



CHAPTER X CENTER FOR FORESTRY RESEARCH AND HUMAN RESOURCE DEVELOPMENT CHHINDWARA

Centre for Forestry Research and Human Resource Development, Chhindwara, came into existence on 30th March, 1995 and declared as satellite centre of Tropical Forest Research Institute, Jabalpur under the ICFRE, Dehradun on 3rd January, 1996. The mandate of the centre is to take up the forestry research in the specialized areas like biodiversity conservation, non-wood forest products, forest protection, socio-economics, silviculture and tree improvement. In addition to this the centre has also been assigned the work to develop the human resource in forestry sector by imparting vocational training leading to poverty alleviation through self-employment.

PROJECTS COMPLETED DURING THE YEAR 2003-2004

NIL.

PROJECTS CONTINUED DURING THE YEAR 2003-2004

Project 1: Studies on the feasibility of cultivation of medicinal and aromatic plants as intercrop in natural forests and plantations and their phytochemical investigations [049/CFRHRD-(2001-2002)/1(2)]

Principal Investigator – Shri A. Vijayaraghavan

Status: A herbal garden comprising of nearly 90 medicinal and aromatic plants species including several endangered / threatened species with aim to conserve them. Satawar (*Asparagus racemosus*), Sarphaghandha (*Rauwolfia serpentina*), Kalihari (*Gloriosa*

superba) and Ganwarpatha (*Aloe vera*) were planted at four different spacing to study the effect of spacing on production of leaves in Ganwarpatha and root in case of Satawar.

Safed musli planting material (tubers) were treated with five treatments viz., Cow urine, Neem leaves extracts, Calotropis leaves extract, Bavistin 0.2 percent and control. The tubers were soaked in above solutions for one hour and then sown in raised germination bed. The results revealed that the planting material treated with Calotropis leaves extract gives more germination percentage compared to all other treatments. This is due to anti-fungal, anti-bacterial activities of phytochemicals like â-amyrin, tara xasterol, â-sitosterol, free sapogenins and resins present in plants.

Kalmegh, Lemon grass and Ganwarpatha were planted as intercrop in natural forest and in plantations of *Gmelina arborea*, *Paulownia* sp., *Azadirachta indica* and *Embllica officinalis* to compare their performance under these conditions.

Project 2: Studies on the insect pests of *Embllica officinalis* and *Gmelina arborea* in agroforestry and plantation ecosystems [050/CFRHRD-(2001-2002)/2(3)]

Principal Investigator - Dr P.B. Meshra

Status : Seven varieties of *E. officinalis* were evaluated against the gall forming insect *B. stylophora*. Chakaiya followed by Kanchan were found less susceptible to pest attack than other varieties (N6, N7, Francis, Banarsi & Wild).



Emblica officinalis damaged by
gall forming insect *Betousa*
stylophora

Project 3: Standardization of nursery techniques and propagation methods of *Buchanania lanzan* spreng. (Achar of Chironji) [051/CFRHRD-(2001-2002)/3(4)]

Principal Investigator - Dr D.L. Nandeshwar

Status: The medium size seed of *Buchanania lanzan* is found better than small and bigger size seeds in respect germination and seedling growth. Standardised the pricking stages of germinants of *B. lanzan* seedlings in the nursery.



Block Plantation of *Buchanania lanzan*

NEW PROJECTS INITIATED DURING THE YEAR 2003-2004

Project 1: Standardization of Cultivation technique and utilization of Lacate Stpitate species of Gandoermatacea [056/CFRHRD-2003/2(6)]

Principal Investigator - Dr C.K. Tiwary

Status: Morphological and anatomical studies *G. lucidium* carried out for selection of strain. Work is in progress.

Project 2: Studies on the nutritional requirement of *Albizia procera* at nursery and plantation stage [057/ CFRHRD- 2003/3 (7)]

Principal Investigator – Shri S.D. Sonkar

Status: Seeds of *A. procera* were collected from three different localities viz. T.F.R.I. Campus, Jabalpur, Bamandehi, Seoni and Chhindwara in the month of May 2003. Pods were carefully broken and seeds were collected, dried and stored in air tight container for further investigation. Seeds were tested for germination (TTZ) percentage. Seeds of Jabalpur were found to be the best with 80 percent germination followed by 72 percent of Seoni and 68 percent of Chhindwara.

NEW PROJECTS INITIATED DURING THE YEAR 2003-2004

(Externally Aided)

Project 1: Standardization of Production Technology of Some Important Medicinal Plants Under Tropical Climate of Madhya Pradesh [055/CFRHRD- 2003/(MHFW) (5)]

Principal Investigator – Dr A.K. Pandey

Status: Experiments for testing Sarphaghanda (*Rauwolfia serpentina*), Kalmegh (*Andrographis paniculata*), Kalihari (*Gloriosa superba*), Gudvel (*Tinospora cordifolia*), Gudmar (*Gymnem*

sylvestre) and Aonla (*Emblca officinalis*) were laid for the effect of spacing, NADAF and FYM have been laid. Observation has been initiated.



Medicinal and Aromatic Plants Garden

EDUCATION AND TRAINING

Training organised

- ♦ Training on Cultivation and conservation of medicinal and aromatic plants at CFRHRD Chhindwara on 29th and 30th September, 2003, 4th to 6th January, 2004, 28th to 30th January, 2004 and on 25th March, 2004 was organized for farmers and NGOs, farmers of Gajipur, U.P., farmers of Kondhali, M.S. (under IWDP) and farmers of Wadgaon Mahure, Amaravati, and M.S. 40, 20, 21 and 45 participants attended the training, respectively.



Training on Cultivation and conservation of medicinal and aromatic plants

- ♦ Wood Identification and preservation was organised to carpenters / plant growers of Chhindwara at CFRHRD CWA on 1st and 2nd March, 2004. 19 participants participated the training.

PUBLICATIONS

Research papers

1. Pandey, A.K. (2003). Composition and *in-vitro* antifungal activity of the essential oil of menthol mint (*Mentha arvensis* L.) growing in central India. *Indian Drugs*, 40(2): 126-128.
2. Meshram, P. B. and Patra, A. K. (2003). Heavy outbreak of Parakeet *Psitacula krameri* in Hi Tech plantations at Chhindwara. *Indian Forester*, 129(3): 413-414.
3. Meshram, P. B. (2003). Evaluation of some insecticides against lace bug *Tingis beelsoni* in Hi Tech plantations of *Gmelina arborea*. *My Forest*, 39(2):133-135.
4. Meshram, P. B.; Patra, A. K. and Garg, V. K. (2003). Seasonal history and chemical control of gall forming insect *Betousa stylophora* on *Emblca officinalis*. *Indian Forester*, 129(10): 1249-1256.
5. Sonkar, S.D; Patra, A.K and Pandey, A.K (2003). Growth performance and suitability of Nitrogen and non-nitrogen fixing tree species on degraded sites. *Indian Journal of Forestry*, 26 (3): 271-275.
6. Sonkar, S.D (2004). Growth performance of different nitrogen fixing tree species and their subsequent organic matter and nitrogen enrichment in different types of degraded sites. *Environment and Ecology*, 22(Spl-1): 104-110.



7. Sonkar, S.D. (2004). Litter production and nutrient return in the plantations of *Tectona grandis* and adjoining natural forest in Madhya Pradesh. *Environment and Ecology*, 22(Spl-1): 116-124.
8. Sonkar, S.D. (2004). Physicochemical properties of soils of Jabalpur as affected by plantations of different tree species. *Nature, Environment and pollution technology*, 3(1): 33 -38.

Bulletins

1. Meshram, P.B. and Patra, A.K. (2003). Pests of *Gmelina arborea* and their control measures CFRHRD, Bull. No. 13, 12 pp.
2. Meshram, P.B. and Patra, A.K. (2003). Vermicompost-production and utility. 103 ICFRE Bull. No. 9, 12 pp.

CONFERENCES / MEETINGS / WORKSHOPS / SEMINARS / SYMPOSIA / EXHIBITIONS

Shri. A.K. Patra; Shri. S.D. Sonkar; Dr P.B. Meshram; Dr D.L. Nandeshwar; Shri.A. Vijayaraghavan; Dr C.K. Tiwari participated in National Workshop on Regional Strategy for Plant Conservation from 26th and 27th February, 2004 at TFRI, Jabalpur.