

Training on Basic Plant Taxonomy

(Capacity Building Programme for the Frontline Forest Staff of the SFD)

Dated: 29th – 30th August, 2018

Funding : Himachal Pradesh State Biodiversity Board (HPSBB)

VENUE : Himalayan Forest Research Institute, Shimla

Background:

Taxonomy is the oldest discipline of Botany and basics of all disciplines such as Embryology, Anatomy, Plant Genetics, Economic Botany, Ethno-botany and Plant Physiology etc. Taxonomy is a science that treats of the identification, nomenclature, and classification of objects. When concerned with plants, it is often referred to as systematic botany. Taxonomy no doubt a complex subject, may however be considered the mother of biological Sciences. Before man could study plant structures, the way plants grow, or could accurately record the plants about him, he had to know the names and characteristics of those plants. In gaining this knowledge he has tried to group plants together in accordance with their presumed affinities. Today, anyone dealing with plants in any way depends on the labours of the taxonomist.

Taxonomy may be considered as an art or science which can be mastered through practice and much patience. The discipline is always used but has seldom been acknowledged the way it should have been. We as human being have always been keen to know our surroundings, which comprises of many life forms with whom we are constantly interacting. Knowingly or unknowingly, our activities have a significant effect on our surroundings (both living and non-living) and so is vice-versa. If we look at the larger picture, human beings are just one of the structural and functional components of this larger entity: our ecosystem.

Knowledge of the various life-form and their functional importance in the ecosystem, help us appreciate the rich and vibrant biodiversity around us. Taxonomy is a dynamic subject and a lot has transformed rapidly in the field of taxonomy in the past two decades.

The importance of taxonomy has been aptly summarized by Linnaeus (1735) in the following lines; *“The first step in wisdom is to know the things themselves; this notion consists having the true idea of the object; objects are distinguished and known by their methodical classification and appropriate name; therefore Classification and Naming will be the foundation of our science”*.

Present Global Scenario:

One hundred and ninety-three nations are Party to the Convention on Biological Diversity (CBD). All have made commitments on conservation, sustainable use, and fair and equitable access to the genetic benefits of biological diversity – the three aims of the Convention. In order to meet these commitments, and manage their biodiversity, they need to be able to

identify what that biodiversity is made up of. This process needs taxonomy – the identification, naming and classification of organisms.

The Parties to the CBD have repeatedly identified the importance of National Taxonomic Assessments. However, for many countries in the world, there is too little taxonomic expertise, information and infrastructure available to enable them to work with their biota in the way they need. This deficiency is known as the, **Taxonomic Impediment**” to implementing the CBD. The Taxonomic Impediment is, therefore, specifically about the taxonomic needs of non-taxonomists which include conservationists, environmental managers, quarantine officers, foresters, students, etc. Providing the right taxonomic information at the right time to enable non-taxonomists to do their work can be vital for good biodiversity and environmental management. Today, we all realize that the lack of trained human resources and inadequate capacities in taxonomy has been stressed as one of the obstacles in the implementation of CBD commitments, especially in the ASEAN region.

Also, of late a frequency of errors of parataxonomic assignments of common names to taxonomic ones pertaining to number of common plants inventoried for forest management in Himachal Pradesh has been noticed which can be attributed to mistaken plant identification between common and botanical names of general species during field identifications. Thus, workable knowledge regarding the basic taxonomy of common trees, shrubs and other forest resources is a requisite for the field staff.

It is in this context that the short term training on **“Basic Plant Taxonomy”** was proposed by HFRI for funding from HPSBB. The purpose of this ‘Basic Plant Taxonomy Initiative’ is to remove or reduce the ‘taxonomic impediment’ in the field – in other words, the basic knowledge about common plants identification and the impact this shortfall on our ability to preserve plant diversity. To give impetus to address this shortfall, the Institute approached the Himachal Pradesh State Biodiversity Board (HPSBB) for funding, which they generously agreed to do so.

With reference to above, **Himalayan Forest Research Institute, Shimla** organised a two days training titled **“Basic Plant Taxonomy”** as a *Capacity Building Training Programme* for the frontline staff of the State Forest Department on 29th- 30th August, 2018 at their Panthaghathi Campus with active collaboration of the *Himachal Pradesh Council for Science, Technology & Environment (HIMCOSTE)*, Shimla and the **HP State Biodiversity Board (HPSBB)**. The main objective of this training being to provide simple and basic taxonomy training for identification of common plants of the state.

The training also aimed to increase expertise and improve skills in field collections, processing and management of herbaria specimens – a step forward to become parataxonomists - lesser qualified assistance to, or replacement of, taxonomists in the practice and science of plant identification. The training covered both lectures and hands on experience in the field. **Participants** included 25 young and energetic forest guards from Rampur, Mandi, Nahan, Shimla and Shimla (Wildlife) Circles each. The programme was coordinated by **Dr. Vaneet Jishtu**, Botanist from HFRI.

Day 1: The Director, HFRI **Dr. VP Tewari** graced the occasion and took real keen interest on the proceedings of the programme. He said that the training was designed to make aware the forest guards about the identification of common plant diversity in the forest. He stressed upon more such field oriented trainings to the frontline staff of the forest department. **Dr. R. K. Verma**, Head Division of Forest Ecology and Climate Change briefed the gathering about the training programme.



Eminent speakers included **Prof. T.N. Lakhanpal** (FUNGI) and **Prof. M.K. Seth** (FERNS) and **Dr. Rajesh Sharma** (CONIFERS). Basics of Taxonomy were explained in a simple power point presentation, supported by photographs by **Dr. Vaneet Jishtu**. The participants were taught how to use floras for identification of plants in the field.

Prof. T.N. Lakhanpal



Prof. M.K. Seth



Dr. Rajesh Sharma



Day 2: The trainees were given tips on Herbarium Methods (how to collect and preserve plants); taken to the field by **Dr. Pankaj Sharma** (HPSBB) and **Sunil W. Bhongde** (HFRI) who gave them field tips in plant identification and an opportunity to collect plants. They were also provided a **hands - on** experience in processing the plants collected by them, being supervised by Dr. Vaneet Jishtu and assisted by **Dushyant Kumar** (Technician, HFRI). In the evening session the trainees were fortunate to interact with the former Head of Forest Forces (HOFF) cum PCCF (Retd.) **Dr. G.S. Goraya** who has been a torch bearer for plant taxonomy in the region.



This short term training on basic taxonomy will result in improving skills of the participants in being able to identify common plants of the region with this upgraded knowledge. The hands-on experience in field collections, herbarium methods in the laboratory and management of plant specimen sheets in the herbarium was provided by experts, both from HFRI as well as the HPSBB.

During the valedictory session of the training, the dias was chaired by **Dr. G.S. Goraya**, (Retd.), **Dr. VP Tewari**, Director, HFRI and **Sh. Kunal Satyarthi**, Member Secretary HIMCOSTE and **HP State Plant Biodiversity Board**.



Concluding Remark:

*This short term training on basic taxonomy will result in improving skills of the participants in being able to identify common plants of the region with upgraded knowledge. The hands-on experience in field collections, flora use, herbarium methods in the laboratory and management of plant specimen sheets in the herbarium was an added experience for the participants. As stated by **Sh. Kunal Satyarthi**, Member Secretary **HP State Plant Biodiversity Board (HPSBB)**, more such practical trainings are required to equip the field functionaries in recording the fast changing biodiversity.*
