



# FAW-IPM

Africa-specific, science-led, sustainable and integrated management of the fall armyworm



## Tanzania Experience on FAW & IPM-FAW Project implementation

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# Introduction

- In Tanzania Fall Armyworm (*Spodoptera frugiperda*) was firstly seen in 2017 in different regions (*Rukwa, Kagera, Coast, Geita, Simiyu, Mwanza, Njombe, Morogoro and Kilimanjaro*)
- The pest is now reported in all 26 regions in Tanzania-mainland.
- Results from survey conducted early 2018 showed that almost 34,000 ha. were infested by FAW (*high infestation was on maize*).

# Introduction

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26 regions of Tanzania mainland—attached  
by FAW



FAW attack on maize

# Management practices against FAW that have been used by farmers.

- Several strategies were used by farmers with little success, they include:
  - i) Soil dust and sand** (applied on plant leaves and maize funnel) - *no significant results*
  - ii) Ash** (applied on plant leaves and stems) – *no significant results*
  - iii) Soap forms** – *the pest showed resistance to soap forms.*
  - iv) Pesticides** - *expensive & hazardous to human health, environment and beneficial insects.*
    - *Most of them were meant for other pests*

# Efforts made by Tanzania Institutions

- TPRI- *developed a guide called FAW Symptomatic Spray Scheme (FAW-SSS) and some bio-pesticides*
- TARI-Makutupora (WEMA project)-*developed transgenic maize-resistant to FAW (still under discussion)*
- TARI-Ukiriguru *-In collaboration with ICIPE and other Stakeholders-disseminated PPT in the country (they are now disseminating FAW-IPM technologies)*





**Farmers in Sengerema district-Tanzania  
explaining to scientists efficiency of PPT  
in maize field.**



# FAW-IPM Project in Tanzania.

- In Tanzania the Project started early January, 2020.
- Contribution made- to the project outputs during the period:

## **1) Trainings:** Training of trainers (TOTs)

➤ 92 trainees from:

- i) Mwanza (Misungwi, Ilemera, Sengerema, Magu, Kwimba and Ukerewe district),
- ii) Geita (Geita rural and Bukombe districts),
- iii) Mara (Bunda, Musoma rural, Musoma municipality, Butiama, Tarime and Rorya districts).
- iv) Others: NGOs and Religions (Emmanuel International, TAHUCHA, MFEC, ELCT and AICT)

**Table 1: Number of trainees by gender**

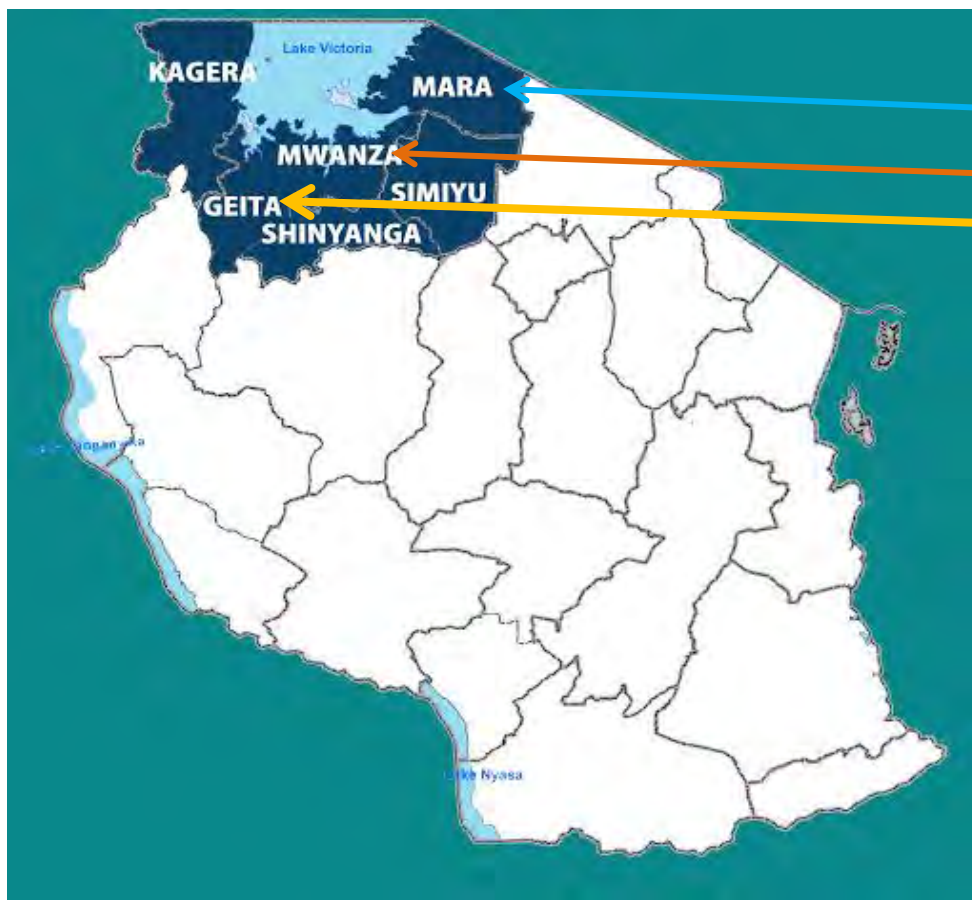
Region	Female	Male	Total
Mwanza	12	31	43
Geita	8	12	20
Mara (Musoma)	8	21	29
<b>Grand Total</b>	<b>28</b>	<b>64</b>	<b>92</b>

**Table 2: Average number of people attended informal meetings**

Region	Female	Male	Total
Mwanza	139	222	361
Geita	47	90	137
Mara (Musoma)	153	225	378
<b>Grand Total</b>	<b>339</b>	<b>537</b>	<b>876</b>



# Regions involved in FAW-IPM Project



- Regions where ToTs were conducted
- Are project implementers

# Training sessions



## ToTs at TARI-Ukiriguru (Mwanza)







**ToTs at TAHUCHA – Geita region**



**ToTs at AICT- Mara (Musoma)**



**GP1-Mwanza**

**GP2-Geita**

**GP3-Mara (Musoma)**

## 2. Field work

RCBD design was used to layout the field.

❑ 3 main fields (mother fields 'MF') with 9 randomized IPM technologies were planted in 3 replications

- *(considered as region's field i.e. 1 field/region).*

❑ In each region they were placed at one selected institution

➤ for easy monitoring and precise data collection

➤ It was a good venue for people from different places who are coming at the institute to visit the field and see IPM tech. (dissemination pathway)

➤ For farmer assessment, field days, teaching (college and university students).

■ Institutions involved: TARI Ukiriguru-Mwanza,  
TAHUCHA-Geita and AICT-Musoma)



# Field work

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❑ 12 fields at district level (1 rep./district)

➤ No. of 'MF' at district level = 12 dist./3 rep. = 4

❑ 216 at individual farmer level (1 technology/farmer)

➤ No. of reps = 216 fields/9 tech. = 24

Thus: MF at farmer level = 24 reps/3 reps = 8

## Field layout

Rep I	Maize + Cowpea var Tuamini	Maize + Cowpea var Raha1	Maize + Greengram var Nuru	Maize + Greengram var Imara	Biopesticide Real Thuringiensis	Neem Extract	Rabbit Urine	Control
Rep II	Biopesticide Real Thuringiensis	Maize + Cowpea var Tuamini	Maize + Greengram var Nuru	Maize + Greengram var Imara	Maize + Cowpea var Raha1	Cotnrol	Rabbit Urine	Neem Extract
Rep III	Neem Extract	Rabbit Urine	Control	Maize + Greengram var Imara	Biopesticide Real Thuringiensis	Maize + Cowpea var Raha1	Maize + Cowpea var Tuamini	Maize + Greengram var Nuru

## Tentative results

- ❑ Prior results indicated that there were significant differences on FAW damage among technologies.
- ❖ Plots under Push pull, Rabbit urine and Bio-pesticide (*Real Thuringiensis*) were less infested.



# Challenges encountered

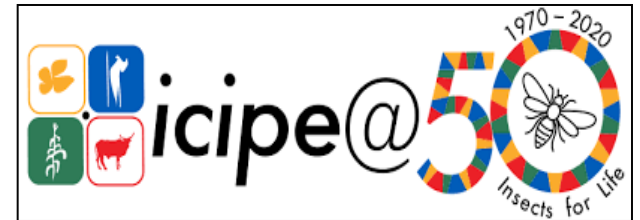
1	<b>Occurrence of Covid 19</b> ➤ Resulted to postponement of some meetings and activities (farmer assessment, field days and backstopping by ICIPE).
2	<b>Lack of Desmodium seed.</b> ➤ Large number of farmers wanted for PPT.
3	<b>High cost of bio-pesticide (Real thuringiensis)</b> ➤ About 20 USD/liter (Application rate: 2 liter/ha)
4	<b>Unknown application rates of organic pesticides and frequency of application</b> ➤ The application rates and frequency were not known (Rabbit urine and Neem extract).
5	<b>Effect of Maize legume intercrop</b> ➤ Effectiveness of Maize legume intercrop against FAW was very low (there were no significant difference on FAW damage between maize intercrop and the control (maize mono-crop)).



# Conclusion

- Since most of the industrial insecticides are:
  - ✓ not effective
  - ✓ hazardous to human being, environment and beneficial insects
- Introduction of locally available organic pesticides, bio-pesticides and IPM technologies need to be emphasized to our farmers.
- It is our expectation that number of farmers that will be involved in the coming season will increase.
- Push-pull, Rabbit urine, bio-pesticide reported by farmers to be more effective (study is needed on Rabbit urine)

# Acknowledgements





**Thank you**