A Report on the 3 days Training Program on "Ecological and Biological Control of insects including Butterflies in forest Ecosystem at HRFI", Shimla for Officers/Officials of HP State Forest Department and University/College students.

(29th to 31st August 2016)

As the Biodiversity is described as the degree of variation of life and accordingly, various plant and animal species depend on each other ensuring natural sustainability for all life-forms. Insect diversity constitute largest group of animals having almost 75 per cent of all animal species constituting a vital part of our biodiversity which includes both beneficial and harmful species, among which a sound knowledge of ecology and identification of harmful insects is important for developing effective control measures for reducing the magnitude of insect-pest damage in forest nurseries and plantations. In this regard, Himalayan Forest Research Institute (HFRI), Shimla under the direct coordination of Dr Pawan Rana, Scientist-D (Forest Entomology) organized three days training on "Ecological and Biological Control of insects including Butterflies in forest Ecosystem" under the research project "Ecological Study of Distribution Pattern and food plant resources of butterflies in Western Himalayan Sub-Alpine Forest ecosystem" funded by Ministry of Environment, Forest and Climate Change, Government of India, at HRFI, Shimla for the field functionaries of State Forest Department and students so as to reach the end-users and other targeted group in a more focused way for the awareness regarding importance of butterflies in forest ecosystem.

Day One-29th August, 2016

Dr. Pawan Kumar, Scientist-D and Coordinator of the training, at the outset welcomed the Chief Guest Dr. V.P. Tewari, Director HFRI, Shimla. In his inaugural address, Dr. Tewari apprised the participants that the Himalayan Forest Research Institute besides carrying out the research activities also organizes the training programme for the overall benefit of the stakeholders. He expressed opinion that since, the field functionaries are involved in various schemes of public interest in the field, hence, can play an important role in successful implementation of biological control of wide range of insect-pests and such training programmers compulsorily provide enhanced knowledge and specialized skills for an efficient human management role in this regard. Dr. Pawan Kumar, Scientist and the Coordinator of the training during inauguration session, addressed the gathering on issues and concerns related to insect-pests and their biological control. He also made the participants acquainted about the three day training sessions including the technical sessions of field and lab work to be held as part of the training. Thereafter, Dr. Ranjeet Singh, Head, Forest Protection Division delivered a brief address on the *"Importance of Training on Entomological Issue in present scenarios*". Thereafter, Dr. Bhardwaj, Ex. Vice Chancellor, gave an insight of *"Ecology of Butterflies"*. Thereafter, Dr. Ashwani Tapwal, Scientist-E, HFRI, Shimla delivered the talk on *"Diseases of Forest and their eco-friendly Management"*.

Day Two-30th August, 2016

On the day two a field trip was organized and participants were taken to Field Research Station of the institute at Shillaru and Narkanda Forest area of district Shimla. Dr.Pawan Rana, Scientist, HFRI, the Training Coordinator and his team accompanied the trainees and gave live demonstration of identification and collection techniques of insects especially Lepidoptera along with their host plant and their preservation. Then the importance and usage of Global Positioning System for mapping distribution pattern was illustrated. He strongly emphasized on the life cycle of the insect along effect and environmental conditions on its development and growth patterns.

Day Three-31st August, 2016

The trainees were taken to the laboratory of Forest Protection Division and were made familiar with the research work done on butterflies. It was informed that 70 species of butterflies that have been identified by the institute in the Western Himalayan Sub Alpine Forests and GIS maps have been prepared with the assistance of State Council for Science, Technology & Environment, Shimla, HP. Various techniques of insects identification, nurturing, preservation by streaching and pinning especially of butterflies, wings and genitalia slide preparation and few invitro techniques were also demonstrated. In the Forenoon, Dr. Anil Sood, Prof. YSP University, Solan in his presentation emphasized upon "*Insect Pest of Forestry vis a vis Climate change and their Management*". Thereafter, Dr. Ranjeet Kumar, Scientist-E, HFRI, briefed the participants on "*Biodiversity and its Conservation*".

During the plenary session of the training programme, Dr. K.S. Kapoor, Group Coordinator Research gave the certificates of participation to the participants along with Dr. Ranjeet Singh, Head, Forest Protection Division. He also appreciated participants for showing their keen interest in the training program and the organizers for providing awareness and sensitization on this subject thus leading to successful completion of training program. Feedback was also taken from the participants of the training programme to compile the valuable and important suggestions in futuristic research trainings. At the culmination of the training programme a vote of thanks was also proposed by Dr. Pawan Rana, Training Coordinator.

GLIMPSES OF TRAINING

DAY 1









DAY 2: Field visit and demonstrations:



DAY 3: Lab demonstrations:

























MEDIA COVERAGE

