

PROJECTS COMPLETED DURING THE YEAR 2008-2009

PLAN PROJECT

Project 1: Studies on plant diversity in cold deserts of district Kinnaur, Himachal Pradesh [HFRI-029/02(EBC-11)PLAN/2004-2009]

Findings: Carried out phyto-sociological studies at an altitude varying from 2700m to 5000m above msl in Labrang, Pooh, Ropa- Giavung, Lippa- Asrang, Namgia and Hango areas. Labrang area showed that the total number of plant species was 191 belonging to 47 families and 127 genera. In Lippa – Asrang area, total number of plant species was 191 belonging to 49 families and 134 genera. Pooh area revealed that the total number of plant species was 192 belonging to 55 families and 136 genera. In Ropa-Giavung area, total number of plant species was 160 belonging to 51 families and 119 genera. Namgia area revealed that the total number of plant species was 142 belonging



to 49 families and 105 genera. In Hango area, total number of plant species was 130 belonging to 41 families and 101 genera. The dominant families were Asteraceae, Rosaceae, Ranunculaceae, Lamiaceae and Polygonaceae. The distribution pattern of most of the plant species was contiguous in all the areas. The Index of similarity for shrub and herb species between different altitudes was low indicates remarkable degree of dissimilarity in plant species between different altitudes.



Waldheimia glabra



Arnebia guttata



Corydalis crassissima

Out of 114 medicinal plant species as recorded from the areas, 24 species fall in the category of threatened plants. The ethnobotanical study carried out in

Nako Lake

Labrang, Dubling, Nako, Maling, Leo, Namgia and Hango villages of Pooh sub division and documented 40 plant species used for different purposes.

Project 2: Diagnostic studies of indigenous and institutionalized Participatory Forest Management in Himachal Pradesh to assess the most suited approach and its impact on forest conservation. [HFRI-025/08(PFM01) Plan 2005-2008]

Findings: The most preferred species of timber, fuel and fodder were documented by local people in different PFM areas of Himachal Pradesh. The role of woman in PFM was studied. It was found that as per the guidelines of VFDC formation under PFM, women were given due representation in the state of Himachal Pradesh. However, practically in the execution of work, their role was not up to satisfactory level except in few VFDs, such as, Dhalwan in Mandi Circle and Kohbag in Shimla Circle, etc. The Participatory Forest Management may not have achieved its objectives completely but it has brought positive change in mind frame and thinking of local people and field staff towards the forest conservation.



Women participation in plantation activities



Water harvesting structure constructed

It was

observed that the PFM scheme has brought positive change in attitude of people throughout the state barring few places. The PFM scheme was viewed as income generation source on daily wages basis by common people for short duration. Barring the few shortcomings, PFM scheme has helped in creation of awareness among common people regarding the importance of forest and its conservation.

Project 3: Allozyme variation in natural populations of Deodar (*Cedrus deodara*) [HFRI-030/05(SFG-10) PLAN-03/2005-2008]

Findings: Isozyme analysis has provided new information about the relative amounts of genetic variation present within and among fifteen populations of *Cedrus deodara*. Within population genetic variation was found to be higher as compared to total variation among populations. The population from Cheog forests showed higher genetic distances more than 0.03 with all other remaining populations. The tendency of grouping was witnessed between the populations based

on population parameters. Taking allelic diversity and differentiation into consideration population Cheog and Nankhari remains separated from the rest of the populations. Population Chopal, Manali, Chowai, Jhungi, Dhgamoon, Chamba, Shillaru and Mashobra makes one group and the populations Sarain, Chail, Kupwara, Bhadrawah, and Kalpa can be combined into one group. The same tendency is observed for genotypic differentiation. The genetic distance values further supports this grouping as population Cheog shows relatively higher genetic distance with the remaining populations followed by population Nankhari, whereas, the other populations show less genetic distance within the group. The tendency of grouping among different populations, despite altitudinal differences, suggests common descent of the populations.



A1 A11 A1 A11 A1 A11 A1 A11 A11 A11
 B2 B11 B1 B22 B1 B11 B1 B12 B11 B11