



SOMALI NATURAL RECOURSES RESEARCH CENTER

**VIRTUAL TRAINING REPORT ON INTEGRATED PEST
MANAGEMENT**

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August and September, 2021 Mogadishu, Somalia

Integrated Pest Management

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**THURSDAY
8:00-9:30PM**

TOPICS:

1. legislation Legal Control
2. Plant Quarantine
3. Biological Control
4. Microbial Control
5. Genetic Control
6. Cultural Control

Capacity Building Training for Integrated Pest Management

Executive summary

The last three decades Somalia faced improper management of importing confessional pesticides, consequence of that led many pesticides which banned internationally to enter the country, and then primary pests became resistance moreover a large number of farm workers suffering from the side effect of synthetic pesticides due to improper use of pesticides. The general objectives of training were capacity building of Integrated Pest Management by practicing elements of IPM such as; Biological control, Cultural control, Legislation, plant quarantine, and genetic control.

Ten hours for five days training workshop on capacity building for different students from seven universities were done in Mogadishu. The training was conducted by Somali Natural resources Research Center SONRREC, the numbers of participants were 45 students. The results revealed that trainees get sufficient knowledge that integrated pest management is significance for sustainable agricultural development. The participants understood how to use parasitoids, predators and pathogens for the regulation of pest population densities. The applicants gained essential evidence about cultural control is the practice of modifying the growing environment to reduce the prevalence of unwanted pests. They learned how Genetic control usually works in reproductive sterility for male of the insect pest. The participants recognized Legislation Legal Control and plant quarantine are first line of plant protection. As specified in the results, it has been suggested that the training should be extended to other students in the different states, Somalia.

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1. INTRODUCTION

Integrated pest management IPM has come to be essential parts of sustainable agriculture development. It can play a key role in reducing of crop losses, by this means growing productivity, decreasing environmental pollution and health dangers. The last three decades Somalia faced improper management of importing confessional pesticides, consequence of that leaded many pesticides which banned internationally to enter the country, and then primary pests became resistance moreover a large number of farm workers suffering from the side effect of synthetic pesticides due to improper use of pesticides

Due to that situation SONRREC planned to establish short and long term capacity building for integrated Pest Management in Somalia.

1.1. Objectives of the training

The general objectives of training were capacity building of Integrated Pest Management to the students from seven different universities with the following specific objective

- ✓ To get sufficient knowledge and practice on integrated pest management and its significance for sustainable agricultural development.
- ✓ To understand Legislation Legal Control and plant quarantine are first line of plant protection.
- ✓ To gain essential evidence about cultural control is the practice of modifying the growing environment to reduce the prevalence of unwanted pests.
- ✓ To comprehend how to use parasitoids, predators and pathogens for the regulation of pest population densities.
- ✓ To compare Conventional pesticides and botanical pesticides in the term of bring about toxic effects on several non-target species and the growing environmental concerns.
- ✓ To learn how Genetic control usually works in reproductive sterility for male of the pest.

1.2. Expected training out come

- ✓ Can establish sustainable agricultural development through applicable integrated pest management.
- ✓ The students will get experience how Somali plant quarantine stations and legislation works.
- ✓ The trainees will able application of cultural control, biological control and botanical pesticides for indigenous insect pests and plant pathogens.

2. TRAINING METHODS AND MATERIALS

Ten hours for five days training workshop on capacity building for different students from seven universities were done in Mogadishu. The training was conducted by Somali Natural resources Research Center SONRREC, the numbers of participants were 45 students. Presentation lecture,

discussion were functionally used through these ten hours for five days training workshop. The following method were applied in the workshop:

2.1. Lecture and presentation by the trainer

The trainers' lectures were five core sectors using PPT online workshop via Zoom, the end of each section was applied questions and answers for deeply interaction through discussion.

The training workshop was designed on the basis of three main modules:

- ✓ Legislation Legal Control and plant quarantine
- ✓ Cultural Control of agricultural pests
- ✓ Biological Control of agricultural pests
- ✓ Genetic Control of insect pests
- ✓ Botanical Pesticides

2.2. Training Tools

- PPT
- Laptop
- Zoom
- WhatsApp and telegram for sending zoom links, recoded presentations and PPT lectures

3. MAJOR TRAINING PROCEDURES AND RESULTS

3.1. Opening

The training was opened by Mohamed , as he indicated how far the country is very needy for this program of integrated best management IPM because of the feminine that caused by biological factors especially insect pests and plant pathogens.

3.2. Week1: The role of legislation and Plant quarantine on plant protection

During this part, Mr. Mohamed Dayib Abubakar clarified how legislation and plant quarantine works in Somalia, beside that he mentioned sets of plant quarantine. He concluded the main activities of plant quarantine such as; Inspection, sampling, testing and undertaking quarantine regulations on imported and transit agricultural shipments.

3.3. Week 2: Strategies on which cultural practices are based

In this session, the instructor gave specific details about strategies on which cultural practices are based:

- ✓ Make the crop or habitat unacceptable to pests.
- ✓ Make the crop unavailable to the pest in space and time by utilizing knowledge of the pest's life history, especially its dispersal and overwintering habits.
- ✓ Reduce pest survival on the crop by enhancing its natural enemies, or by altering the crop's susceptibility to the pest.

3.4. Week 3: The role of natural enemy as biological control on plant protection

In this session, the trainer elucidated that natural enemies introduced to the agro- ecosystem are capable of sustaining themselves, often by reducing whatever pest population they are supposed to manage. As he focused on details of the three types of natural enemy for the pests:

- Parasitoids
- Predators
- Pathogens

3.5. Week 4: Botanical pesticide compared with conventional pesticides

In this session, the trainer focused on obtainable botanical pesticides in Somalia and easiest way to extract its' active ingredient without necessity high level of experience or costly tools. He concluded that conventional pesticides caused various environmental issues such as imbalances in the ecosystem, loss of soil fertility, and deterioration of marine life.

4. CONCLUSION AND RECOMMENDATION

4.1. Conclusion

All the trainees were student form miscellaneous universities. According to the results it could be précised the following points:

- Trainees get sufficient knowledge that integrated pest management is significance for sustainable agricultural development.
- The participants understood how to use parasitoids, predators and pathogens for the regulation of pest population densities.
- The applicants gained essential evidence about cultural control is the practice of modifying the growing environment to reduce the prevalence of unwanted pests.
- They learned how Genetic control usually works in reproductive sterility for male of the insect pest.
- The participants recognized Legislation Legal Control and plant quarantine are first line of plant protection.

4.2. Recommendations

As specified in the results, it has been suggested the following:

- The training should be extended to other students in the different states, Somalia.
- Establishing specific training about how to extract and prepare the formulation of botanical pesticides from indigenous plants.
- Assessing the domestic natural enemies of insect pests for main crops in Somalia.

Annexes

Annex 1: Training agenda

Date and Time in Mogadishu, Somalia	Activity/Session	Facilitator /Moderator
12/08/2021 8:30-10-30 pm	Welcome & Introductions – Opening remarks about workshop objectives	Mohamed Dayib Abubakar Executive Director
19/08/2021 8:30- 10-30 pm	The role of legislation and Plant quarantine on plant protection	Mohamed Dayib Abubakar
26/08/2021 8:30- 10-30 pm	Strategies on which cultural practices are based	Mohamed Dayib Abubakar
02/09/2021 8:30- 10-30 pm	The role of natural enemy as biological control on plant protection	Mohamed Dayib Abubakar
09/09/2021 8:30- 10-30 pm	Botanical pesticide compared with conventional pesticides	Mohamed Dayib Abubakar
16/09/2021 8:30- 10-30 pm	Genetic control of insect pests	Mohamed Dayib Abubakar

Annex 2: List of the participants

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Close Participants (40)

Search

- Mukhtar Birkan (me)
- SONRREC ORGANIZATION (Host)
- HM Hassan Mohamed Huss... (Co-host)
- 5A 5 Abdirahan Aden mohammed
- AM Abdifitah mohamud Ali iman
- AA Abdikarim Absuge
- AA ABDIRAHMAN ABDULLAHI IBR...
- Abdulaahi abdi Shucayb
- AM Abdullahi mustaf Shaikh
- AM Adnan Mohamed
- AM Ahmed mahmoud mohamed
- AM Ahmed Mohamed Abdisalan
- AO Ahmed osman Ibrahim

Invite

Close Participants (30)

Search

- MD Maxamed dayib Abubakar (me)
- SONRREC ORGANIZATI... (Host)
- MA Mohamed abdulahi hassan
- MC Mascuud cabdirisag ismail
- HM Hassan Mohamed H... (Co-Host)
- AA Abdale al-sheikh
- AA ABDIRAHMAN ABDULLAHI IBRA...
- AH Abdiweli hassan Ahmed
- Abdulaahi abdi Shucayb
- AB Abdullahi Boorama
- A Abdulwahab