MANAGE International e-Bulletin ISSN No. 2582-2101 Issue - 50 January, 2021

Feed The Future India Triangular Training (FTF ITT) Program

In this Issue:

1. Editor's note on 50th Issue of MANAGE International e-Bulletin

This is the 50th issue of MANAGE International E-bulletin. This e-bulletin has been the face and voice of all the international trainees of MANAGE for over four years. The Feed The Future India Triangular Training (FTFITT) supported by the USAID India and Government of India implemented by National Institute of Agricultural Extension Management (MANAGE), Hyderabad and its Partner Institutes and the inspiring back at work plans of the trainees gave bulk of the content to this publication during 2016 -20.

This E-bulletin is now reaching more than 6500 stakeholders directly. Its reach through website and social media is though difficult to account for exactly. These stakeholders is mass of most influential policy makers and the field level extension workers who contribute immensely to the global food security in a sustainable way. The E-Bulletin is disseminating very good agricultural practices for the benefit of many people in developing nations of Africa and Asia. Hence, I believe this bulletin will continue to be more relevant and utilitarian in the coming days.

MANAGE thanks Ministry of Agriculture and Farmers Welfare and USAID India for their support in bringing this bulletin continuously. We seek similar support from all stakeholders to join the efforts of MANAGE in working for the welfare of farmers in helping them increase their production and profitability. We also seek your valuable suggestions to improve the quality and reach of this bulletin.

Kind Regards,
Editor

2. Announcement of Collaborative online Training Program on "Value Chain Oriented Extension Approaches for Maximizing Profitability of Tuber Crops"

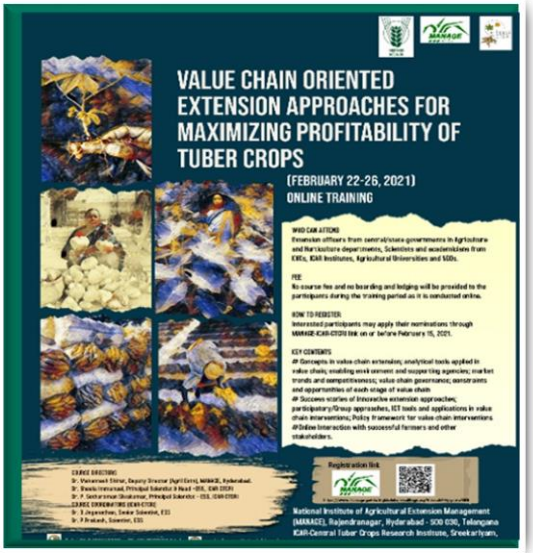
MANAGE is organizing an Online Training Program on "Value Chain Oriented Extension Approaches for Maximizing Profitability of Tuber Crops" in collaboration with ICAR-CTCRI during 22nd - 26th February, 2021 at ICAR-Central Tuber Crop Research Institute (CFTRI), Thiruvananthapuram, Kerala.

The objectives of the program are

- To orient the participants about the value chain interventions in Horticultural crops with special reference to tuber crops.
- To explore scope and opportunities for agri value chain.
- To orient the participants to the importance of value chain and policy framework for enhancing farm income.
- To orient the participants to the innovative approaches for strengthening agri value chain.

Methodology:

- Course will be offered online through WebEx Platform
- The content will be delivered through live online classes, presentations, and live interactions.
- WebEx link will be sent to the registered candidates
- Program period - 5 days from 22 – 26th February, 2021.
- It will be followed by an online Examination on 26th February, 2021.
- Every day the live classes will be for around 4 to 5 hours from 10 AM to 4 PM IST.
- Participants with a score of more than 50% marks will get the certificate from MANAGE and CTCRI.



Online Registration Link: https://www.manage.gov.in/trgModule/emailRegn.asp?tpno=MF&tpye ar=FDFD

3. Success Stories from Back at Work Plans

i. Extension of Mini clonal technique to nursery staffs of Forest Research and Training Centre (FRTC), Rupandehi District, Nepal

Mini clonal technology is the technique in which the superior clonal plants are planted in a mini clonal garden where regular irrigation and fertilization are provided in order to enhance shoot multiplication. It is the nursery technology adopted by Forest College and Research Institute of Tamil Nadu Agriculture University for *Casuarinas* and Melia, which is a pioneer attempt for industrial pulp and paper wood species. This technology has increased rooting efficiency and the uniformity significantly which resulted in uniformity in establishment, growth and development of clones. This Mini clonal technology has been proved as superior than existing technology as even with minimal space, time, labour requirement, easy handing and management coupled with uniform rooting results higher productivity i.e. number of cuttings per year and per unit area and avoid epigenetic variation. *Casuarinas* and *Melia dubi* seedling produced from this technology have produced pulp wood for paper industries after 24-36 months of plantation establishment.

Ms. Bimala Lama, Assistant Research Officer from Forest Research and Training Centre (FRTC), Babarmahal, Nepal attended FTF ITT International Training Program on "Agroforestry: Policy, Practice and Impact" during 10 -24th October, 2019 at World Agro Forestry (ICRAF), New Delhi, Forest College and Research Institute (FCRI), Jhansi and ICAR-Central Agroforestry Research Institute (CAFRI), Mettupalayam, Tamil Nadu, India. During execution of her office research works related to commercial agroforestry systems and practices, she explored the problems of commercial farmers that they have to wait for long period to harvest trees for getting its benefits. So, she chose to extend Mini clonal technique which will help to address this issue of farmers. First of all, she disseminated knowledge about Mini clonal technique among FRTC officers. Further, she conducted a training program to share about this technique among FRTC nursery staffs. This knowledge was gained through training program on "Mini clonal technology and value addition of plant residues" conducted in Mettupalayam.

To achieve this objective of extension of Mini Clonal Technology as per her Back at Work Plan (BAWP), she not only trained nursery staffs at field level but has also started the initial phase of adoption of Mini clonal technique for its trial in high tech nursery. For this, two major commercial timber based forest tree species of Terai region of Nepal i.e. Teak (Tectona grandis) and Masala (Eucalyptus camaldulensis) were selected for their growth assessment.

Activities Undertaken

- Coordination with various line agencies such as FRTC for financial assistance and Division Forest Offices (DFOs) for required technical support.
- Conducted 4 days training to FRTC nursery staffs to adopt the Mini clonal technique.
- Prepared 4 nursery beds and planted cuttings of 450 Teak and 450 Masala in a high-tech nursery for the growth assessment through Mini clonal technique trial.
- Regular nursery activities are being carried out by nursery staffs.

Preparing Nursery Beds

Cuttings preparation

Plantation of cuttings in seed beds

Figures: Extension of Mini clonal technology to FRTC nursery staffs and its adoption

Outcome/Impact

- 4 Nursery staffs and 1 local farmer are well trained on Mini clonal nursery technology.
- The training on Mini clonal technique helped nursery staffs extend their knowledge on innovative nursery technique i.e. Mini clonal technique.
- The initial phase of Mini clonal technique trial has been adopted with the involvement of trained nursery staffs for the growth assessment of Teak and Masala.

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ii. Exploring IPM Practices through Plant health Clinic linked with Plantix

Plant health clinic is an innovation in agriculture extension to provide primary plant health care advisory services. Nepal, being ninth country to introduce and adopt this approach since 2008. In Nepal, farmers who do not have direct contact with agricultural technicians are dependent on the advice of agro-vets. However, the problem is being solved in agro-vets on the basis of verbal explanations by the farmers who do not bring diseased plant sample. From this type of services, farmers are bound to purchase various types of pesticides, fertilizers, micronutrients, etc. As a result, environmental pollution, soil pollution and human health hazards have been affected today. Such type of plant diagnosis services in the villages have increased direct financial burden to the farmers and have caused many health problems to the consumers. It is the responsibility of the plant protection specialist, not only to ensure the effective use of pesticides, but also to ensure the safe use of pesticides in order to protect farmers' health, the safety of agricultural products, and preserve the environment.

Mr. Devendra Shahu, Plant Protection Officer, Dhankuta, Nepal attended the FTF ITT International Training Program on "Good Agriculture Practices for Sustainable Agriculture in Developing Countries" held during 11th -25th February, 2020 at International Crop Research Institute for the Semi-Arid Tropics (ICRISAT), Hyderabad, India. Motivated by the exposure through this FTF ITT International Training, Mr. Devendra Shahu dedicated to take up his Back At Work Plan (BAWP) on 'Plant Health Clinic'.

Activities Undertaken

- A Special plant Clinic Campaign for Vegetable growing farmer was organized by Prime Minister Agriculture Modernization Project (PMAMP), Dhankuta at Sidhuwa, Dhankuta, Nepal on 13th December, 2020. Before Plant clinic launch in that area, they used to get disease diagnosis based on agro vet suggestion under neighbour guidance. They used to spray 3-4 types of pesticide as recommended by agrovet. **After the establishment PMAP, most of the farmers were practicing Good Agriculture Practices through Plant health Clinic Campaign.**
- In Campaign, About 19 farmers (11 female and 8 Male) participated. Female participation on clinic were 57% and male participation was 43 %. The diseased sample were diagnosed by Mr. Shahu himself who is a well-trained qualified Plant Protection Officer. A plant health prescription sheet have been provided to farmer. Suggestion on IPM Practices (Pheromone Traps, use of Resistant Variety, Good Agriculture Practices, botanical and Biological pesticide uses, etc.) were recommended.

Outcomes

- About 34 diseased sample of 19 farmers were diagnosed through **Field diagnosis** and **Mobile based Plantix Application.** Also, many critical cases were diagnosed through laboratory diagnosis**.**
- Majority of suggestion and recommendation have been delivered through mobile SMS to those farmer who have mobile. The farmer who don't use mobile were provided the plant health status prescription sheet. About 2 farmer Field Visit site have been arranged to those farmer whose disease samples were critical and unidentified.
- 19 farmers followed the integrated pest management practices on specific crop disease/insect.
- Majority of the plant sample brought were cauliflower-10 cases, followed by Broad leaf mustard-6 cases as listed below. Major problem of Farmer were Club root. IPM based practices for Club root were recommended.

Table

Sl.No.	Crop	Symptoms	Cause	Diagnosis
1.	Tomato	Small regular and oval spot on leaf	Fungi	Early Blight of Tomato
2.	Brinjal	Wobbled on leaf and insect observed	Insect	Webbing insect
3.	Cucumber	white powdery mass on leaf	Fungi	Powdery mildew
4.	Cucumber	Mosaic and mottled leaf	Virus	Cucumber Mosaic Virus
5.	Bitter gourd	Fruit rot , cutting found maggots	Insect	Fruit Fly
6.	Brinjal	bored hole on fruit	Insect	Brinjal fruit and shoot borer
7.	Cauliflower	Nursery plant topple down on soil.	Fungi	Damping off
8.	Tomato	Rotting at the end of fruit	Calcium	Blossom end rot
9.	Bitter gourd	Rotting of fruit	Insect	Fruit Fly
10.	Bean	Mosaic and crinkle, mottle leaf	Virus	Bean mosaic virus
11.	Tomato	Leaf tip small, and die back of plant.	Micronutrient	Boron and calcium
12.	Bean	Bore hole on pod	Insect	Bean pod borer
13.	Bean	Mosaic and crinkle, mottle leaf	Virus	Bean mosaic virus
14.	Mango	Abnormal flower, leaf and shoot growth	Many causes	Floral Malformation
15.	Rice	Many small and oval spot on leaf	Fungi	Brown leaf spot
16.	Tomato	Leaf small and dwarf at tip of plant	Nutritional disorder	Boron and Calcium deficiency
17.	Bean	Mosaic, mottled and crinkling of leaf	Virus	Bean mosaic virus
18.	Cauliflower	Club root – 10 cases	Fungi	Club root of crucifers
19.	Broad leaf Mustard	Club root -6 cases	Fungi	Club root

Conclusion

After completion of Plant health Clinic, Farmers' response was good and they need it as regular clinic. Because it is not only solution for disease pest to farmer, it is also a Farmer Field School where they learned a cause, symptom and identification of disease. It made the farmer aware about integrated pest management's practices (like use of pheromone trap, botanical, mechanical, cultural, biological, etc.) besides chemical pesticides.

Some of the Plant Clinic Activities (Photos)

Field visit and Diagnosis of affected plants

Visit of farmers to Plant Clinic Campaign to show their affected plants

Diagnosis and Recommendation of Control measures by Plant Health Clinic Staff

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4. Sneak peek into the upcoming issues of the e-bulletin

- Brief report of Collaborative Online Training Program on "Value Chain Oriented Extension Approaches for Maximizing Profitability of Tuber Crops"
- More success stories from Back at Work Plans
- Announcement of monthly International Webinar for technology backstopping to support International Trainees of MANAGE.
- Launching of FTF ITT Film.

FTF ITT Training Program Overview
Total number of training programs completed: **44/44**
Number of executives trained: **1144**
Male: Female: **709: 435**
Number of Countries covered: **20**

Name of the countries:

Asia: Afghanistan, Bangladesh, Cambodia, Lao PDR, Mongolia, Myanmar, Nepal, Sri Lanka and Vietnam

Africa: Botswana, Democratic Republic of Congo, Ghana, Kenya, Liberia, Malawi, Mozambique, Rwanda, Sudan, Tanzania and Uganda

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