

EXTERNALLY AIDED PROJECTS

Project 1: Improvement of Weathering Properties of Wood Surfaces by Chemical Modification (Funding agency: CSIR) [2009-2012]

Status: Project initiated on 1st March 2009.

Project 2: Second National Communication (NATCOM-II) Project on “Assessment of Soil Carbon Stocks and Dynamics in Forest Soils of India for the Period 1995-2007” (Funding Agency – UNDP/GEF-MoEF) [2008-2009]

Status: Soil samples from 53 selected points of 16 different forest types including 8 points of non forest areas have been studied and collected from 0-30 cm depth and analysed for total organic carbon content and bulk density. The report was submitted.

Project 3: Development of package of practices for the management of teak heart wood borer, *Alctrogystia cadambae* (Moore). (Funding agency: Karnataka Forest Department) [2008-2009]

Status: Surveyed the pest incidence in the identified study areas- Doginal and Kirwatti in Yellapur division of Karnataka. Installed 3 light traps (One is solar powered) for the monitoring of the pests in the infested plantations. Adult activity monitored from light trap collections from the infested plantations. Mechanical control by larval traps and soil traps were tested and role of bird predators documented. Biocontrol by nematode injections into infected trunk was tested at Doginal plantation.

Project 4: Improvement of planting Stock of forestry species using eco-friendly biofertilizer like VAM fungi (Funding agency: Karnataka Forest Department) [2008-2009]

Status: Survey was carried out in Shimoga, Hasan and Mysore dist, collected rhizosphere soil. Spore count and % of infection was estimated from the rhizosphere soil of selected plants. Spore density varied from one species to another and also with different location. All the selected plant species showed AM infection, but with varying frequency, altogether 10 sp. of fungi belonging to 5 genera were recorded. Predominant species were *Gigaspora*, *Glomus* and *Sclerocystis* in Shimoga area and only *Gigaspora* and *Glomus* are dominating in Hasan area. 30-50% of increase in growth was observed in treated seedlings. Highest % growth increment was observed in Eucalyptus followed by Casuarinas, Acacia and Teak. 3 demonstration programmes were conducted in Kadugodi and IWST, Bangalore. 2500 copies of brochures, both in Kannada and English were prepared.

Project 5: Testing the efficacy of TBTM-MMA preservative developed by NMRL in Visakhapatnam and Kochi ports. (Funding agency: Naval Materials Research Laboratory, DRDO, Ambernath, Mumbai) [2008-2011]

Status: TBTM-MMA treated wooden test panels of *Paraserianthes falcataria* and *Bombax ceiba* along with controls were exposed at Slipway Complex, Visakhapatnam port and North Jetty, Naval Base, Kochi. Monthly observations were made on the fouling organisms settling on the panels and wood boring organisms attacking them. The untreated panels of both the species were destroyed in 6-12 months. Treated panels at Kochi were attacked by sphaeromatids but those at Visakhapatnam harbour remained free at the end of 12 months.

Project 6: Investigations on marine fouling and wood boring organisms in Machilipatnam and Nizampatnam ports, Andhra Pradesh (Funding agency: Ministry of Earth Sciences, Government of India, New Delhi) [2008-2010]

Status: Wooden test panels of 150 x 80 x 20 mm size were exposed at Machilipatnam and Nizampatnam ports to trap marine fouling and wood boring organisms. They were retrieved at monthly intervals and observations made on the percent cover of panel surface by fouling organisms, species of fouling organisms, their number/density, size attained, etc. Wood boring organisms were extracted and identified. All the species of fouling and wood boring organisms were maintained as voucher specimens. Water samples were collected and analyzed for hydrographical parameters like temperature, pH, salinity, dissolved oxygen and nutrients. Long term panels were exposed at a time and retrieved at monthly intervals to study the recruitment of fouling organisms at the end of 2, 3, 4.....12 months.

Project 7: Structure, diversity and germination syndrome in tropical evergreen forest – A case study from Western ghats of Karnataka using permanent preservation plots (Funding Agency: Karnataka Forest Department) [2008-2009]

Status: Vegetation analysis of data collected of PPPs in 3 sites; Makuta, Muchiladuka and Malemane falling in South, Central and Northern part of Tropical wet evergreen forests of Western ghats, Karnataka from 1937-2008 completed. Parameters like diversity index, similarity index, population structure worked out. Regeneration trends of these forest types represented by the PPPs worked out according to four regeneration category classes.

Project 8: Distribution, natural regeneration and identification of seed stands and candidate plus trees in *Chloroxylon swietenia* (Funding agency: Karnataka Forest Department) [2008-2009]

Status: *Chloroxylon swietenia* is an important species which falls in vulnerable category as reported by IUCN. Regeneration status of this species was documented. Three seed stands and

three candidate plus trees have been identified. The seed stands can be used as a source of seed collection.

Project 9: Seed dormancy and germination behaviour in *Buchanania lanzan* Spreng. and *Diospyros melanoxylon* Roxb. [Funding agency: Karnataka Forest Department) [2008-2009]

Status: Seeds of *B. lanzan* were collected from Tumkur, Shira, Bidar and Agumbe and for *D. melanoxylon* from Kollegal, in Karnataka, Chandrapur in Maharashtra and Jabalpur in Madhya Pradesh. Between the species were found to have seed dormancy. In *B. lanzan*, fully mature depulped seeds treated with gibberlic acid enhanced germination percentage, while in *D. melanoxylon* pretreatment with bleaching powder, followed by gibberlic acid treatment enhanced germination. Natural regeneration in both species is predominantly by root suckers.

Project 10. Theoretical analysis of sorption isotherms by Brunauer, Emmet and Teller theory and standardization of optimum conditions for seed storage of *Bambusa bambos* and *Jatropha curcus* (Funding agency: IFS/Sweden) [2008-2011]

Status: Purchased BOD incubator, glass dessicators, chemicals, colour printer and sys-stat software. Collected seeds of *Jatropha curcus*.