

CHAPTER

CENTRE FOR SOCIAL FORESTRY AND ECO-REHABILITATION ALLAHABAD

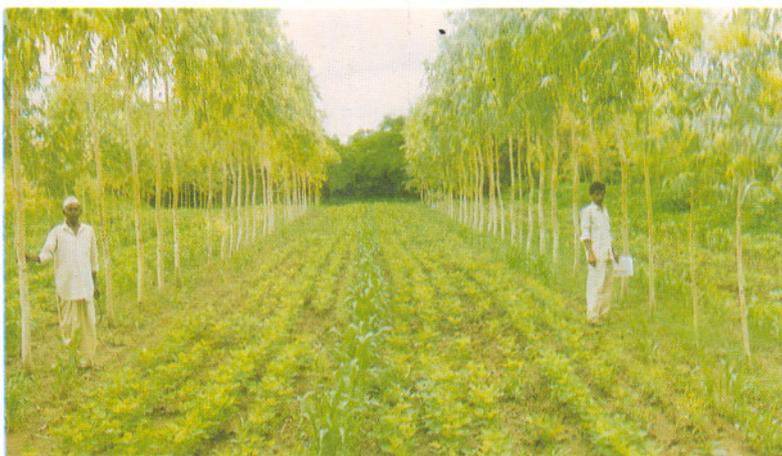
Centre for Social Forestry & Eco-Rehabilitation (CSFER), Allahabad was established in 1992 as an advanced centre under the umbrella of ICFRE, Dehra Dun. Presently, it is a Centre of Forest Research Institute (FRI), Dehra Dun. The Centre aims to nurture and cultivate professional excellence in the field of Social Forestry and Eco-Rehabilitation in Gangetic Plains of Eastern Uttar Pradesh, North Bihar and Vindhyan Region of Uttar Pradesh and Madhya Pradesh. The important research activities of this Centre are in the field of Planting Stock Improvement Programme (PSIP); Wasteland reclamation; Development of agroforestry models; Reclamation of mined areas through afforestation; Productivity of Ecosystem; Studies on Shisham mortality; etc.

PROJECTS COMPLETED DURING THE YEAR 2000-2001

Project 1: “Development of agro-forestry models for the various agro-ecological regions of India.” (NABARD)

Objectives : (a) To conduct agroforestry design and diagnostic survey to evaluate weaknesses, constraints, potential and economic analysis of existing land use systems in the selected microwatersheds. (b) To select MPT species for investigation in agroforestry and other associated systems. (c) To introduce Biofertilizers in agroforestry plantation and evaluate it's potential in enhancing the productivity. (d) To design appropriate plan for land use / management of selected microwatersheds. (e) To seek improvement of crop productivity through introduction of suitable tree species as part of the integrated watershed management. (f) To establish demonstration plots based on research findings.

Results: This Project is successful in generating sufficient awareness among villagers / farmers regarding adoption of agroforestry models and use of Biofertilizers in increasing crop productivity. This Centre has laid down different agroforestry models in the farmer's field. Standing quality silviculture crop in the farmer's field encouraged them and other villagers to take active interest in plantation activities along the field bund as villagers did not notice any negative impact on agricultural production even after plantation in the field bund. Future economic gain from Eucalyptus (selling as pole) and timber from other trees keeps their interest alive.



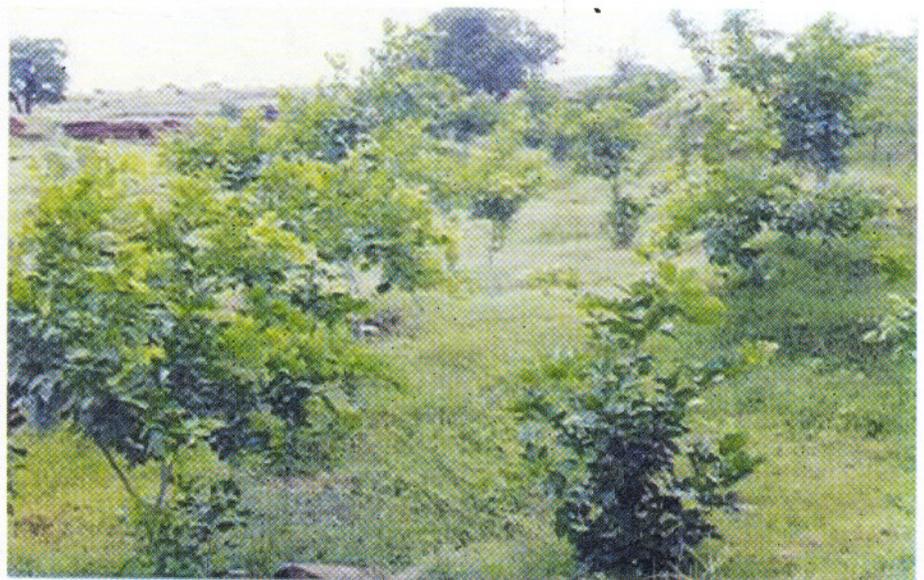
Agroforestry Model



General land scape of Silica mining area of Vindhyan region



Reclamation of Silica mined areas with *Prosopis juliflora*



Reclamation of Silica mined areas with *Pongamia pinnata* plantation

OLD PROJECTS CONTINUED DURING THE YEAR 2000-2001

Project 1 : Wasteland and Agroforestry Development. (FREEP-01)

Objectives : (a) To identify various types of stress sites, examine species and species composition, establishment of effective afforestation Model for development of selected wasteland and demonstrating the proposed technology. (b) To identify range of peoples participation by reviewing important case studies taken by Central or State Government/ Institution / NGO toward involving people for crop establishment on stress sites and to examine their performance with reference to Social, Legal, Administrative and Policy point of view.

Achievements : This Centre selected such site at Uppardaha village in Allahabad for, Water logging and sodicity based on survey of the locality and people demand, a total of eleven plant species were tested under four planting models. It was observed that plantation on mound with soil amendments is best afforestation technique and *Dalbergia sissoo*, *Acacia nilotica*, *Terminalia arjuna*, *Prosopis juliflora* and *Eucalyptus camaldulensis* are suitable plants species for such sites. Fertilizer trials were also laid out for *Eucalyptus camaldulensis* and *Dalbergia sissoo*, it was noted that nutrient applications either alone or in combinations recorded more plant height than control. The effect of mulch on *Azadirachta indica* was beneficial initially and was not effective after boosting of the plant height.

Project 2: Environmental Rehabilitation- Vindhyan hill and Gangetic Plains. (FREEP-02)

Objectives : (a) To develop sustainable cropping models. (b) To establish demonstration plots to encourage people's participation in improving the site productivity. (c) To study ecology and social interaction in Vindhyan region and adjacent Gangetic plains.

Achievements: Three degraded sites viz. salt affected lands, marginal agricultural lands and moisture stress site near Allahabad in Gangetic plains were identified. Ecological studies vegetation survey was conducted at degraded sites. Research Model established at Silica mined area to study the growth response of eleven species under rainfed conditions were found to perform well. Demonstration plot established at moisture stress site with eleven species.

Project 3: Productivity of Ecosystems. (FREEP-03)

Objectives : (a) Develop reliable method to assess plant growth and productivity in forests / plantations and use these to evaluate productivity in representative sites. (b) Determine the effect of Bio-fertilizers particularly mycorrhiza on plant growth at various sites.

Achievements: Two pot experiments were conducted to evaluate the effect of different Biofertilizers on the growth. The results of the first pot experiment revealed that improvement were caused by all the treatments over control but the maximum improvement in *Butea monosperma* was caused by *Glomus intraradices* and in *Acacia catechu* by *Gigaspora margarita*. In the second pot experiment three different combinations were found suitable for :- *Dalbergia sissoo* - *Gigaspora margarita* + PSM, for :- *Acacia nilotica* - *Glomus intraradices* + PSM and for :- *Casuarina equisetifolia* - *Gigaspora margarita* + Azotobacter.

Project 4: Planting Stock Improvement Programme.

Objectives : (a) Development of Seed Production Areas (SPA). (b) Establishment of Clonal Seed Orchard (CSO). (c) Establishment of Seedling Seed Production Area (SSPA).

Achievements: Identified Seed Production Area (SPA) of 60 ha for *Dalbergia sissoo*, culling operation carried out. Seed collection completed. Fertilizer application in the form of FYM, Phorate, Bavistin and NPK was done.

Establishment of Clonal Seed Orchard (CSO): 3 ha CSO of *Dalbergia sissoo* has been established at Gangapur Patia, Lalkuwa, Haldwani in collaboration with Uttar Pradesh State Forest Department - Silva Sal Region, Bareilly. 30 clones were introduced at the spacing of 6m x 6m. All the clones performed well and have attained encouraging height and diameter.

30.5 ha of SSPA (*Dalbergia sissoo* - 20 ha and *Acacia nilotica* - 10.5 ha) has been established in collaboration with Uttar Pradesh State Forest Department - Silva Sal Region Bareilly and Silva South Region, Kanpur. 40 Candidate Plus Trees (CPTs) each of *Dalbergia sissoo* and *Acacia nilotica* were identified and selected from different regions.

Planting of *Dalbergia sissoo* has been successfully carried out on 15 ha at Campierganj, Gorakhpur and 5 ha area at Gangapur Patia, Lalkuwa, Haldwani at the spacing of 5m x 3m. Shisham shoot borer attack was observed at Campierganj, Gorakhpur, which was controlled successfully by application of systemic insecticide Furadan, Rogor and Monocrotophos.

SSPA of *Acacia nilotica* has been established on 6 ha area at Itwa, Makandpur, Gonda and 2.0 ha area at Hasnapur, Meerut at the spacing of 5m x 4m. and 2.5 ha area at Vrindavan, Mathura at the spacing of 5m x 5m. All the SSPAs are doing well and the plants have attained encouraging height. Adequate fencing and water supply has been provided. The growth data are being recorded half-yearly and records are maintained.

Efforts are being made for transfer of assets of these SPAs, CSO and SSPAs to Uttar Pradesh State Forest Department for further maintenance.

NEW PROJECTS TAKEN UP DURING THE YEAR 2000-2001

Project 1: Revegetation of Silica mining tracts through microbial technology at Vindhyan Range of Allahabad District. (FRI-141/CSFER-01)

Objectives : (a) To develop a suitable package of VAM. (b) Bulk plantation of native species of the region including *Butea monosperma* and to rehabilitate the area with the help of developed microbial technology.

Progress made: Survey conducted with Silica mining areas. Sample collected were analysed for microbial flora. Isolation of beneficial microbes and pot culture of Blue Green Algae is in progress.

Project 2: Research and development of *Buchnanian lanzan* in Eastern U.P. (FRI-141/CSFER-02)

Objectives: (a) Productivity enhancement of the region. (b) Improvement of seed quality.

Progress made: Survey carried out to identify the superior germplasm and to mark CPTs. (b) Germination test were carried out to check the viability. (c) Methods are being standardized for Protein analysis of collected seeds.

Project 3: “Investigation of biological factors of Shisham mortality.” (FRI-141/CSFER-03)

Objectives: (a) Study of causes, which are harming to the plant and its control measures. (b) To study the problems of environmental imbalance which is created due to destruction of Shisham plants.

Progress made: Survey conducted, sample collected are being analysed for microflora for the evaluation of losses due to wilting.

- ✓ **Other Extension Activities are reported in the Introduction - Forestry Extension, ICFRE.**

FINANCIAL STATEMENT DURING 2000-2001

| I. PLAN | | EXPENDITURE (RS. IN LAKH) |
|---------------------------------|-------------------------------------|--------------------------------------|
| A. | REVENUE EXPENDITURE | |
| | (a) Research | 31.33 |
| | (b) Administrative Support | 12.48 |
| | (c) Others specify | 0.10 |
| B. | LOAN AND ADVANCES | |
| | (a) Loan Advances (Conveyance) | - - |
| | (b) House Building Advance | - - |
| C. | CAPITAL EXPENDITURE | |
| | (a) Building & Roads | - - |
| | (b) Equipments, Library Books | 0.49 |
| | (c) Vehicles | - - |
| | (d) Others specify | - - |
| TOTAL FOR PLAN (A+B+C) | | 44.40 |
| II. NON-PLAN | | |
| A. | REVENUE EXPENDITURE | |
| | (a) Research | - - |
| | (b) Administrative Support (Salary) | - - |
| TOTAL FOR NON-PLAN | | - - |
| III. FUNDED PROJECT | | |
| A. | World Bank Project | 18.34 |
| | NABARD Project | 0.002 |
| TOTAL FOR FUNDED PROJECT | | 18.34 |