Food and Agriculture Organization of the United Nations

Joining hands in a Global Action on Plant Health

A proposal

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- 1st report in Solomon Islands in September 2021
- Sub-regional TCP for FAW prevention, preparedness and management
- Routine trapping and diagnostics

September 2021

September 2022

>3000 km

Image: mediawiki

- Survey for natural enemies of FAW in three locations at Qena and Sohag Governorates.
- **Egg parasitoid *(Telenomus remus) found** in Egyptian fields*

Telenomus remus

Chelonus curvimaculatus

Trichogramma sp.

Up to 30% parasitism of eggs in the field

Charops sp

Coccygidium luteum

Cotesia icipe

Palexorista zonata

Up to 45% parasitism of larvae in the field

Images: icipe

- 1st encounter with FAW in 2017
- Tried ash and soil mix, inconsistent results
- Participatory Technology Validation with FFS
- Land on botanicals

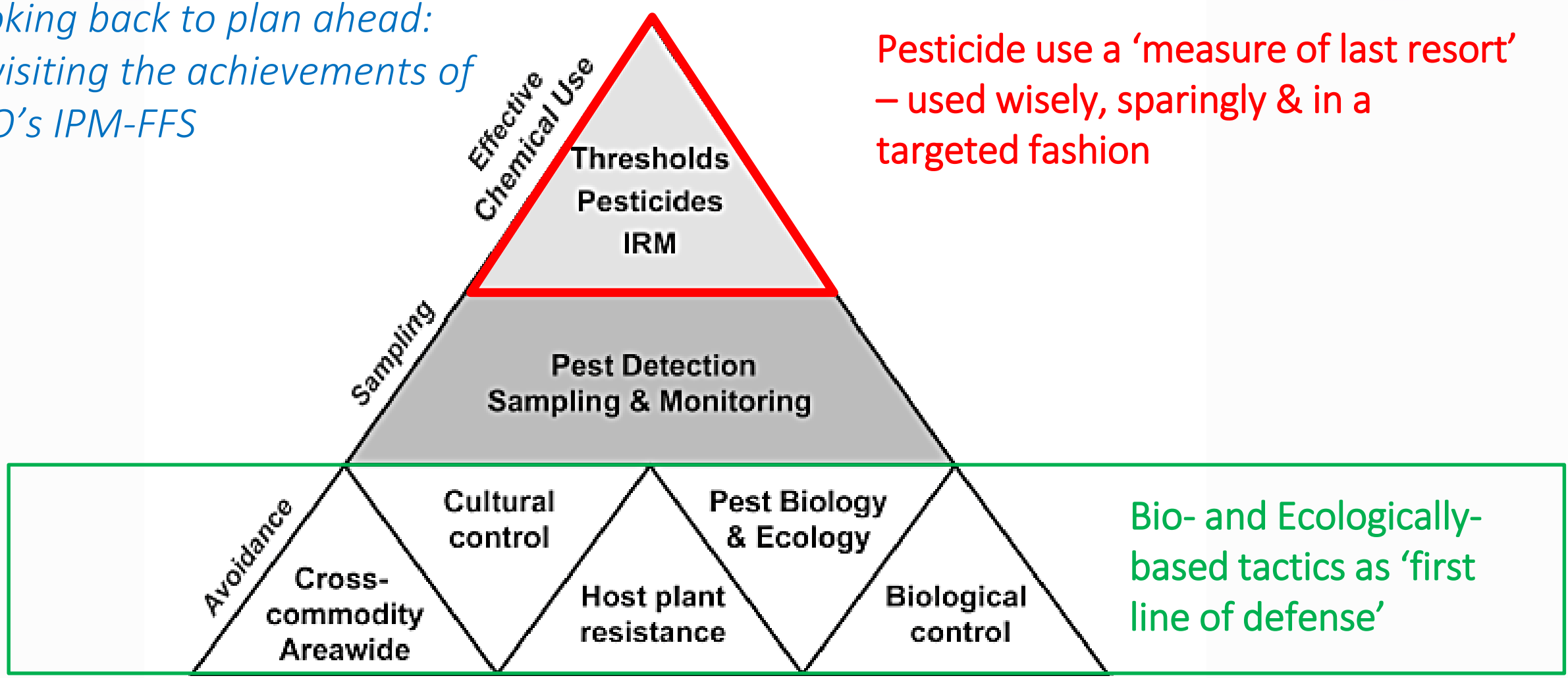
Lessons learned from the GA for FAW Control

- **Open data/ Information sharing** allows for **timely prevention and preparedness** action
- **Open dialogue within the global technical community** allows for **a quick inventory of sustainable interventions**
- **Empowering national research agencies** and **pairing them up with global/ regional research agencies** allows for **strengthening national capacities** in **identifying solutions that work locally.**
- **Participatory technology development and evaluation** with farmers allows for behavioural change and **adoption of sustainable practices**
- To scale up adoption, **supporting policy ecosystem** need to be created.

Lifting our eyes to the bigger picture: Biological Invasion in Agriculture

- ***Plant diseases, animal pests and weeds reduce crop yields by a respective 16%, 18% and 34%***
  - Invasive insect pests alone cost the global economy **US $70 billion/year.** Pest-induced losses exacerbated in food-deficit regions with fast-growing populations
  - Under climate change, **up to 66% of tropical pests projected to become matters of global concern**
- ***Chemical control prevails – especially in Asia and Latin America***
  - Since 2000, pesticide usage increased **900% in Argentina's Paraná basin** or **50-fold in Indonesia**
  - Per year, **44% of the world's farmers experience pesticide poisoning**
  - **Over-reliance on pesticides** negatively affects on-farm biodiversity, ecosystem services, farmers' income and human health

Looking back to plan ahead: Revisiting the achievements of FAO's IPM-FFS



Pesticide use a 'measure of last resort' – used wisely, sparingly & in a targeted fashion

Bio- and Ecologically-based tactics as 'first line of defense'

Naranjo, 2011

Looking back to plan ahead: Revisiting the achievements of FAO's IPM-FFS

- ***FAO's IPM Farmer Field Schools trained millions of farmers during 1980-90s***
  - Boosted farmers' agro-ecological knowledge and innovativeness
  - **Cut pesticide use by an average of 23%** (minus 82-92% in Vietnam or Bangladesh rice; minus 78% in India cotton)
  - **Enhanced crop yields by 13%** & **farmers' net revenue by 19%**
  - **Lowered agriculture's environmental footprint by 39%**
- ***IPM remains globally valid and relevant***
  - In US corn systems, **IPM reduces pesticide use by 95%** while **augmenting yield by 26%** (2021 data)
  - Bolsters **pollinator activity by 129%**, restores soil health and enhances crop yield resilience under climatic upheaval

Waddington et al., 2011; Van den Bergh & Jiggins, 2007
Pecenka et al., 2021

Proposed Transition towards a Global Action on Plant Health (GAPH)

Solution Development

- **Global monitoring and early warning systems** for priority pests / pathogens
- Weave a sustainable network for **phytosanitary research and diagnostics**
- Multi-country **'living laboratories' and research incubators** on IPM

Policy and supporting environment

- **Policy design, pilot and implementation** on emergency response, crop protection product registration, and extension systems
- **Multi-stakeholder hubs** to identify and scale up solutions for large scale adoption of sustainable practices

Knowledge exchange and scaling out

- **Inter-continental information exchange**
- **Regional** information exchange fora
- **Modernized (digitally-enhanced) FFS**

Global Action on Plant Health (GAPH): Program Aims

- ***Protect*** *crop from losses due to biotic stressors, thus conserving food / nutrition security, and farmers' revenue base*
- ***Raise*** *the global uptake of bio- and ecologically-based solutions by 30%,*
- *Reduce usage and toxicity loading of chemical pesticides, especially highly hazardous pesticides, by 25%*

Global Action on Plant Health (GAPH): Strategy

- ***USD 20 million over 5 years, 4 target regions***
- ***Identify*** *priority invasive pests and pathogens/ crops for each region in collaboration with countries and FAO regional offices*
- ***Create synergy*** *with ongoing global initiatives on plant health*
- ***Concentrate*** *field efforts in select hub countries with regular regional and global info sharing fora*
- ***Embed*** *plant health as an inherent element of One health approach and initiatives*

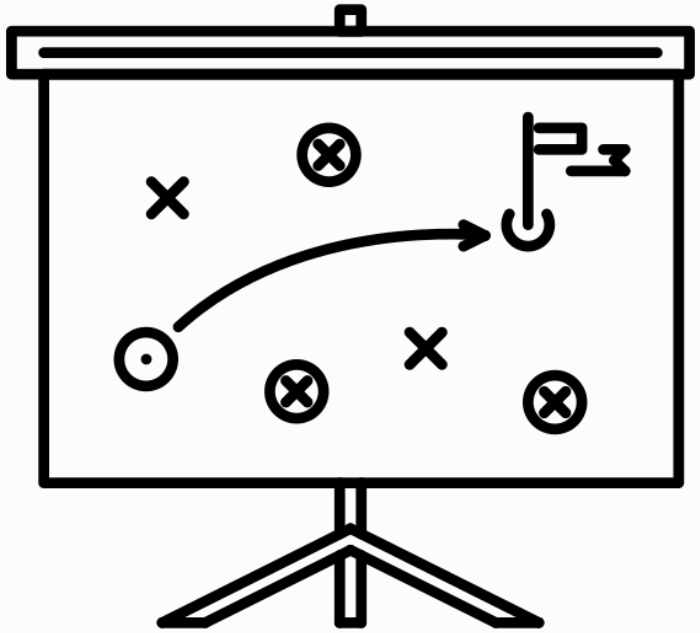


Image: Lastpark, noun project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Thank you

Contact Us

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