Food and Agriculture Organization of the United Nations

International Plant Protection Convention

International Plant Protection Convention (IPPC)

Dr. Osama El-Lissy, Secretary

Africa Phytosanitary Programme

Food and Agriculture Organization of the United Nations

International Plant Protection Convention

Challenge

20-40%

global annual crop is lost from plant pests[1] or around **USD 220 billion** in annual economic loss.

30-60%

of crop yields are lost in **Africa** due to insects[2].

USD 65.6 billion

Estimated annual cost attributed to damages caused by invasive alien species in **Africa**[3].

10-25%

Projected increase in global yield losses of major staple crops such as wheat, rice and maize **per degree of global average surface warming**[4].

783 million

people faced hunger in 2022. This exacerbates **global hunger** which affects almost a tenth of the world's population.

Biodiversity loss

Invasive alien species are one of the major drivers of **biodiversity loss**[5].

[1]Agrios, G.N. (2005). Plant pathology. Fifth edition. Elsevier Academic Press.
[2]Oerke, E.C. (2005). Crop losses to pests. Journal of Agricultural Science 144:31-43.
[3]The Global Action for Fall Armyworm Control: A resource mobilization guide (fao.org). FAO. 2022.
[4]Plant health and environmental protection. FAO. 2021.
[5]The State of the World's Biodiversity for Food and Agriculture. FAO. 2019.

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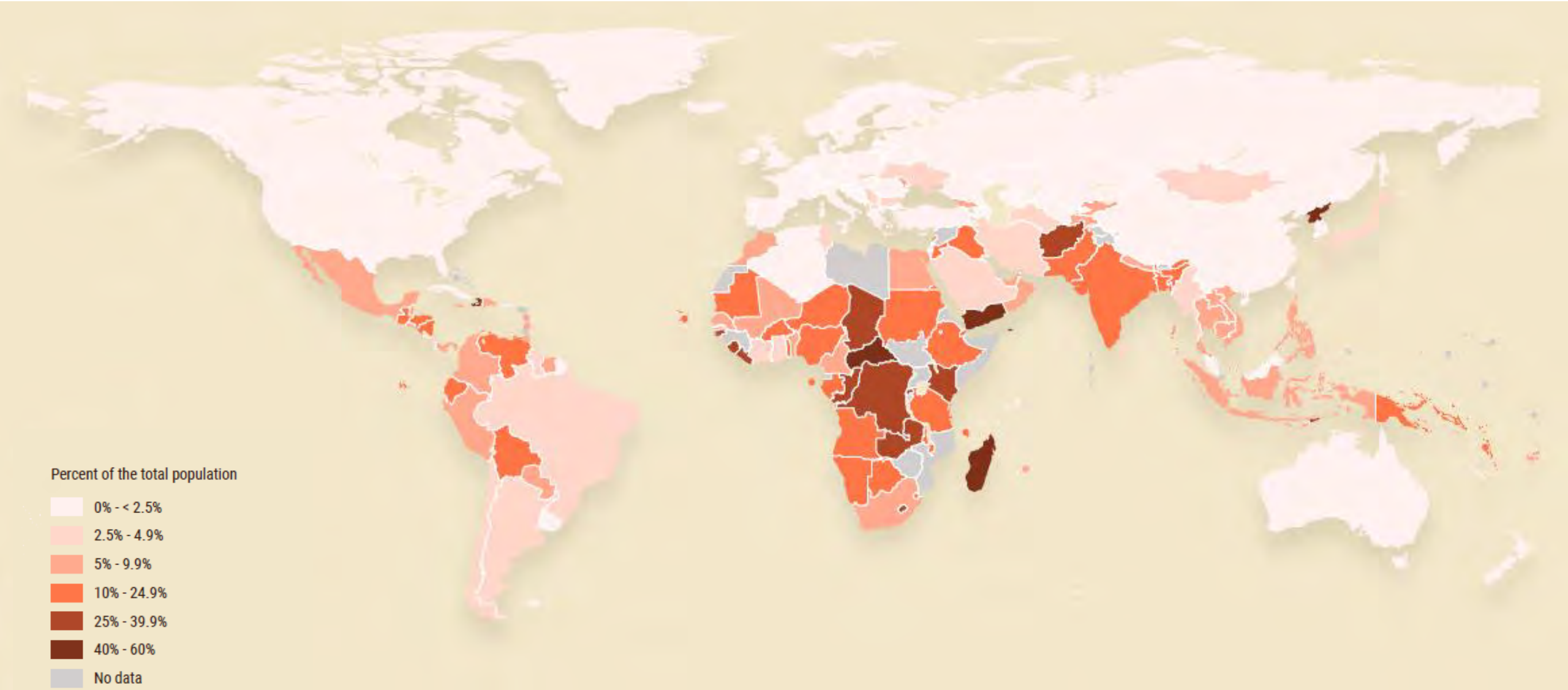
World Hunger, 2022



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Africa Phytosanitary Programme

Main Objectives:

Provide the NPPOs the capacity to **timely and effectively control plant pests** of regulatory, economic, and environmental significance.

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Africa Phytosanitary Programme

Main Objectives:

1. Provides **early detection of pests;**
2. Positions NPPOs and RPPOs:
   - to **prepare for**
   - **respond to** and
   - **recover from plant pests**.

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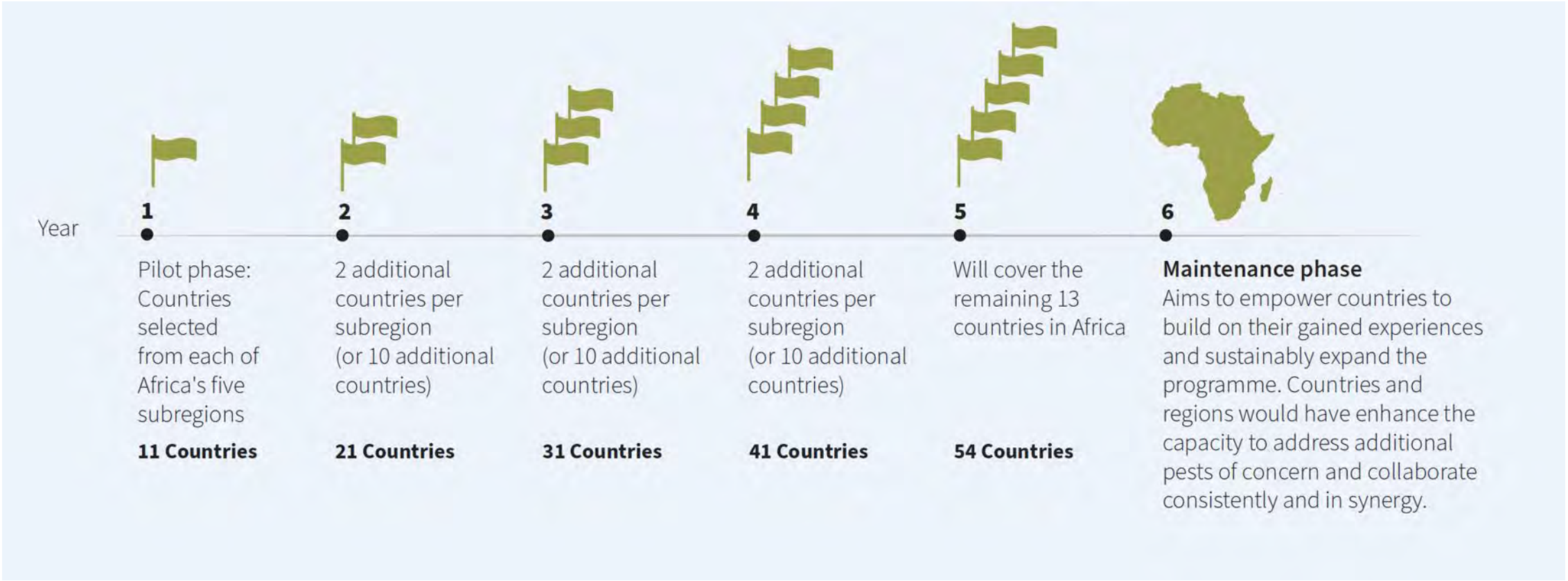
Africa Phytosanitary Programme

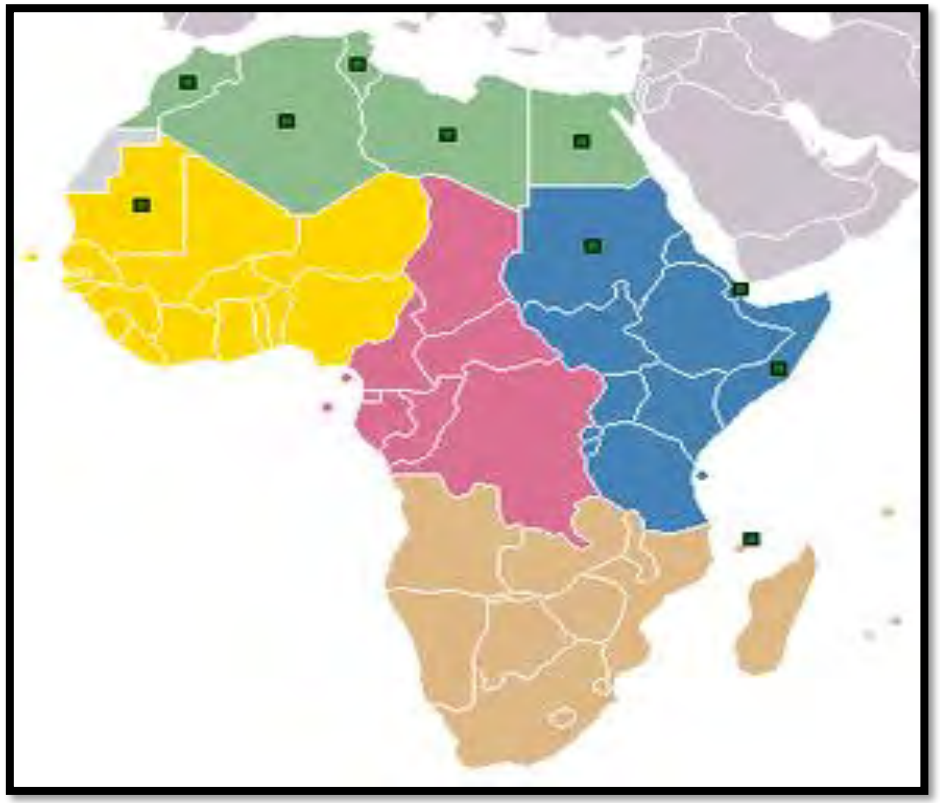
Short-term Objectives:

- Proactive **surveillance** of plant pests.
- Timely and adequate **pest identification and diagnostics**.
- Effective **pest data collection, storage**, and **analytics**.

Phased-in Approach



1. Pilot Countries Nomination Process



Africa's Sub-Regions

Participating countries (pilot phase)

- North Africa: **Egypt and Morocco**
- West Africa: **Guinea-Bissau, Mali, and Sierra Leone**
- Central Africa: **Cameroon and DRC**
- East Africa: **Kenya and Uganda**
- Southern Africa: **Zambia and Zimbabwe**

2. Pest Selection Process

- **Egypt**
- **Morocco**
- **Guinea-Bissau**
- **Mali**
- **Sierra Leone**
- **Cameroon**
- **DRC**
- **Kenya**
- **Uganda**
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1. **Peach (Guava) fruit fly**
2. **Xylella fastidiosa**
3. **Citrus Black Spot**
4. **Tomato brown rugose fruit virus (ToBRFV)**
5. **Fusarium wilt of banana**

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2. Pest Selection Process

- Egypt
- **Morocco**
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1. Red palm weevil
2. Xylella fastidiosa
3. Fall armyworm
4. Potato brown rot
5. Peach (Guava) fruit Fly

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2. Pest Selection Process

- Egypt
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1. **Cashew wood borer**
2. **Cashew wood saw**
3. **Fruit fly**
4. **Fall armyworm**
5. **Mealy bugs**

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2. Pest Selection Process

- Egypt
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1. **Fall Armyworm**
2. **Mango Fruit flies**
3. **Jassids (cotton leafhopper)**
4. **Grasshoppers**
5. **Citrus Canker**

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1. **Cocoa Mirids**
2. **Pepper veinal mottle virus**
3. **Fusarium Oxysporum**
4. **Fruit flies**
5. **Stem girdler**

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1. **Fall armyworm**
2. **Jassids (cotton leafhopper)**
3. **African apple tree moth**
4. ***Tuta absoluta***
5. **Banana bunchy top virus (BBTV)**

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1. Fall armyworm
2. Coffee wilt
3. Banana bunchy top virus (BBTV)
4. Cassava brown streak virus disease
5. Black pod disease of cocoa

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1. ***Fusarium oxysporum*** **Ttropical Race 4**
2. ***Banana bunchy top virus*** **(BBTV)**
3. **Fall armyworm**
4. **Maize lethal necrosis disease**
5. **False codling moth**

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1. **Banana bunchy top virus (BBTV)**
2. **Banana fusarium wilt (Tropical Race 4)**
3. ***Xylella fastidiosa***
4. **Fruit flies**
5. **Red palm weevil**

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1. **False codling moth**
2. **Cassava brown streak disease**
3. **Polyphagous shot-hole borer**
4. **Bacterial wilt**
5. **Citrus greening**

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1. **False codling moth**
2. **Citrus black spot**
3. **Citrus greening**
4. **Fruit flies**
5. ***Xylella fastidiosa***

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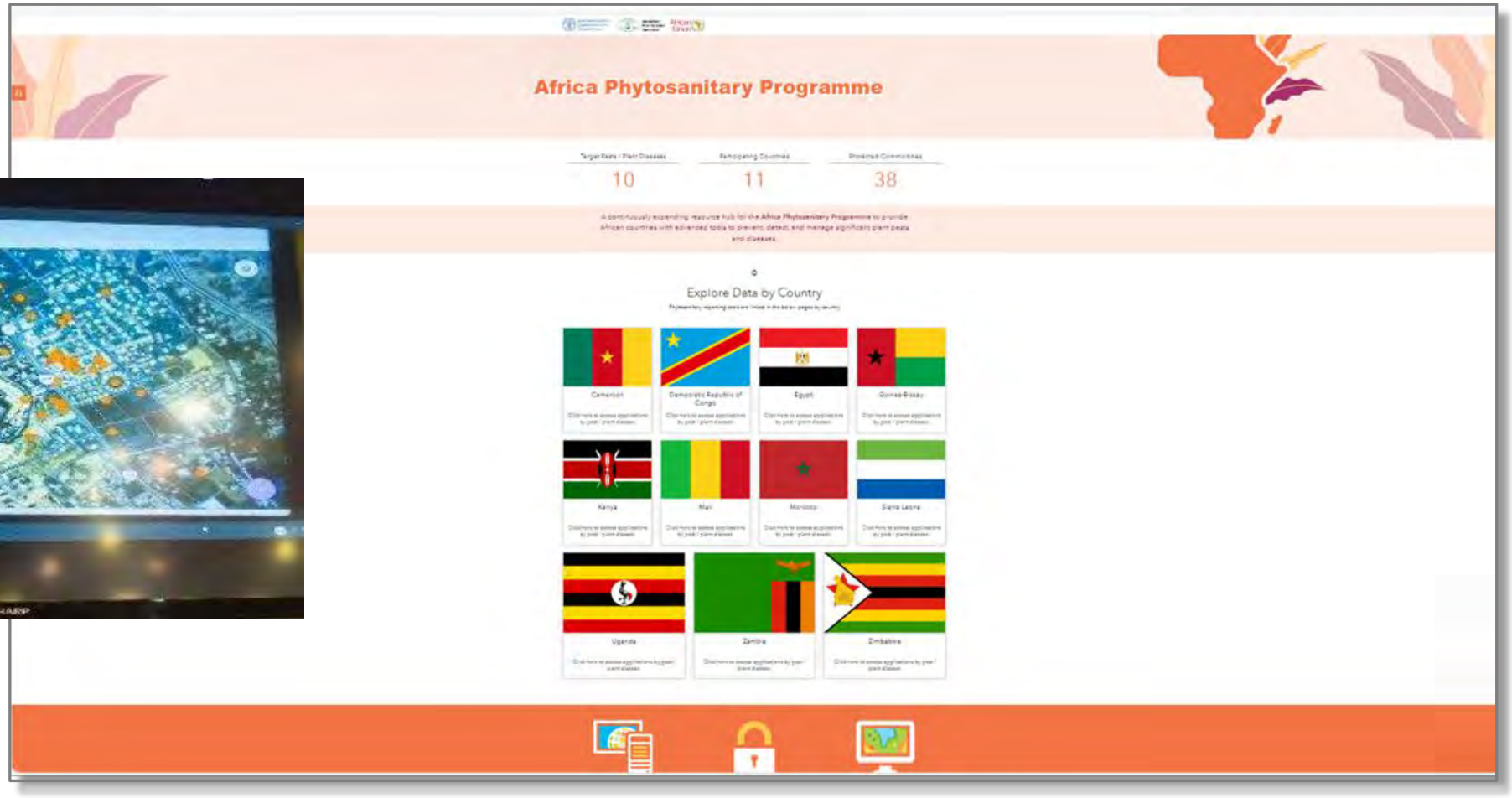
3. Survey Methodology and Protocol

- **Survey protocols** developed for each pest selected by pilot countries. Protocols are in Arabic, English, French, and Portuguese and used to guide survey technicians to utilize effective survey techniques.

4. Digital Application and GIS Hub



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IN ACTION: TRAIN-THE-TRAINER WORKSHOP (Pilot phase)

25-29 September 2023, Cairo, Egypt

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IN ACTION: TRAIN-THE-TRAINER WORKSHOP (Pilot phase)

25-29 September 2023, Cairo, Egypt

1. Classroom Lectures

Survey and identification / diagnostic protocols

Survey Guidance for *Babuvirus Banana bunchy top virus*

Scientific Name
Babuvirus Banana bunchy top virus (BBTV)

Common Name
Bunchy top of banana

Type of Pest
Virus

Taxonomic Position
Class: Arfiviricetes, **Order:** Mulpavirales, **Family:** Nanoviridae

Known Hosts
Musa spp. (banana), including *M. acuminata*, *M. textilis*, and *M. x paradisiaca* (syn. *M. paradisiaca*)

Associated Organism
This virus is vectored by the banana aphid, *Pentalonia nigronervosa*, which is present in Africa.

Figure 1. Young banana plant infected with BBTV exhibiting symptoms of erect, bunched, yellow leaves. (Image courtesy of College of Tropical Agricultural and Human Resources, University of Hawai`i at Manoa)

Survey Protocol

Time of year to survey
Survey can occur whenever leaves are present, but for visual inspection young leaves are more likely to express symptoms of the disease.

Survey Site Selection
Survey where banana occurs. This may include commercial production sites, landscaped areas, or natural areas with wild banana plants.

Visual Survey
Inspect plants for symptomatic foliage. Young leaves are more likely to express symptoms of the disease. Presence of the aphid vector *Pentalonia nigronervosa* (Fig. 6) may be an indication that the pathogen could be present.

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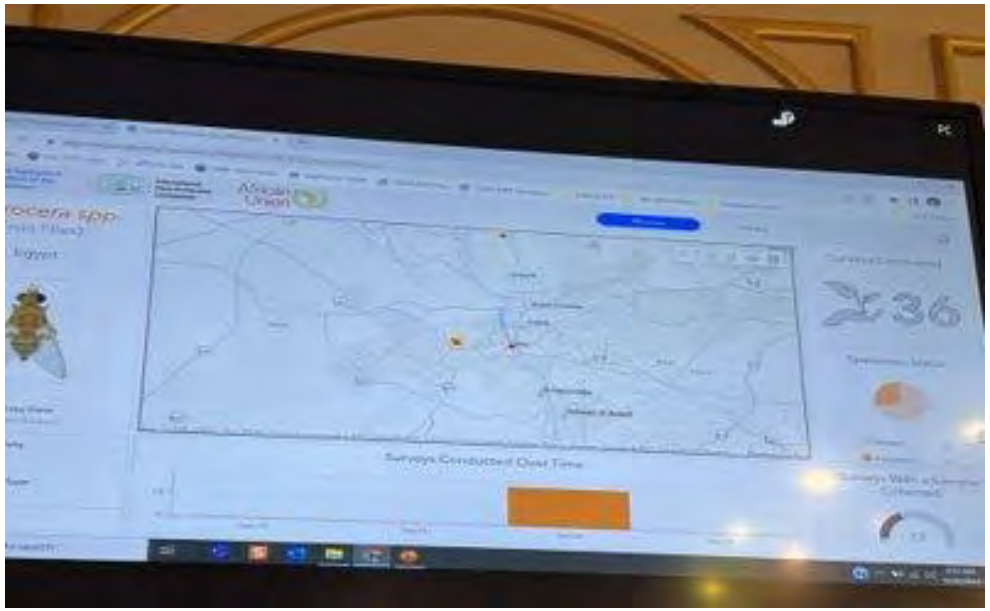
1. Classroom Lectures

Data Management



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IN ACTION: TRAIN-THE-TRAINER WORKSHOP (Pilot phase)

25-29 September 2023, Cairo, Egypt

2. Classroom Hands-on Training

Data Management

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IN ACTION: TRAIN-THE-TRAINER WORKSHOP (Pilot phase)

25-29 September 2023, Cairo, Egypt

3. Table-top Field Exercises

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IN ACTION: TRAIN-THE-TRAINER WORKSHOP (Pilot phase)

25-29 September 2023, Cairo, Egypt

3. Full-Scale Field Exercises

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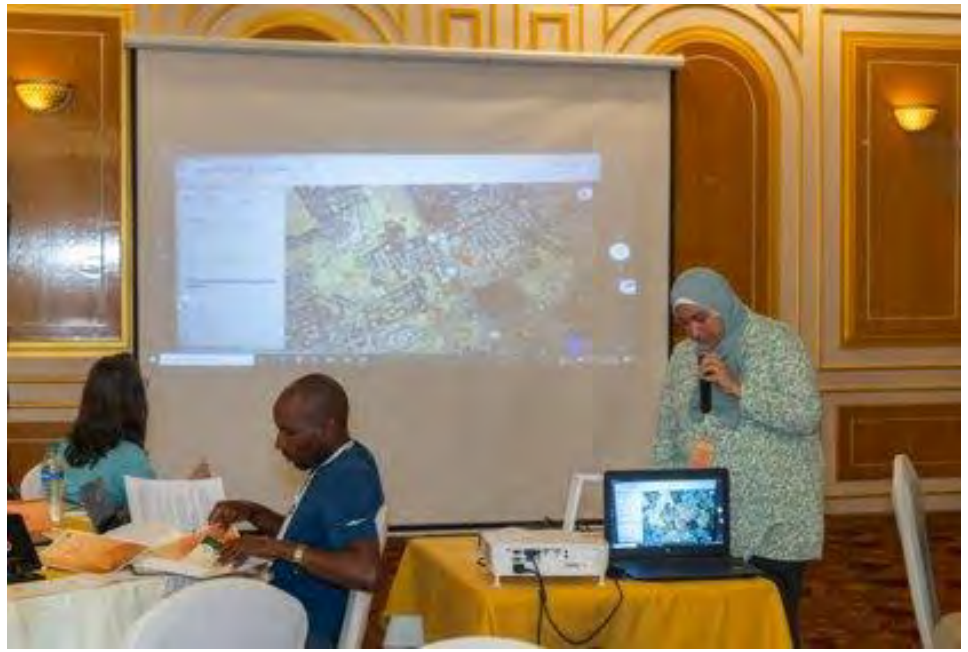
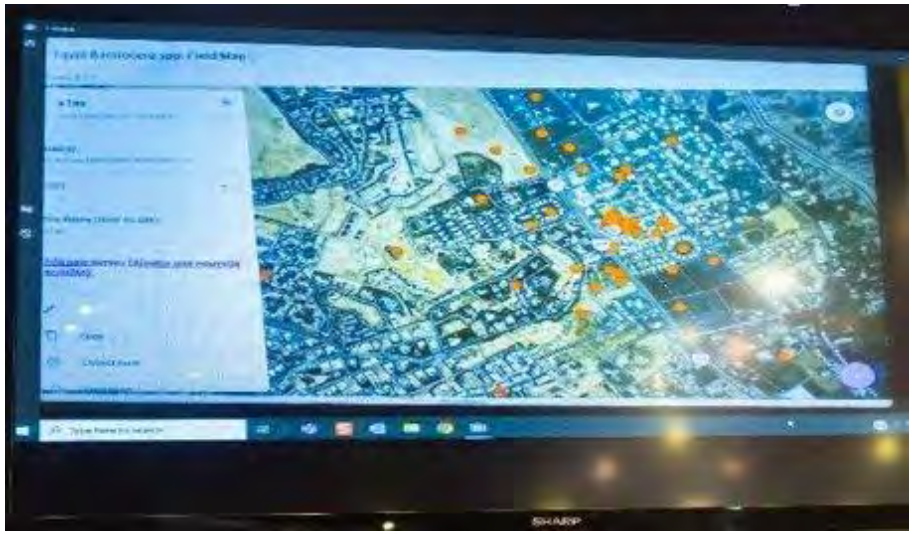
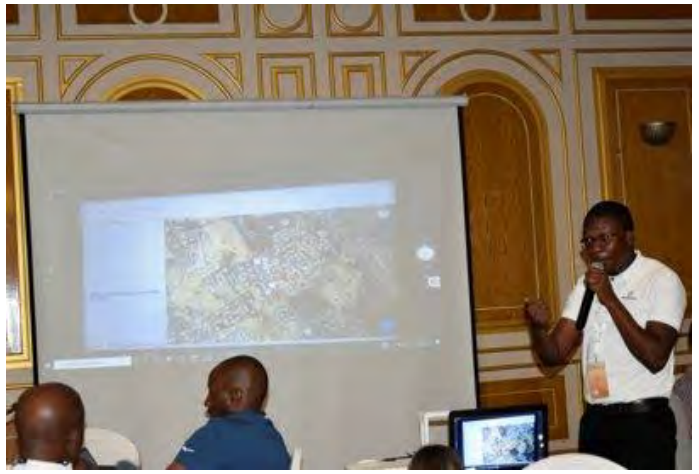
IN ACTION: TRAIN-THE-TRAINER WORKSHOP (Pilot phase)

25-29 September 2023, Cairo, Egypt

4. Demonstration







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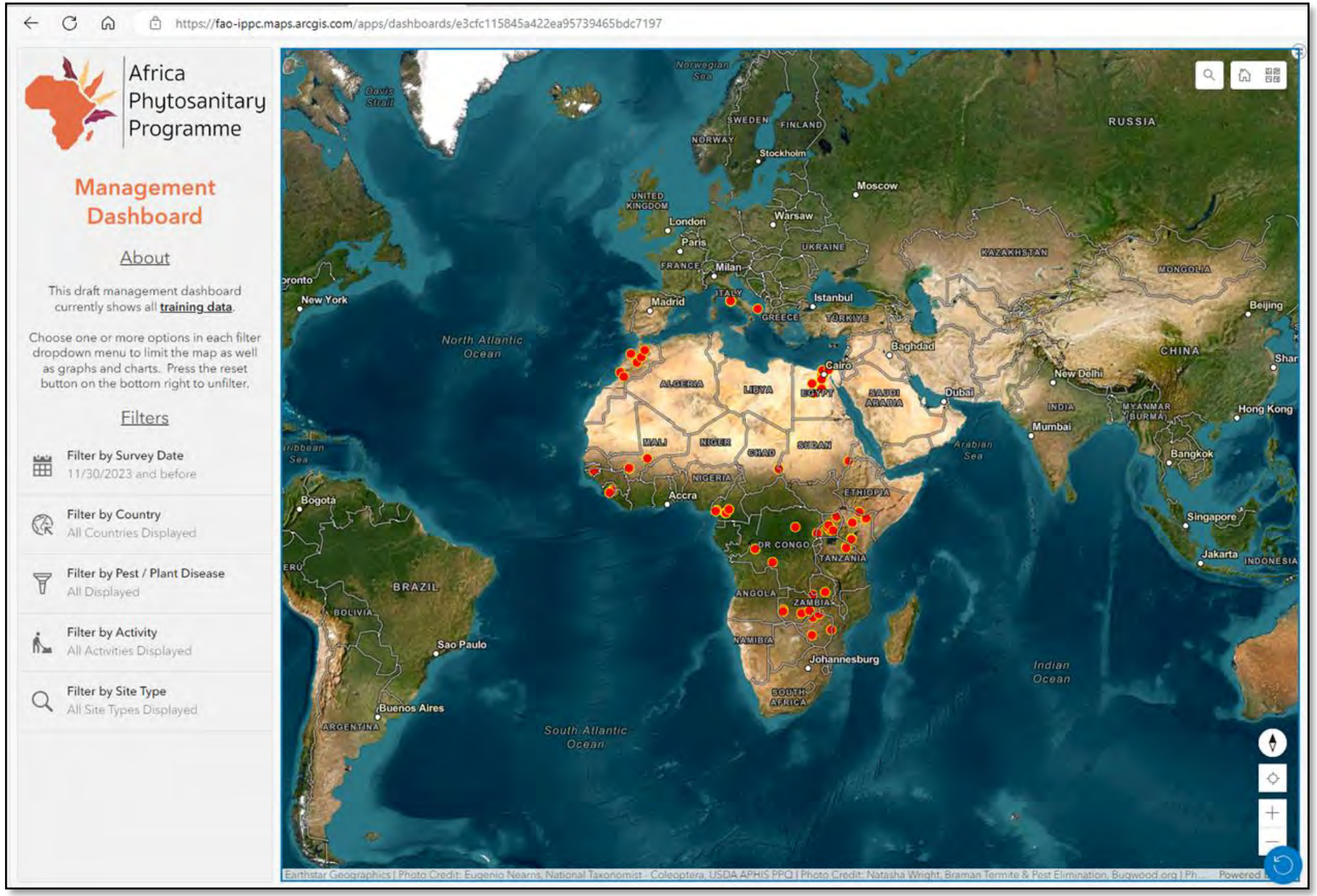
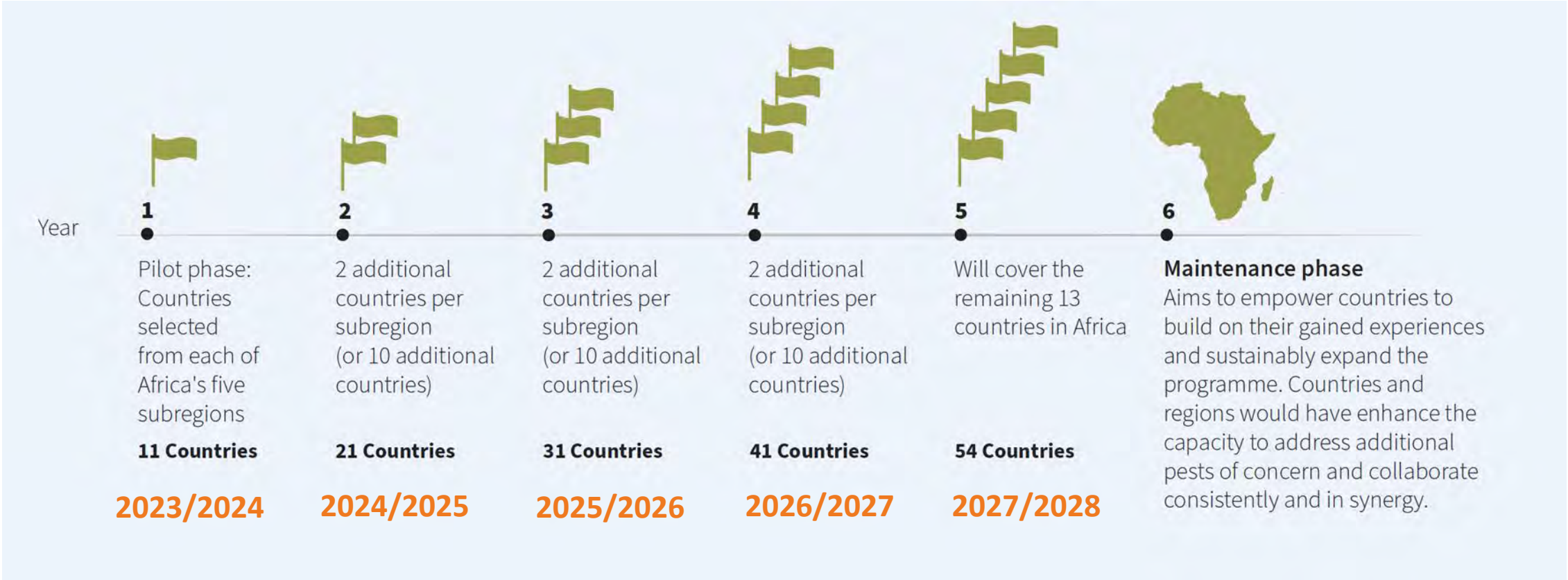


NEXT STEPS – FUTURE PLAN



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CPM 18

Thank you

IPPC Secretariat

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