

CHAPTER-XII
CENTRE FOR SOCIAL FORESTRY AND ECO-REHABILITATION
ALLAHABAD

Centre for Social Forestry and Eco-Rehabilitation (CSFER, Allahabad) was established in 1992 with the objective to nurture and cultivate professional excellence in the field of Social Forestry and Eco-Rehabilitation in Gangetic plains of U.P., North Bihar and Vindhyan region of M.P. The center's mandate includes rehabilitation of degraded ecosystems, research and demonstration in social, farm and agro-forestry, identification and development of seed production areas, production of quality planting stock and standardization of planting techniques for forest species.

PROJECTS COMPLETED DURING 1999-2000

UNDP PROJECT : This project was extended for one year (1999-2000).

Sl. No.: 01

Project identification No.: IND/92/038/A/01/99

Name of the principal investigator: B.S. Mishra

Title of the project: Poverty alleviation and socio-economic upliftment of villages.

Year of start of the project: 1993-94

Cost of the project : Rs.13.72 lakhs

Objectives: (a) To uplift the socio-economic conditions of villages by increasing productivity through afforestation. (b) To strengthen the ICFRE research infrastructure.

Scientific importance of investigations: Training-cum-demonstration programmes to the target groups play a significant role in afforestation programme, thereby increasing economic level of the rural masses.

Results/Achievements: Ten villages namely Jhalwa, Pepalgaon, Mandari, Asraurli, Akbarpur, Sallahapur, Lodhipur, Lalganj, Bariyari, Ambedkargaon and Kadilpur were selected under this project. The packages for achieving the objectives were developed. Training-cum-demonstration programme for target groups i.e. farmers, teachers, women, foresters, NGOs etc. regarding planting method and management were conducted at Kanpur, Tikri, Mankapur Gonda, Sohalwa and Varanasi.

OLD PROJECTS CONTINUED DURING 1999-2000

WORLD BANK PROJECT

Sl. No.: 01

Project identification No: CSFER/FREEP-01

Name of the principal investigator: Dr. S.B. Singh

Title of the project: Wasteland and agro-forestry development.

Year of start of the project: 1995

Target year of completion: 2000

Cost of the project: Rs. 50.90 lakhs

Objectives: (a) To establish effective afforestation model for development of selected wasteland sites. (b) To examine legal, administrative, social and policy aspects of crop establishment through people's participation on severely stressed sites.

Scientific importance of investigations: Afforestation of wasteland by developing adequate planting techniques and selecting species of local value.

Results/Achievements: For afforestation of waterlogged sodic site, four models were established at the site experiencing water logging for 3-6 months (August to January) in Uppardaha village of Handia tehsil, Allahabad. A total of eleven plant species *Acacia nilotica*, *Albizia lebbeck*, *Azadirachta indica*, *Casuarina equisetifolia*, *Dalbergia sissoo*, *Eucalyptus* hybrid, *Eucalyptus camaldulensis*, *Holopteria integrifolia*, *Prosopis juliflora*, *Syzium cumni* and *Terminalia arjuna* have been planted to study their survival, height, girth and biomass production. Observations indicate that *Terminalia arjuna*, *Acacia nilotica*, *Eucalyptus camaldulensis*, *Prosopis juliflora* and *Dalbergia sissoo* are performing well on the site. To judge the sustainable productivity of the site, studies on the effects of the different plant species and treatments on physico-chemical soil properties, ground cover and soil flora, are in progress. Mound plantation with application of soil amendments gypsum and rice husk in planting pits and fertilizers around the planted seedlings are suitable models.

To examine legal, administrative, social and policy aspects of crop establishment through people's participation on stressed sites, survey was conducted in two villages of Allahabad (Pawri and Sahipur) and in many Indian Farm Forestry Societies of Sultanpur. Interview, PRA and discussions held with villagers and members, non-members and officials of the society reflect that there are many reasons/ constrains which do not permit people to participate in afforestation programme of wasteland. Study shows that legal constrains like lack of control over use of land and produce, administrative constrains like lack of quick disposal of cases etc.

SI No.: 03

Project identification No.: CSFER/FREEP-02

Name of the principal investigator: Smt. Mukund Dubey

Title of the project: Environmental Rehabilitation -Vindhyan hills and Gangetic plains.

Year of start of the project: 1995

Target year of completion: 2000

Cost of the project: Rs. 72.80 lakhs

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

Scientific importance of investigations: Selection of suitable species for rehabilitation of specific degraded sites and upliftment of rural poor providing sustainable use of NTFPs.

Results/Achievement: Literature review completed field survey and three degraded sites viz. salt affected lands (Pawri), marginal agricultural lands (Kaju) and moisture stress site (old Cant) all near Allahabad in Gangetic plains were identified. Another degraded site of silica mined area (Shankargarh, Allahabad) in Vindhyan region was also selected. Four villages two in Shankargarh, one in marginal farmer's site and one in salt affected site were selected randomly for socio-economic studies. For ecological studies, vegetation survey was conducted at degraded sites.

On the basis of socio-economic interaction and vegetation studies, suitable species for the specified site have been selected and two research models at silica mined area of Shankargarh, one Introduction trial of *Paulownia* and one demonstration plot of species testing trial at moisture stress site have been established. Observation of experiments establishment at degraded sites are as following:

- (i) In *Paulownia* introduction trial, amongst four species of *Paulownia* viz. *P. fortunei*, *P. kawakamii*, *P. fargesii*, *P. tomentosa* and *P. fortunei* performed best in growth and survival after four years of planting. Soil analysis for standard parameters were also conducted to study the change in status of soil. The statistical analysis is in progress.
- (ii) One research model was established at Silica mined area of Shankargarh in 1997 to study the growth response of seven selected species viz. *Madhuca indica*, *Azadirachta indica*, *Pithecellobium dulce*, *Prosopis juliflora*, *Pongamia pinnata* and *Acacia nilotica* in two replications and four treatments of various mulches including control under rainfed conditions. The growth data (average height and CC) are being analysed.
- (iii) Another research model established at Silica mined area in 1998 to study the growth response of eleven species under rainfed conditions viz. *Prosopis juliflora*, *Acacia catechu*, *Pithecellobium dulce*, *Carrisa carandus*, *Dalbergia sissoo*, *Ficus religiosa*, *Dendrocalamus strictus*, *Pongamia pinnata*, *Zizyphus mauritiana*, *Embllica officinalis* and *Butea monosperma* in five replications. The results showed that *Dalbergia sissoo*, *Acacia catechu*, *Pithecellobium dulce* and *Prosopis juliflora* are performing well.
- (iv) One demonstration plot was established at a moisture stress site in 1995 with eleven species viz. *Eucalyptus hybrid*, *Eucalyptus camaldulensis*, *Albizia lebbek*, *Dalbergia sissoo*, *Azadirachta indica*, *Albizia procera*, *Terminalia arjuna*, *Pongamia pinnata*, *Embllica officinalis*, *Tamarindus indica* and *Salvadora sp.* *Dalbergia sissoo*, *Azadirachta indica*

and *Terminalia arjuna* performed well after four years of planting. The statistical analysis is in progress.

SI No.: 04

Project identification No.: CSFER/FREEP-03

Name of the principal investigator: Dr. Neeraj Pant

Title of the project: Productivity of Eco- System.

Year of start of the project: 1995

Target year of completion: 2000

Cost of the project: Rs. 108.6 lakhs

Objectives: (a) To develop reliable method to assess plant growth and productivity in plantations/ forest. (b) To determine the effect of bio-fertilizers particularly mycorrhizae on plant growth at various sites.

Scientific importance of investigations: Application of suitable biofertilizers at seedling stage stimulates plant growth, thus increasing productivity in plantations. Development of productivity assessing method for irregularly shaped trees (e.g. *Butea monosperma*) will help in ascertaining impact of different treatments/inputs.

Results/Achievements: A pot experiment has been conducted at Padila nursery to study the effect of various biofertilizers viz. *Glomus intradices*, *Gigaspora margarita*, *Rhizobium*, *Azotobactor* & PSM on the growth performance of *Dalbergia sissoo*, *Acacia nilotica* and *Casuarina equisetifolia*. The microbial inoculants were used singly as well as in combination to determine the most suitable microbial package. Statistical analysis is in progress.

Butea monosperma trees of Shankargarh forest has been marked and measured for height and GBH by laying random quadrates. Correlation of the various parameters with their productivity will be studied after the culling of identified sample trees.

SL No.: 05

Project identification No.: CSFER/FREEP-04

Name of the principal investigator: V.K. Singh

Title of the project: Planting Stock Improvement Programme (PSIP).

Year of start of the project: 1995

Target year of completion: 2000

Cost of the project: Rs. 124.30 lakhs

Objectives: Development of Seed Production Areas (SPA), establishment of Clonal Seed Orchard (CSO) and Seedling Seed Production Areas (SSPA).

Scientific importance of investigations: Quality planting stock will be available thereby increasing net productivity.

Results/Achievements:

(a) Developments of SPA:

Target-60 ha, Achievement -60 ha.

After surveying 300 ha area of *Dalbergia sissoo*, 70 ha area has been selected. Enumeration in 60 ha area of *Dalbergia sissoo* at Sohelwa wild life forest division has been carried out. Culling in all the target areas have been completed. Seed collection is being carried out.

(b) Establishment of CSO:

Target -3 ha. Achievement -3 ha.

3 ha CSO of *Dalbergia sissoo* has been established at Gangapur Patia, Lalkuwa Haldwani with the joint venture of UPSFD, Silva Sal Region, Haldwani. 30 clones were introduced at the spacing of 6m x 6m. All the clones are doing well and have attained encouraging height and basal diameter.

(c) Establishment of SSPA:

Target - 30 ha, Achievement - 30.5 ha

(*Dalbergia sissoo* - 20 ha, *Acacia nilotica* -10.5 ha) *Dalbergia sissoo* - 20 ha.

30.5 ha SSPA (*Dalbergia sissoo* 20 ha and *Acacia nilotica* 10.5 ha) has been established in collaboration with UPSFD silva sal region Haldwani and Silva south region Kanpur. 40 CPTs each of *Dalbergia sissoo* and *Acacia nilotica* have been identified and selected from different region. Seedlings were raised at Padilla Research Nursery. Planting of *Dalbergia sissoo* has been successfully carried out in 15 ha at Campierganj, Gorakhpur and 5 ha area at Gorakhpur Patia, Lalkuna and Haldwani at the spacing of 5mX3m. Further *Acacia nilotica* has been established in 6 ha area at Itwa, Makandpur Gonda and over 2.0 ha. area at Hasnapur, Meerut at the spacing of 5m x 4m. and over 2.5 ha area at Vrindavan Mathura at the spacing of 5 x 5m. All the SSPA are doing well.

NABARD PROJECT

SI No.: 06

Project Identification No.: CSFER/NABARD-01

Name of the principal investigator: D.G., ICFRE

Title of the project: Development of Agro-forestry models for the various Agro-ecological region.

Year of start of the project: 1995

Target year of completion: 2000

Cost of the project: Rs. 44.53 lakhs

Objectives: To develop Silvi-agri, Silvi-horti, and Silvi-pastoral models suitable for agro-ecological region of Allahabad.

Scientific importance of investigations: Suitable combination of agro-forestry models for specific region will improve productivity and rural economy.

Results/Achievements: Three micro watersheds viz. Bharetha, Bamhrauli and Bhagwatpur were selected within vicinity of 20 Km. from Allahabad. Suitable technological package for rehabilitation of marginal agricultural lands of this region were evolved.

Last year, 67,393 plants were planted under different agro-forestry models like Silvi-agri, Silvi-Horti and Silvi block models in farmer's field. During current year nearly 6,228 plants were planted of which 2000 plants were under casualty replacement and 2000 plants were planted in unirrigated land or wasteland. Approximately 2000 plants were distributed to farmers having irrigation facility. Data's are being compiled.

NEW PROJECTS TAKEN UP DURING 1999-2000

NIL.

EXTENSION

Training:

Under UNDP project training-cum-demonstration programmes were successfully organized for the target groups of Rangers, Foresters, and NGOs at FTI (Kanpur); Tikri FRH (Mankapur and Gonda); and Sohlawa, FRH (Varanasi) attended by 117, 65 and 52 participants respectively on seed technology, methodology for establishment of SPA, diseases and insect pests problems and their control, application of biofertilizers and modern nursery techniques. Besides, training-cum-demonstration programme at Lalganj village was also organized. 150 participants including farmers women and school-teachers attended the programme.

Exhibition, Kisan Mela

The Scientists and JRFs of this Centre have participated in an exhibition organized by CURE, on NGO involved in various activities related to environmental conservation at Bal-bhawan Allahabad. The Scientists demonstrated planting techniques of important forestry species and application of root trainers in nursery planting stock to the local residents.

This centre has also participated actively in local Magh-Mela.

Linkages with other organizations/Institutes /States etc.:

Research Activities of Planting Stock Improvement Programme (PSIP) were linked with collaboration of U.P.S.F.D. of respective area.

Publication and extension literature brought out by the Centre:

Pamphlets with title

उन्नत बीज

बांस के बीज के एकत्रीकरण तथा भण्डारण की विधि

कृषि वानिकी

कुछ बहुउपयोगी वृक्ष प्रजातियों पर टिप्पणी

महत्वपूर्ण वृक्षों के हानिकारक कीट एवं उनका निदान

Methodology for establishment of SPA.

FINANCIAL STATEMENT FOR THE YEAR 1999-2000

I.PLAN		
Sl No.	SUB-HEAD	Expenditure (Rs. in lacs)
1.	A	REVENUE EXPENDITURE (a) Research (b) Administrative Support (c) Other specify (M&S)
		24.93 11.42 0.24
		Total for Revenue Expenditure 'A'
		36.59
	B	LOAN AND ADVANCES (a) Loan Advances (Conveyance) (b) House Building Advance
		0.53 -
		Total for 'B'
		0.53
	C	CAPITAL EXPENDITURE (a) Building & Roads (b) Equipments, Library Books (c) Vehicle (d) Other specify
		- - - -
		Total for 'C'
		-
		GRAND TOTAL FOR A+B+C (Plan)
		37.12
II NON-PLAN		
1	A	REVENUE EXPENDITURE a. Research b. Administrative Support (Salary)
		- -
		Total Non- Plan
		-
		TOTAL FOR PLAN + NON-PLAN
		37.12
III. FUNDED PROJECT		
	A	World Bank Project
	B	UNDP Project
	C	NABARD Project
	D	FORTIP
	E	Other specify
		23.83 0.70 1.59 - -
		GRAND TOTAL FOR (A+B+C+D+E) FUNDED PROJECT
		26.12