

# Introduction



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# Content of presentation



- Overview of Mauritius
- Agriculture in Mauritius
- Role of Food and Agricultural Research and Extension Institute (FAREI)
- Development Action Plan
- References
- Acknowledgement



Arctic

North  
America

Atlantic

Europe

Asia

Pacific

South  
America

Africa

Indian

Oceania

Australia

Pacific

Southern

Antarctica

**Mauritius**



worldatlas



# Overview



- **Small tropical volcanic island in the Indian Ocean(1,962 km<sup>2</sup>)**
- **Exclusive Economic Zone 1.9 million km<sup>2</sup> and a population estimated at 1.26 million**
- **Official languages: English & French**
- **Origin of people: Africa, Asia (India & China) and Europe**
- **Diversified Economy (Agriculture,IT,Tourism,Manufacturing & Services)**

# Weather in Mauritius



- **Two seasons – Summer & Winter**
- **Summer-warm and humid extending from November to April**
- **Winter-relatively cool and dry extending from June to September**
- **Mean summer temperature is 24.7 °C**
- **Mean winter temperature is 20.4 °C**
- **Rainfall**
- **Mean summer is 1344 mm**
- **Mean winter is 606 mm**



# Land under Agricultural Production



**Sugar cane**  
**52,387**  
**hectares**



**Tea**  
**574**  
**hectares**



**Food crops**  
**8,137**  
**hectares**

# About my organisation- FAREI



- Parastatal body found under the aegis of the Ministry of Agro-Industry and Food Security
- Mandated to carry out research in the non foodcrops sector – vegetables, ornamentals, fruits and livestock.
- Training of farmers



# Duties of an Extension Officer



- Advise, Assist and Train the farmers
- To develop extension programmes to find solution to farmer problems and

To carry out

- Field visits
- Group meetings
- Training courses
- Field demonstrations
- Conducted tours
- Technology review meetings





# Topics of interest from module 1



IPM for vegetable crops



Vegetable Grafting



Judicious Pesticides Use

# Development Action Plan



- Integrated Management of Thrips tabaci and the safe disposal of empty pesticides containers among vegetable growers in the South-Eastern coastal region in Mauritius

# Import and use of pesticides in Mauritius



- For the past ten years the average annual importation of pesticides is **22,000 tonnes**.
- Pesticides include:  
insecticides, fungicides, herbicides, acaricides, rodenticides and molluscides.

# Factors influencing high pesticides use



Climate



Consumer preference for good quality produce



Lack of information on product



Pest resistance to pesticides



No restrictions pesticides purchase



Cheaper generic products



# Problem Justification-Current situation



- Around 120 small vegetable growers in the South Eastern coastal areas
- Three small coastal villages- Bambous Virieux, Petit Sable and Grand Sable
- Cultivations of shallots, onion, eggplant and chilli whole year round in small plots near the sea for more than 30 years
- Thrips tabaci is the common pest of the crops affecting the yield and market value of the crops



**Intensive use** of chemical pesticides to control the pest is common among the growers

# Current pest situation



- Severe thrips tabaci damage on eggplant, shallots and chilli
- Reduced farmer income

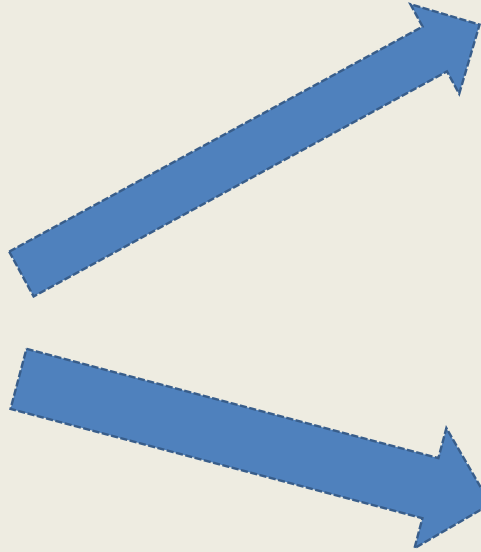




# Current situation



Water from small basin in farmer field near the sea



# Improper disposal of empty pesticides containers



In field borders



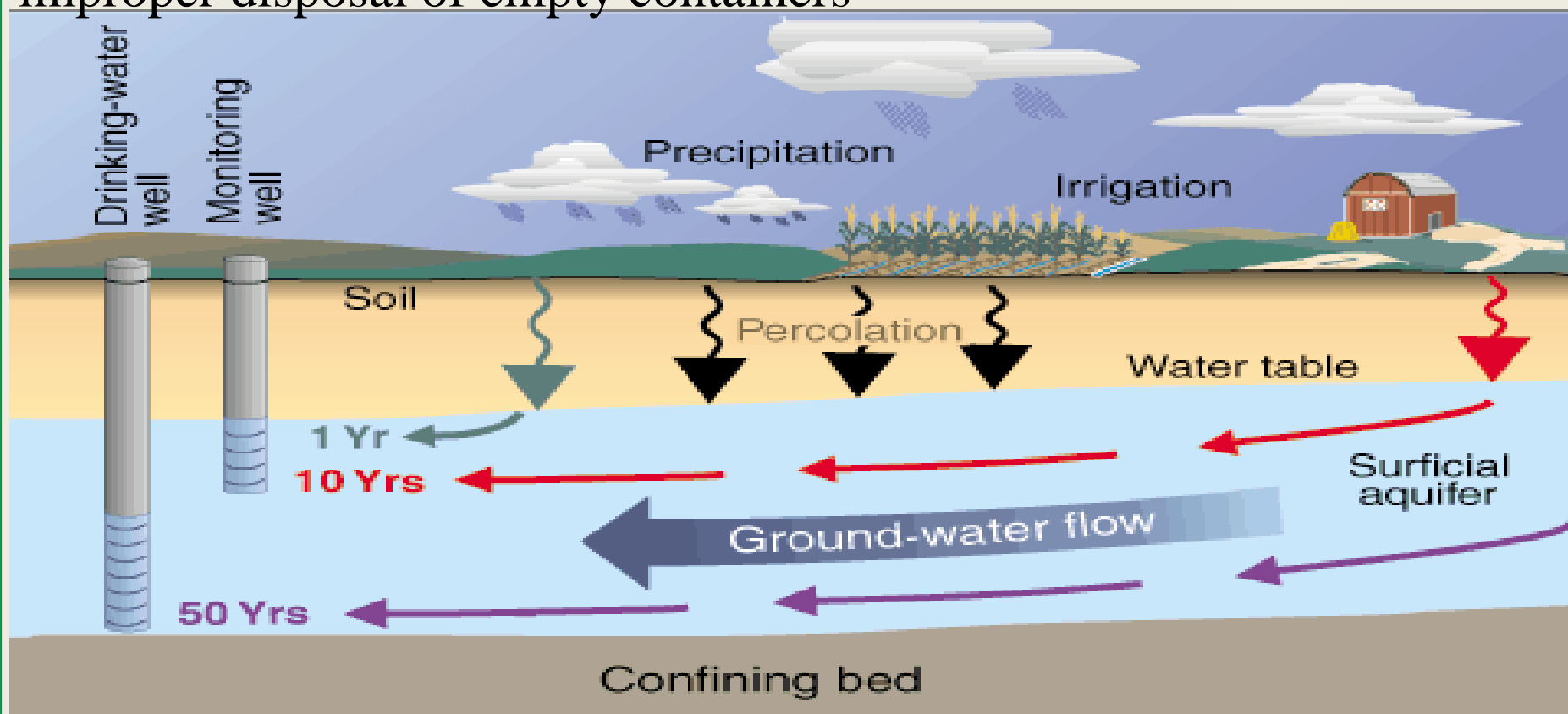
Near water basin in the field



# Ground water contamination by pesticides



Pesticides can reach water-bearing aquifers below ground from improper disposal of empty containers



# Impact on biodiversity



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- Impact on aquatic life
- Significant decrease of mangroves trees, crabs and sea shrimps in these localities over the last five years due to pesticides misuse



# Effect of pesticides on beneficial insects



Significant decrease in seeds yield of local onion variety due to low bees population



Low population of natural predators cause rapid build up of pest population



# Objectives



- Train farmers and sprayermen on the integrated management of thrips tabaci
- Train farmers and sprayermen on the safe and proper disposal of empty pesticides containers



# Implementation of the Action Plan



- How will be involved?



# Implementation of the training



How?

- Participatory survey
- Training sessions

What activities?

- Lectures
- Group discussions
- Field demonstrations

In area community centre

In planters fields

When?

In 2018 – 2019

Resources required?

Trainer, training hall, demonstration plots, sprayers, pesticides

# Challenges



- To convince the elder farmers on the importance of IPM
- To change the practice of empty pesticides container disposal among the vegetable growers

# Integrated control of thrips



- Physical methods- Exclusion



Eggplant seedlings grown under small net-tunnels to prevent insect infestation



Traps for the monitoring of pest population



# Cultural control



Healthy seedlings



Crop rotation



Sanitation of infected plants and fruits



Tillage

## A close-up, black and white photograph of a hellgramite (millipede) resting on a green leaf. The millipede is elongated and segmented, with many pairs of small legs. It is positioned horizontally, facing left. The leaf has prominent veins and some small, light-colored spots or damage. The background is slightly blurred, showing more of the leaf and some small, light-colored debris.

A close-up photograph of two ladybugs mating on a green leaf. The ladybug on the left is a red variety with black spots, while the one on the right is a black variety with white spots. They are positioned side-by-side, facing each other, with their abdomens touching. The leaf is green with visible veins and some small yellowish spots.

## Parasitoids *Bacillus thuringiensis*



# Biopesticides



- Use of recommended biopesticides for thrips control





# Chemical control-synthetic pesticides



Reading of label



Preparing the right volume of mix



Choosing the right spray nozzle



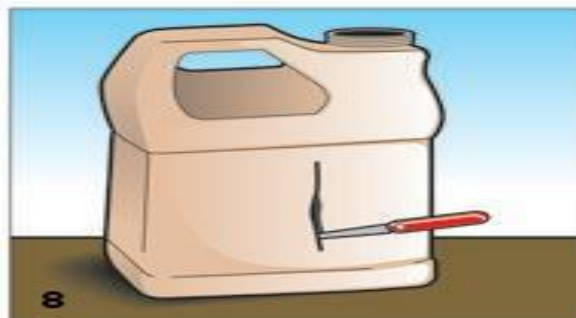
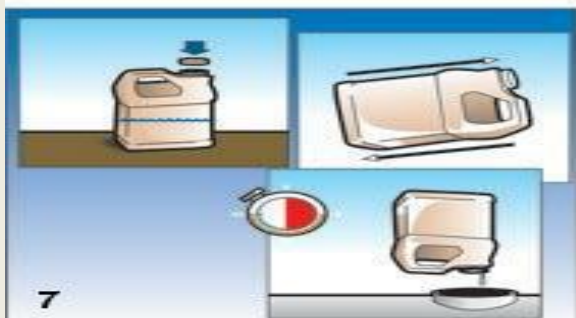
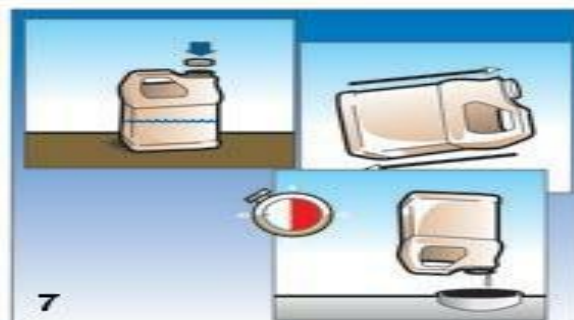
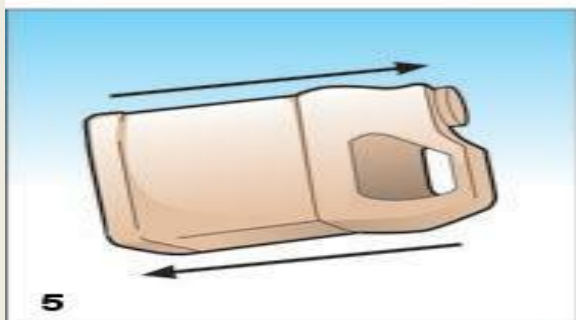
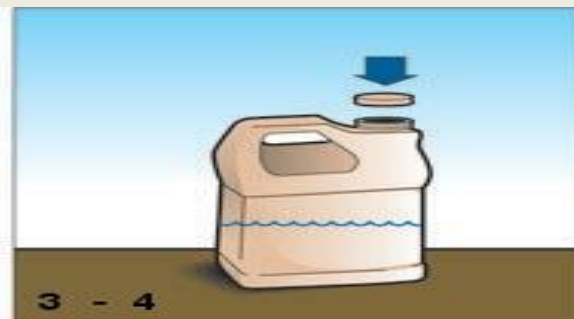
Spraying during good weather

# Triple Rinsing of empty containers





# Safe Disposal of empty pesticides containers



# Expected outcome



- Adoption of IPM by vegetable growers for the control of thrips in eggplant, chilli, shallots and onion
- Responsible use of pesticides among vegetable growers and sprayermen
- Proper disposal of empty pesticides containers
- Improvement in the flora and fauna

# References



- Strategic options in Crop diversification and Livestock sector (2007-2015) Ministry of Agro Industry and Food Security
- Food security Fund Strategic Plan 2013-2015 Ministry of Agro Industry and Food Security
- Digest of Agricultural statistics 2015, Ministry of Finance & Economic Development, Statistics Mauritius
- <http://www.fao.org>
- <http://www.irac-online.org>
- <http://www.dropdata.org>

# Acknowledgements



- Government of Thailand
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- Management of FAREI



**THANK YOU FOR YOUR ATTENTION**



# Sightseeing places in Mauritius

