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 field of social forestry and eco-rehabilitation in Gangetic plains of U.P. and north Bihar and Vindhyan region of M.P. The Centre's mandate includes rehabilitation of degraded ecosystems, research and demonstration in social, farm and agroforestry, identification and development of Seed Production Areas, establishment of Clonal Seed Orchards and establishment of Seedling Seed Production Areas, production of quality planting stock and standardization of planting techniques for forest species.

PROJECTS COMPLETED DURING 1997-98

NIL

OLD PROJECTS CONTINUED DURING 1997-98

Project 1: (World Bank) – Wasteland and agroforestry development.

Objectives: (a) To develop suitable technology for afforestation of selected wasteland sites. (b) To examine legal, administrative, social and policy aspects of crop establishment through peoples' participation.

Achievements

For the establishment of effective afforestation model, 10 experiments at Upardaha sites and 5 experiments at Pawari site were laid out. As both the sites are alkaline in nature and experience water-logging, plantations of different species were raised on soil mounds after applying suitable soil amendments. Observations recorded so far may be summarised as follows:

Application of FYM (2.0 Kg/plant); fertilizer (50 gm/plant) each of urea, SSP and MP; and both (FYM and fertilizer) during Feb.'96 resulted in 6,10 and 16% height increase of *Terminalia arjuna* compared with control plants after 18 months. Experiments showed 17.9 and 69.2 cm higher increment in plant height of *Azadirachta indica* over control when treated with 50 and 75 gm./plant each of urea, SSP (Single super phosphate) and MP (Muriate of potash), respectively.

Experiments conducted in sodic site during July 1995, consisting of control, fertilizer (75 gm. each of urea, SSP and MP/plant) and mulch (2.0 Kg. paddy straw/plant) + fertilizer (75 gm. each of urea, SSP and MP/plant) have resulted higher survival (76.7%) of *Azadirachta indica* in treated plants compared with control (60%) but had no effect on plant height due to mulch application as per observation recorded after two years.

Experiments started during Feb. 97, consisting control; 50 gm. each of urea, SSP and MP per plant; and above fertilizers alongwith 2.0 Kg./plant gypsum have revealed that height increment of *Eucalyptus* was 42.3 cm in control plots as compared to 47.2 cm in fertilizer and 51.1 cm in fertilizer + gypsum treated plants after six months of application.

To examine the legal, administrative, social and policy aspects of crop establishment through people's participation, survey of two villages (Sahipur and Pawari) has been

completed. Survey indicates that farmers hesitate to plant forest species on their land with fear that their land will be captured by the forest department or matured produce will be taken by the government. Survey also indicates that farmers are not aware of the methods of wasteland reclamation. Collection of more information from different sources is in progress.

Project 2: (World Bank) – Environmental Rehabilitation - Vindhyan hills and Gangetic plains.

Objectives: To develop suitable technological package for rehabilitation of degraded sites.

Achievements

After review of the literature available, four degraded sites viz: salt affected lands, marginal agricultural lands, moisture stress sites and mined areas were identified and one representative site of each type was selected at Pawari, Kaju, Old Cantt. and Shankargarh, respectively. Base line data of each site have been collected and documented. PRA technique has been applied to examine the socio-economic profile of Pawari, Kaju and two villages of Shankargarh (Chakraji Garwa and Garwa Qilla) and data collected are under examination and analysis. Identification and analysis of vegetation samples collected from these representative sites are in progress. Observations of the experiments are summarised below :

***Paulownia* introduction trial :** After 29 months of plantation (Dec. 97), survival %, average height (cm), average gbh (cm), average clear bole length (cm), average crown length and crown width (cm) of four *Paulownia* species viz. *P. fortunei, P. kawakamii, P. fargesii* and *P. tomentosa* are 33, 684, 10.6, 193, 343, 342; 23, 569, 9.1, 157, 222, 347; 23, 667, 10.1, 159, 260, 407 and 23, 506, 8.4, 126, 203, 303, respectively. Statistical analysis for height and gbh shows that all the species are at par.

In a species screening trial at Pawari, average height (cm), average collar dia. (cm), survival % of five species viz: *Prosopis juliflora, Acacia nilotica, A. catechu, Terminalia arjuna* and *E. camaldulensis* after one year (Sept. 97) of plantation are 162.3, 10.3, 98; 166.7, 7.7, 100; 164.5, 7.5, 88; 156.6, 9.8, 95; 138.3, 6.9, 80, respectively.

Project 3: (World Bank) – Productivity of ecosystems.

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

Achievements

Ecological survey of Chilbila forests at Pratapgarh was conducted for screening species frequency, density and abundance. Soil analysis of two sites at Pratapgarh was done.

Project 4: (World Bank) – Planting Stock Improvement programme.

Objectives: Development of seed production areas, establishment of clonal seed orchards and seedling seed production areas.

Achievements

Development of seed production areas of *Dalbergia sissoo* : Total target is 60 ha. After surveying over 300 ha of *Dalbergia sissoo* plantations, 70 ha have been selected for

development of SPA. Total enumeration of the stands has been carried out for 60 ha area alongwith the number of trees being retained/culled:

Establishment of clonal seed orchard of *Dalbergia sissoo*: Total target is 3 ha. Since the centre does not have any land of its own, CSO is being established at Lalkuan in Haldwani Division in collaboration with the Silviculturist (Sal), Haldwani of the U.P.F.D. for the purpose.

Clones were collected from 30 CPTs of *Dalbergia sissoo* and raised in the nursery of silva (Sal) at Haldwani. Plantation has been done at a spacing of 6m x 6m. Adequate fencing and irrigation facilities have been provided.

Besides, clones have also been collected from 100 CPTs in Gorakhpur and are being raised at Bengai nursery of Tilkonia range in collaboration with U.P.F.D.

Establishment of seedling seed production area of *Dalbergia sissoo* and *Acacia nilotica* : Total target is 30 ha. The centre has collaborated with U.P. Forest Department for establishing SSPA. 40 CPTs each of *Dalbergia sissoo* and *Acacia nilotica* have been identified for collection of seeds for raising seedlings. Planting has already been carried out on 05 ha area at Campereganj, Gorakhpur. The spacing is kept at 5m x 3m. Seedlings of *Acacia nilotica* have been planted on 02 ha area at Khola, Hastinapur in Meerut at a spacing of 5m x 4m.

Project 5: (NABARD) – Development of agroforestry models for various agro-ecological regions.

Objectives: To develop agroforestry models for the agro-ecological region of Allahabad.

Achievements

Under this project, three micro-watersheds namely Bhagavatpur, Bamhrauli and Bharetha, which are within 25 km distance from Allahabad city, have been selected. Two micro-watersheds comprise one village each viz: Bamhrauli and Bharetha but Bhagavatpur micro-watershed comprises two villages.

During the current year, different agroforestry models viz: agri-silvi, agri-horti and silvi-pastoral have been established in all the micro-watersheds in which total 15,066 nos. of seedlings (14,194 nos. of silvi component and 872 nos. of horti component) have been planted with the application of FYM and inorganic fertilizers.

Project 6: (UNDP) – Poverty alleviation and socio-economic upliftment of villagers.

Objectives: Socio-economic upliftment of villagers by increasing productivity through afforestation.

Achievements

Ten villages namely Jhalwa, Peepalgaon, Asrauli, Mandari, Akbarpur, Sallahpur, Lodipur, Lalganj, Bariyari, Ambedkar Nagar and Kadipur were identified under this project for poverty alleviation and socio-economic upliftment of villagers by increasing productivity through afforestation. The package for this purpose was developed with the following components:

1. Distribution of suitable MPTs to the farmers of selected villages.
2. Conducting training cum demonstration programme for target groups i.e. farmers, teachers, women etc. regarding planting methods and after care.

3. Inculcating the sense of willingness amongst the target groups to take up plantation of MPTs and their maintenance as a way of life.

Seedlings of MPTs have been raised at central nursery Padilla and a total of 11,181 seedlings were distributed amongst the farmers of the selected demonstration villages.

Besides, 545 no. of seedlings were inoculated with bio-fertilizers in four nurseries i.e. central research nursery of CSFER, Padilla; U.P. SFD's nursery at Padilla, U.P. SFD nursery at Janakpur in Gonda (N) Forest Division; and U.P. SFD nursery at Nandmehra in Gonda (N) Forest Division. *Rhizobium* PSM and *Azatobactor* were used for inoculation.

NEW PROJECTS TAKEN UP IN HAND DURING 1997-98

NIL

EXTENSION

Under UNDP project, training cum demonstration programmes were conducted at Peepalgaon, Bariyari, Lalganj and Lodipur. Farmers, women and school teachers were taken to demonstration plots and training was imparted on nursery techniques, aftercare and maintenance of plantation, role of women and teachers in forestry, scope of agroforestry in local conditions etc.

Under NABARD project demonstration and extension was arranged for farmers, State Forest Officials and NGO's in all the three micro-watersheds selected with the aim to motivate farmers for adoption of agroforestry practices, coupled with moisture conservation and water harvesting measures. 320 trainees were trained under the programme.

FINANCIAL STATEMENT

SUB-HEAD/PROJECT		EXPENDITURE (in Rupees)
(i)	**NABARD Project**	
(A)	NABARD Component	2,76,136=49
(B)	Council Component	39,530=00
	Total for NABARD A+B	3,15,666=49
(ii)	**UNDP Project**	
(A)	UNDP Contribution	72,220=00
(B)	Indian Contribution	44,783=00
	Total for A+B	**1,17,003=00**
(iii)	**World Bank Project**	
(A)	Investment Cost	9,23,516=00
(B)	Recurring Cost	4,81,665=35
(C)	Research Operation	
	I. Research Expenses	2,85,245=25
	Total A+B&C	**16,90,426=60**
(iv)	**Expenditure of Normal A/C**	20,52,582=00
	Salaries (R)	10,60,143=00
	Salaries (NR)	77,514=00
	TE (R)	9,944=00
	TE (NR)	7,22,968=00
	OE (R)	12,246=00
	M&S	67,000=00
	Conveyance (Loan & Adv.)	
	Equipment & Lib.	1,00,349=00
	Grand Total	**41,02,746=00**