

**PROCEEDINGS OF THE INSTITUTE LEVEL SEMINAR OF HIMALAYAN  
FOREST RESEARCH INSTITUTE, SHIMLA HELD ON 28.08.2019**

In the series of monthly seminar, a talk on “**Sustainable Harvesting and Conservation of *Pinus gerardiana* (Chilgoza) for securing Livelihood in North Western Himalaya**” under the theme “*Managing Forests and Forest Products for Livelihood Support and Economic Growth*” was delivered by **Dr. Swaran Lata, Scientist-C**, Silviculture & Forest Management Division on 28<sup>th</sup> August, 2020. All the Scientists, Forest officers, Researchers and Technical staff of the institute were present through Google Meet.

**Dr. S. S. Samant, Director**, HFRI chaired the proceedings of monthly research seminar. **Dr. Rajesh Sharma, Group Coordinator Research** welcomed the Director and all the participants and apprised about the overview of the topics and requested all the participant to actively participate in the discussion and give valuable suggestions at the end of the presentation.

In her presentation, **Dr. Swaran Lata, Scientist-C** described various issues related to “Sustainable Harvesting and Conservation of *Pinus gerardiana* (Chilgoza) for securing Livelihood in North Western Himalaya”. After presenting brief introduction of Gymnosperms & Conifers, the speaker shifted the focus towards sustainable harvesting, conservation and livelihood aspects of *P. gerardiana*” in North Western Himalayan regions of Himachal Pradesh and Jammu & Kashmir. She elaborated distribution, morphology, phenology, factors responsible for seed/cone production, vegetation structure, associated species, silvicultural characters, regeneration status, artificial regeneration techniques, seed production & marketing, role of Chilgoza in securing livelihood of tribal communities, major threats, IUCN status and conservation needs. Dr Swaran Lata also highlighted the prevalent unsustainable harvesting practices and stressed for developing sustainable harvesting techniques/methods not only to promote natural regeneration but also to protect existing trees from damage due to lopping of branches during cone collection. She further elaborated ecological, economic and cultural significance of the species and enlisted earlier efforts done by forest department for its conservation and the reasons for the failure.

The presenter also highlighted the current status of research at global, national, organization and institution level for the conservation of the species and livelihood of tribal communities. She further informed about strategies which include population assessments, periodic monitoring, development of sustainable harvesting methods/techniques, sustainable harvesting of cones and other parts, identification of suitable habitats for *in situ* conservation, plantations in degraded and marginal lands, discouraging land encroachments for agriculture and horticultural activities, development of eco-

restoration models, organizing awareness programmes for locals on sustainable harvesting and conservation. In the end she emphasized upon the relevant research needs and appropriately highlighted the role of institute with other research organizations for sustainable harvesting and conservation of the species for securing livelihood of tribal communities through collaborative research and also apprised the participants about the future roadmap for better and effective results.

During the course of discussion, **Dr. S. S. Samant, Director**, appreciated the presentation and informed that in the Chilgoza distribution areas suitable demonstration models (especially harvesting and plantation) of Chilgoza need to be developed for sustainable harvesting and conservation. Beside this, for better impact awareness for sustainable management and conservation among the locals also need to be created through field demonstrations/trainings.

In response to **Dr. Sandeep Sharma, Scientist G**, query about the yearly Chilgoza seed production trend Dr. Swaran Lata informed that Chilgoza has erratic and infrequent seed year. Production of cones/seeds depends upon age, height, diameter, genotype, site and environmental conditions.

**Sh. Jagdish Singh, Scientist F**, added that research on introductory trials of Chilgoza in other areas (Lahaul-Spiti) also needs to be carried out.

**Sh. Sanjeev Thakur, DCF** opined that, forest department is trying to increase the Chilgoza cover through plantation programmes but due to tough geographical conditions survival rate is very low hence, in this direction suitable field planting protocols needs to be developed. **Dr. S. S. Samant, Director**, further added that studies on mycorrhizal inoculated seedling performance need to be conducted for better after planting survival.

**Sh. Dushyant Kumar, TO** opined that, Chilgoza grows on shallow soil and bare rocks then why plantation fails. In response **Dr. R.K. Verma, Scientist G** added that soil health also affects its growth and establishment hence, studies on physico-chemical properties of soil are also important for its conservation. **Dr. Swaran Lata** further informed the house about her new studies on this aspect in "Population assessment, ecological niche modelling and developing sustainable harvesting technique".

**Sh. Dushyant Kumar, TO** also inquired about the GI status of Chilgoza to which **Dr. Ashwani Tapwal, Scientist E** informed that Himachal Pradesh Council for Science and Technology & Himachal Pradesh State Biodiversity Board is already working on its GI-tagging.

**Dr. Rajesh Sharma, Group Coordinator of Research** informed about the genetic similarity of seeds of Kinnaur and Pangi valley of Chamba district, Himachal Pradesh.

In response to **Dr. Joginder Chauhan, CTO** query about the research status of suitable habitat identification Dr. Swaran Lata informed that this aspect has already been included in new project initiated by HFRI.

**Outcomes of the seminar were as follow:**

**A. Identification of research needs:** As a result of discussion, it was agreed that in future research must revolve around;

- (i) Ecological studies especially current status, stand structure and natural regeneration and disturbance ecology
- (ii) Phenological studies
- (iii) Identification of suitable habitats for rehabilitation/ restoration
- (iv) Seed extraction trend studies
- (v) Development of suitable harvesting methods/techniques
- (vi) Identification of plus tree and genetic improvement
- (vii) Market value chain
- (viii) Value addition studies
- (ix) Market linkage
- (x) Exploration of biological potential of phyto-constituents

**B. Formulation of future strategies/ road map: It was decided that the institute needs to work on following topics:**

- (i) Assessment of population status and regeneration pattern in relation to climate change
- (ii) Development of ecological niche model for predicting the suitable habitats
- (iii) Documentation of community dependence to know extraction trend
- (iv) Development of sustainable harvesting methods/techniques
- (v) Identification of genetically superior trees
- (vi) Creating awareness among local communities

**C. Networking research options identified:**

HIMCOSTE, GBPNIHESD, SKUAST, NBPGR, CSK HPKV, YSPUHF, HPU, HIMORD and HRG

**D: Future research directions discussed for implementation and opportunities for funding:**

With the collaboration of the identified agencies, Institute needs to formulate projects on introductory trials of Chilgoza and field planting protocols and for funding to agencies viz., MoEF & CC, DST, DBT, NABARD, SERB, SFDs, Tribal Development Department etc.

In the end, **Dr. Rajesh Sharma GCR** thanked Dr. S.S. Samant, Director HFRI and Chairman, the presenter, forest officers, scientists, Technical officers & staff and all the researchers for their active participation and inputs for making the seminar successful.

### Glimpses of Seminar

