava Mealybug (*Phenacoccus manihoti*)

* *Typhlodromalus manihoti* and *Typhlodromalus aripo* (Arachnida, Mesostigmata, parasitoid) to control Cassava Green Mite (*Mononychellus tanajoa*)

* *Gyranoidea tabygi* and *Anagyrus mangicola* (Hymenoptera, parasitoid) to control Mango Mealybug (*Rastrococcus invadens*)

* *Terestrius nigrescens* (Coleoptera, Predator) to control Larger Grain Borer (*Prostephanus truncates*)

* *Acerophagus papayea* (Hymenoptera, parasitoid) to control Papaya Mealybug (*Paracoccus marginatus*)

MALAWI

* *Depiolinecaris*(1) *lopezi* (Hymenoptera, parasitoid) to control Cassava Mealybug (*Phenacoccus manihoti*)

* *Cotesia plutellae* and *Diadegma semiclausum* (Hymenoptera, parasitoid) to control Diamond Backmoth (*Plutella xylostella*)

* *Terestrius nigrescens* (Coleoptera, Predator) to control Larger Grain Borer (*Prostephanus truncates*)

* *Metarhizium acridum*, Green muscle (Fungi, Hypocreales, parasitoid) to control Red Locust

COAT D'IVOIRE

- * *Gyranusoidea tabygi* and *Anagyrus mangicola* (Hymenoptera, parasitoid) to control Mango Mealybug (*Rastrococcus invadens*)
- * *Metarhizium anisopliae*, Green muscle (Fungi, Hypocreales, parasitoid) to control *Cosmopolites sordidus*

SENEGAL

- * *Epidinocarsis(1) lopezi* (Hymenoptera, parasitoid) to control Cassava Mealybug (*Phenacoccus manihoti*)
- * *Gyranusoidea tabygi* and *Anagyrus mangicola* (Hymenoptera, parasitoid) to control Mango Mealybug (*Rastrococcus invadens*)
- * *Encarsis haitiensis* (Hymenoptera, parasitoid) to control Aleurodicus disperses bug

TOGO

- * *Gyranusoidea tabygi* (Hymenoptera, parasitoid) to control Mango Mealybug (*Rastrococcus invadens*)
- * *Encarsis haitiensis* (Hymenoptera, parasitoid) to control Aleurodicus disperses bug
- * *Apanteles(2) glomeratus* (Hymenoptera, parasitoid) to control *Putella xylostella*
- * *Acerophagus papayea* (Hymenoptera, parasitoid) to control Papaya Mealybug (*Paracoccus marginatus*)

GABON

- * *Gyranusoidea tabygi* and *Anagyrus mangicola* (Hymenoptera, parasitoid) to control Mango Mealybug (*Rastrococcus invadens*)
- * *Epidinocarsis(1) lopezi* (Hymenoptera, parasitoid) to control Cassava Mealybug (*Phenacoccus manihoti*)
- * *Acerophagus papayea* (Hymenoptera, parasitoid) to control Papaya Mealybug (*Paracoccus marginatus*)

ZAMBIA

- * *Neochetina bruchi* (Coleoptera, predator) to control Water hyacinth *Eichhornia crassipes*
- * *Uroplata Girardi* (Coleoptera, predator) to

control *Lantana camara*

- * *Epidinocarsis(1) lopezi* (Hymenoptera, parasitoid) to control Cassava Mealybug (*Phenacoccus manihoti*)
- * *Terestrius nigrescens* (Coleoptera, Predator) to control Larger Grain Borer (*Prostephanus truncates*)
- * *Cyrtobagous salviniae* (Coleoptera, Predator) to control Kariba weed (*Salvinia molesta*)
- * *Neochetina eichhorniae* (Coleoptera, Predator) to control Water hyacinth *Eichhornia crassipes*
- * *Cotesia flavipes* and *Xanthopimpla stemmator* (Hymenoptera, parasitoid) to control Stem borer
- * *Cotesia vestalis(3)*, *Diadronus collaris*, and *Oomyzus sokolowskii*, (Hymenoptera, parasitoid) to control Diamond Backmoth (*Plutella xylostella*)
- * *Fopius arisanus* (Hymenoptera, parasitoid) Fruit fly *Bactrocelia dorsalis*

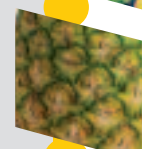
CAMEROON

- * *Beauveria bassiana* (Fungi, Hypocreales, parasitoid) to control *Salhbergella singularis*
- * *Trochoderma asperellum* (Fungi, Hypocreales, parasitoid) to control *Pythium megakarya*

SUDAN

- * *Neochetina bruchi* (Coleoptera, Predator) to control Water hyacinth *Eichhornia crassipes*

- (1): Synonymy of *Apoanagyrus*
- (2): Synonymy of *Cotesia*
- (3): Synonymy of *plutellae*



D) Comment Summary

We can summarize the information collected during this workshop as :

* All Biological agents found during this workshop belong to :

Three Classes : Insecta, Arachnida, and Oomycetes

Four Orders: Hymenoptera and Coleoptera (Insecta), Mesostigmata (Arachnida) and Hypocreales (Oomycetes)

Fourteen Families: Hymenoptera (6 families); Coleoptera (4 families); Mesostigmata (1 family) and Hypocreales (3 families)

Twenty six Genera: Insecta (22 genera), Arachnida (1 genus) and Oomycetes (3 genera)

Thirty three Species: Insecta (27 Species), Arachnida (2 Species) and Oomycetes (4 species)

* While the pests (or Biological agents hosts) belong to:

Six Classes: Insecta, Arachnida, Oomycetes, Dicot., Monocot. and Filicopsida

Eleven Orders: 6 belonging to Insecta (Coleoptera, Diptera, Hemiptera, Homoptera, Lepidoptera and Orthoptera) and one belonging to each other classes: Arachnida (Prostigmata); Oomycetes (Peronosporales); Monocotyledonae (Pontederiales), Dicotyledone (Lamiales) and Filicopsida (Hydropteridales)

Seventeen Families: Coleoptera (2 families); Diptera (2 families); Hemiptera (2 families); Homoptera (2 families); Lepidoptera (3 families); Orthoptera (1 family); Prostigmata (1 family); Peronosporales (1 family); Pontederiales (1 family); Lamiales (1 family); and Hydropteridales (1 family)

Twenty three Genera: Insecta (18 genera), Arachnida (1 genus) and Oomycetes (1 genus);

Dicotyledone (1 genus), Monocotyledone (1 genus) and Filicopsida (1 genus)

Twenty five Genera: Insecta (20 Species), Arachnida (1 Species) and Oomycetes (1 species); Dicotyledone (1 Species), Monocotyledone (1 Species) and Filicopsida (1 Species)

* *Each pest (host) has one Biological agent only except:*

Phenacoccus manihoti (Homoptera, Pseudococcidae) has 4 agents

Plutella xylostella (Lepidoptera, Plutellidae) has 5 agents; and

Eichhornia crassipes (Pontederiales, Pontederiaceae) has 2 agents

Note:

Also, there are some important notification such as: only two countries (Mozambique, Zambia) used biological control against fruit flies (Bacterocera dorsalis); Also two countries (Sudan and Zambia) talking about using Biological control against invasive weeds.

Additional information Classical Biological control from Kenya:

Diaschasmimorpha longicaudata and Fopius arisanus (Sonan) (Hymenoptera: Braconidae) have been naturally released for biological control of the invasive fruit fly species Bactrocera invadens (Diptera: Tephritidae)

Phaenotoma scabriventris, Chrysobothris flaccida and Halticoptera arduine parasitoids have been released for biological control of leaf miner (Liriomyza spp.) in vegetable production in Kenya.



UA/CPI-AU/IAPSC
B.P/P.O.Box 4170
Yaoundé-Cameroun
Tél: 22 21 19 69
Fax: 22 21 19 67
Email: au-cpi@au-appo.org
Site web: <http://www.au.appo.org>

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