



EXTENSION PANORAMA



Extension Panorama

Introduction

Directorate of Extension aims at dissemination of useful research findings to various stakeholders through its nationwide network, different publications, workshops and training programmes. It coordinates various extension activities of ICFRE institutes and centres and evolves comprehensive extension strategies. It also provides consultancies in EIA and related subjects.

The Directorate is having Media & Publication, Statistics and Environment Management divisions to expedite the mandate of Forestry Extension through various activities such as publications like bulletins, brochures, pamphlets, newsletters, forest statistics and annual reports, and workshops, trainings etc. through the country wide network of Van Vigyan Kendras and Demo Villages.

Media and Publication Division looks into the extension activities and strategies being adopted by the Institutes of ICFRE for the dissemination of research findings in forestry sector. This division maintains the monthly account of various R&D activities of ICFRE institutes and keep MoEF apprised of them. The division publishes the Newsletters of ICFRE and the ICFRE Brochure. The reports of ICFRE and its institutes are collected, compiled, edited and published as the Annual Report of ICFRE, which is tabled in Parliament. Work on establishment of Van Vigyan Kendras (VVKs) in collaboration with SFDs and selections of Demo Villages for adoption by ICFRE institutes have progressed considerably. Twenty five VVKs have been established in different states. Eight Demo Villages have been established in different eco-climate zones of the country.

The division is also rendering services to promote Rajbhasha Hindi and evaluating the progress in implementation of Rajbhasha in the

Council and its institutes. Quarterly progress report on the progress of Rajbhasha Hindi is collected from all the eight institutes and headquarters, compiled and submitted to the Rajbhasha Vibhag of MoEF. Division conducts trainings and workshops on the implementation of Rajbhasha Hindi.

Statistics Division is mandated to collect process and disseminate information pertaining the forestry sector of India. To fulfil the mandate, the following tasks were carried out during the year 2010-11.

1. The work on Forestry Sector Report India 2010 sponsored by Ministry of Environment and Forests, Government of India has been undertaken by the Division.
2. A “Monitoring Mission” from International Tropical Timber Organization (ITTO) visited ICFRE from 10th to 12th March 2011 to review the ITTO sponsored project “A sample survey of pulp, paper and hardboard industry of India”.
3. Two half-yearly issues of Timber Bamboo Trade Bulletin were published during the year.
4. Data for “Forestry Statistics India 2009” were collected and collated, which is under preparation.



Shri A.K. Bansal, DG, ICFRE and Dr. Steven E. Johnson, Editor and Communications Manager, ITTO during the Monitoring Mission of ICFRE-ITTO Project



5. The NOVOD Board sponsored ongoing project entitled 'Development of a database on tree-borne oilseeds in India' was in progress.
6. Statistical inputs were given to the research scholars of FRI Deemed University through individual consultations and meetings of the Research Advisory Committees. Lectures on Statistical Methodologies were given to the students and research scholars of FRI Deemed University.

Environment Management (EM) Division: undertakes consultancies in the area of environment and forest for sectors like hydropower, mining, infrastructure, highways etc. Also, it coordinates with the EIA Cells in the institutes of ICFRE for undertaking region based consultancies. Till March, 2011, the Division has completed 30 EIA/ EMP studies worth ₹ 1193.02 lakh and 10 projects worth ₹ 295.81 lakh are underway.

Sustainable Land and Ecosystem Management-Country Partnership Programme (SLEM-CPP)

The GEF funded and World Bank supported medium size project on “Policy and Institutional Reform for Mainstreaming and Up-scaling Sustainable land and Ecosystem Management in India” anchored at the Ministry of Environment and Forests, Government of India, and implemented by the ICFRE, Dehradun started functioning since August 2009. The overall objective of the project is to enhance the institutional and policy framework for harmonisation, coordination and monitoring of interventions in agricultural and natural resource management strategies that promote sustainable land management and enhance agricultural productivity while minimizing environmental impacts. In order to achieve the objectives, the project has three components, namely

Institutional and Policy Mainstreaming, Outreach and Knowledge Management for scaling-up of sustainable land management solutions, and Partnership Programme Management and Monitoring and Evaluation.

Technical Coordination

Technical coordination has been provided through the Technical Facilitation Organisation (TFO) anchored at the Indian Council of Forestry Research and Education (ICFRE). Various divisions of the ICFRE headquarters and its research institutes provided the requisite technical support as and when required to SLEM projects located in different parts of the country.

National Steering Committee Meeting

As a part of the requirement of the SLEM-CPP, a National Steering Committee (NSC) had been constituted under the guidance of the Ministry of Environment and Forests. The composition of the National Steering Committee is as follows:

Chairperson – Spl. Secretary, Min. of Env't. & Forests

Members -

- Director General, ICFRE.
- IGF, Desertification Cell, MoEF, GoI.
- Joint Secretary and GEF Operational Focal Point India, MoEF, GoI.
- Joint Secretary and UNFCCC Focal Point, India MoEF, GoI.
- Joint Secretary and CBD Focal Point, India MoEF, GoI.
- Joint Secretary, Ministry of Rural Development, GoI.
- Joint Secretary, Ministry of Water Resources, GoI.
- Joint Secretary, Ministry of Agriculture, GoI.
- Director and GEF Political Focal Point India, DEA, GoI.



1st National Steering Committee Meeting

The first meeting of the NSC was held on 26th May 2010, at the Ministry of Environment and Forests, New Delhi. The meeting was chaired by Shri R. H. Khwaja, Special Secretary, MoEF. Also present at the meeting were Dr. G. S. Rawat, Director General, Indian Council of Forestry Research and Education (ICFRE) and the Member Secretary of the NSC, Dr. Rabindra Kumar, DDG (Extn), ICFRE. The NSC was also attended by the various stakeholders, including representatives from the Ministry of Rural Development, Ministry of Agriculture and Cooperation and the Project Directors of seven projects under SLEM-CPP.



Brainstorming Workshop in Progress

Brainstorming Workshop on the Baseline Study

A two day brainstorming workshop (29th and 30th September 2010) on the Baseline Study for the Sustainable Land and Ecosystem Management was held at the Indian Council of Forestry Research and Education, Dehradun. The workshop was a part of the consultative process under the World Bank led medium size project (MSP), Policy and Institutional Reform for Mainstreaming and Up-scaling Sustainable land and Ecosystem Management in India, anchored at the ICFRE. The Brainstorming Workshop was inaugurated by Dr. G. S. Rawat, Director General, ICFRE. Participants at the workshop included nodal officers for the SLEM projects, scientists

and experts from the eight ICFRE institutes across the country. The inaugural session of the workshop was also attended by senior officers of the ICFRE.

Financials

The total approved cost of the project is US \$ 1,985,267 of which GEF financing accounts for US \$981,412 and the balance amount of US \$1,003,855 is by way of co-finance by the ICFRE. The TFO has incurred an expenditure of ₹ 49,74,375.00 during the year April 2010-March 2011. The total cumulative expenditure incurred till March 2011 is ₹ 82,46,305.10 only.

The National Forest Library and Information Centre (NFLIC)

The National Forest Library and Information centre (NFLIC) is richest in document collection on forestry and allied sciences in South and Southeast Asia. The NFLIC has been providing all types of library and information services viz. reference, referral, lending, reprography, current awareness, inter-library loan, retrieval of information from machine readable database, etc. to its users. During the year, 29,761 books were loaned to the users for outside reading. Besides, 59,726 documents were consulted inside the library.

The document collection of the NFLIC was enriched by the addition of 2,731 books and other documents, out of which, 1,210 books were purchased at a cost of ₹ 18.17 lakh. The NFLIC subscribed to 79 Indian and 110 foreign periodical titles at a cost of ₹ 74.02 lakh. It also received 325 periodical titles as gratis. The NFLIC also provided online accessibility to 14 most useful journals to the regional institutes of ICFRE at a cost of ₹ 15.00 lakh.

A bibliographical database-forest science database was also subscribed for providing access to old as well as latest research articles on forestry at a cost of ₹ 2.23 lakh.



In order to track, analyze, and visualize research on different aspects of forestry and environmental science, the NFLIC subscribed SCOPUS, which is the largest abstract and citation database of peer-reviewed literature and quality web sources with smart tools, at a cost of ₹ 8.08 lakh.

The NFLIC has been selling ICFRE publications through its Book Depot. During the year, 665 books and 23 VCDs were sold to the state forest departments, universities, etc. and a revenue of ₹ 1,38,791/- was earned.

Environmental Information System (ENVIS)

The Ministry of Environment and Forests, Govt. of India established ENVIS Centre on Forestry at the NFLIC. The Centre, during the year, enriched the following six databases by the addition of new references: Indian Forestry Abstracts, Participatory Forest Management, *Prosopis juliflora*, Poplars, Environment and Forests in Press, Current Forestry Literature, which are accessible through the website of the Centre having URL: www.frienvis.nic.in. Besides, the contents pages of journals, forest cover of India, state-wise and then district-wise, announcements of forthcoming national and international conferences, seminars, symposia, training course, etc. were also put up on the website.

Publications: The ENVIS Centre on Forestry published two issues of ENVIS Forestry Bulletin, including a special issue on Forest Products Chemistry; and three issues of Environment and Forests News Digest.

4.1 Report on Van Vigyan Kendras (VVKs) and Demo Villages (DVs)

Van Vigyan Kendras (VVKs)

FRI, Dehradun has established six Van Vigyan Kendras (VVKs) in the states and UTs of its working jurisdiction. At present three states

viz. Uttarakhand, Punjab and Haryana and two Union Territories viz. Delhi and Chandigarh have VVKs working under the supervision of FRI, Dehradun. One VVK at Kanpur is being looked after by CSFER, Allahabad.

A number of trainings were provided on various themes including Awareness programme on Forestry Research and its utilization, Propagation, utilization and protection of bamboos, Importance, utilization and protection of NTFP, Nursery and plantation techniques, Collection, storage and protection of seeds and Forest mensuration and tree pruning techniques.

A training and demonstration programme on “Challenges and Prospects of Forestry” was organized from 23rd to 25th January 2011 at Van Vigyan Kendra, Kanpur by CSFER, Allahabad.



Field Demonstration During Training on Forest Mensuration at VVK, Delhi



Training on Urban Forestry at VVK, Chandigarh



Participants of Agroforestry Training at VVK, Haldwani



Training on forest mensuration and tree pruning techniques at VVK, Delhi



Participants of Forest Mensuration & Tree Pruning Techniques Training at VVK, Hoshiyarpur



Training Under Demo Village



Participants at VVK, Pinjore



Training on GPS Under VVK Training Programme



IFGTB, Coimbatore has established three VVKs in the states and UTs of its jurisdiction. The institute organised training programme on seed production and nursery techniques and an interactive workshop with farmers at VVK, Coimbatore, Tamil Nadu wherein, more than 200 farmers from various Districts of Tamil Nadu participated. Planted 500 seedlings of *Azadirachta indica*, *Syzygium cumini*, *cassia fistula*, *Switenia macrophylla*, *Switenia mahogany*, *Spathodia*, *Pungam* and *Dalbergia sisoo* with involvement of students, trainees, farmers, forester on World Environment day 2010. Also organised training programmes on Clonal Forestry to the officials of Tamil Nadu Forest Department, Papaya Mealy Bug (*Paracoccus marginatus*) infesting Tree Crops for farmers and foresters. Distributed seedlings to farmers.

Published books on *Melia dubia* – Money Spinning Series – 2 and Tree borne oil seeds, Pamphlet and brochures on Bio remediation strategies of mine spoils: An experience of IFGTB, Vilvekam - *Aegle marmelos* seed oil based biopesticide and Nitrogen fixer a growth promoter for casuarinas were published. Also, reprinted 1000 copies of book on Quality planting stock production since there was huge demand for the same from farmers and foresters.

The clones released by the institute was provided to Andhra Pradesh Forest Department, Gujarat Forest Department and Andhra Pradesh Paper Mills

Tree Information Centre

The queries received from foresters and farmers in areas related to cultivation and management techniques, quality planting



Tree Information Centre

materials of various fast growing native species, pest and disease problems, farm inputs were addressed through single window system. A dedicated telephone is installed at the centre to facilitate receiving and answering queries.

The institute conducted consultative meeting with all ACFs of Southern, central and northern regions of Social forestry wing. Kerala at Ernakulam under the chairmanship of CCF, Social Forestry, Ernakulam and discussed about the programmes and activities of VVK, Kuthiran.

The institute organised training programmes to field forest officers at South Andaman, Baratang, Middle Andaman, Mayabunder and Diglipur and foresters trainees at Forest Training School, Wimberlygunj under VVK, Port Blair, Andaman and Nicobar Islands on Quality planting stock production, Biofertilizers and biomanures, Climate change and Forestry, Reproductive and floral biology of mangroves, and plantation technologies. More than 200 field functionaries were trained.

IWST, Bangalore has established three VVKs in the states falling under its jurisdiction. The institute organized training programme at VVK, Goa on 21st and 22nd September 2010 for a batch of 30 Range Forest Officers and Deputy Range Forest Officers of Goa Forest Department. They were given training on model nursery practices for sandal, macro and micro-propagation techniques of different bamboo species. During the training, demonstrations on different wood preservation techniques i.e., sap displacement and boucherie process was organized. The importance of wood preservation and different methods of preservation were briefed and training on handling of equipments and chemicals were provided. The extraction of volatile oil from *Eucalyptus* leaves using distillation unit was demonstrated to the trainees. On 22nd September 2010, a batch of 25 no. of Forest Guards, Goa Forest Department was given training on model nursery practices for sandal and nursery pest



management. The trainees were also given training on wood processing i.e., wood properties, seasoning, preservation and protection with a especial emphasis on *Acacia auriculiformis* and other plantation grown secondary wood species and small girth timber for value addition. A demonstration on different wood preservation techniques i.e., sap displacement and boucherie process and extraction of volatile oil from *Eucalyptus* leaves using distillation unit was demonstrated to the trainees.

As part of VVK, Karnataka activity, training was provided to Range Forest Officers (RFO) of Karnataka Forest Department (FTATI, Kadugodi) at IWST, Bangalore on 22nd September 2010, under a regular training programme. A visit was also organized to tissue culture lab, nursery and different divisions of institute including AWTC. Training was provided to VFC Presidents and Executive Committee Members at FTATI, Kadugodi on 12th October 2010, under a regular training programme. During the training, lecture and demonstration on “Sandal nursery technologies” and various aspects of Wood Preservation were explained. This was followed by demonstration on Sap displacement technique and broucherie process. Training was also provided to Range Forest Officers (In charge) at FTATI, Kadugodi on 18th November 2010 under a regular training programme. During the training, lecture on “Modern Nursery and Plantation Techniques” was delivered.

The institute demonstrated the technology of extracting essential oil using portable distillation unit to the trainees of Forest Technical and Administrative Training Institute, Karnataka at VVK, Kadugodi, IWST Bangalore on 16th November 2010.

Altogether five training programmes were conducted under “Van Vigyan Kendra”, FRC, Hyderabad. A total of 252 participants received training on topics covering subjects like Biodiversity conservation, Global warming and

climate change, Environmental protection and Urban forestry.

RFRI, Jorhat is operating five numbers of Van Vigyan Kendras in five North-Eastern states: Assam, Arunachal Pradesh, Mizoram, Nagaland and Tripura. Different activities were planned for the financial year 2010-2011 as per ICFRE guidelines.

The institute conducted seven nos. of trainings at VVK Nagaland on Nursery & Plantation especially on Bamboos to over 300 beneficiaries including the frontline field officials, farmers, NGOs and villagers. The trainings covered Techniques of raising bamboo, nursery & plantation, management of diseases & Pests in bamboo, harvesting, utilization & preservation of bamboo, bamboo varieties of North-East region, Medicinal Plants/Herbs of Nagaland- IK on Medicinal herbals, its value addition, Use of GPS in Forest survey & mapping and Importance of Wildlife Conservation.

The institute conducted ten trainings with two days duration during 2010-11 under VVK Arunachal Pradesh for the farmers of the state and functionaries of different departments like Horticulture, Agriculture and Environment & Forests, Govt. of Arunachal Pradesh on the subjects including Propagation, Cultivation and Management of Orchids/ Floriculture for economic development of Arunachal Pradesh, Bamboo and Cane: its propagation, cultivation and management for sustainable development, Forest and Forestry of Arunachal Pradesh, and Effect of global warming and climate change. Over 200 participants were present in the training programmes.

Modern nursery was established under VVK project at Chessa. During 2010-11 received ₹ 50,000/- (₹ fifty thousand) only for maintenance of the nursery, purchased the seeds of different cane species like *Calamus tenuis*, *C. erectus*, *C. gracilis*, *C. flagellum*, *C. floribundus*; seeds of *Aquilaria agallocha*, medicinal plants and some



edible fruit plants like *Baccurea sapida*, *Nerium* spp., litchi, plum etc. which are required by common people. In addition to these, purchased some nursery equipments.

The institute conducted four trainings on different topics including agroforestry and other land use practices for sustainable production, Modern nursery techniques, Role of Self Help Groups and EPAs for JFMCs in NRM, Forestry extension and eco-development planning, NTFPs and their marketing, Medicinal plants-Panchakarma treatment, Agro techniques of medicinal plants, Plantation techniques and management of bamboo, Macro-proliferation technique of bamboo and Value addition techniques of bamboo for furniture, handicraft, incense sticks. Over 93 participants were benefitted by the trainings.

Field visits and practical sessions were also conducted as follows:

- Integrated farming (forestry, apiculture, pisciculture, piggery, poultry, rubber plantation crops) at Don Bosco Vocational Training Institute, Bishramganj
- Bamboo multiplication and plantation management at Ram tala
- Vermicomposting techniques at Don Bosco Vocational Training Institute
- VVK model nursery, Tripura State Forest Department Central Nursery, eco-parks, herbal gardens
- Bamboo furniture, handicraft and incense stick manufacturing units at BENU, TFDPC, TRIBAC

During the period 2010-2011 a Model Nursery which was established at Hatipara had been maintained with activities like extension of water supply connection, maintenance of vermicompost unit etc.

AFRI, Jodhpur has established two VVKs one each at Rajasthan and Gujrat and third one is under process of establishment at Silvasa, UT of Dadra & Nagar Haveli and Daman.

The institute conducted three days VVK training at Kishan Bhawan, Bikaner from 4th to 6th October 2010. Total 41 participants (31 forest staffs and 10 farmers) attended training. They learned techniques of conservation and economic benefits of agroforestry, cultivation of arid fruit tree and production, losses from rat and its control, nursery techniques for cutting, grafting and high quality seed production, use of biofertilizers in forestry and composting techniques. Training was organized by delivering both lectures and onsite demonstration way.

Maintenance works of Hi –Tech nursery Bichhwal, Bikaner have been executed; rice husk for potting medium, insecticide, seeds and PVC pipe were procured for the Hi-Tech nursery.

- Raising/ Distribution of Seedlings: - In 2010-11, 3000 quality seedlings of *Prosopis cineraria* and *Dalbergia sissoo* have been raised in Hi-Tech nursery Bichhwal, under VVK. Total 10,000 nos of khejri (*P. cineraria*) seedlings raised in 2009-10 under VVK were distributed/sold during 2010-11 to 66 farmers on subsidised rate.
- Extension activities : Display boards (6 nos) were displayed at the Hi-Tech nursery Bichhwal, Bikaner for farmers/stakeholders under VVK, Bikaner.

The institute conducted three days training programme for farmers and field functionaries under Van Vigyan Kendra, Gujarat with the help of Gujarat Forest Department from 14th to 16th December 2010 at Van Chetan Kendra, Bhuj (Gujarat). Total 59 participants (38 forest staffs and 21 farmers) attended training. Both classroom lecturers and field visit were included in this training programme. Training was given on economic benefits of agroforestry, silvipastoral techniques for fodder production in Kutchh region, types of grasses & range management of Kutchh region, Tree improvement programme, soil & water conservation techniques, and afforestation techniques for saline land of Kutchh region, peoples sensitization techniques for



VVK training at Van Chetana Kendra, Bhuj on 14th December 2010

forestry extension and organic farming and composting techniques. Training was organized by delivering lectures and onsite demonstration. During the field visit, the participants learned the advanced techniques through demonstrations of vegetative propagation of tree species, vermi-composting at Hi-tech nursery, Bhuj, guggal plantation and nursery, Vandai. VVK training participants also visited silvi-pastoral model developed by the AFRI at Mocharai, Bhuj.



Demonstration of Macro Propagation Techniques at Hi-Tech Nursery, Bhuj, on 15th December 2010



VVK Training Participants Visiting AFRI Developed Silvi-pastoral Model at Mocharai, Bhuj on 15th December 2010

Maintenance works of Hi –Tech nursery, Chhipardi Beedi, Rajkot have been executed. Garden pipe, fogger and accessories, fertilizer and insecticide were procured for the Hi-Tech nursery.

Total 3000 high quality seedlings of *Cordia mixa*, *Casuarina equisetifolia* and *Eucalyptus* hybrid from seeds/cuttings and *Zizyphus mauritiana*, *Embllica officinalis* by grafting/budding produced, 500 seedlings of each species were raised in hi-tech nursery at Research and Development Centre, Rajkot for farmers/stakeholders under VVK during 2010-11 for distribution to stakeholders on subsidized rates.

Display boards (6 nos) displayed at the Research and Development Centre, Rajkot for farmers/stakeholders under VVK, Rajkot.

Khanwel (Dadra & Nagar Haveli and Daman) proposed VVK

Establishment and strengthening of VVK

Dr. Rabindra Kumar, DDG (Ext), ICFRE, Dehradun and Dr. Bilas Singh, Research Officer visited Silvassa, Dadra & Nagar Haveli and meetings held with DCF, Silvassa on 28th January 2011 with ICFRE officials, Shri Kamal Datta, CF (Daman) and O/C of DCF (T), Silvassa and Shri Dilip Singh Mangrola, ACF (Wild), Silvassa, Dadra & Nagar Haveli FD regarding signing of MoU and VVK activities carried regular correspondence through telephonic, fax and e-mail for signing of MoU & VVK works. The



above officers had a visit to proposed nursery and VVK display centre at Khanvel, around 19 km away from Silvasa. During visit of the nursery, it was visualized that exiting proposed VVK building will require repairing before establishing VVK display centre.

The Model MoU further handed over to Shri Kamal Datta, CF for approval. However, MOU of VVK, Khanwell, Silvasa has not been approved till date by DNH authority. Therefore, FD, DNH could not permit AFRI to take up any activities of VVK at Khanwel, Silvasa.

Mass Communication Material and Media

- **Information booklet of AFRI :** Information booklets of AFRI in Hindi language (4750 numbers) were published under VVK for wide circulation and distribution to farmers/stakeholders /organisaions. Training programmes of VVK of Bikaner and Rajkot and Demo village were given wide publicity in many daily local news papers (Hindi and Gujarati).



Meeting of ICFRE Team with DCF(T), Silvasa



Building and the Site for Proposed VVK, Silvasa

- **AFRI Darpan:** Special issues of AFRI Darpan (Quarterly Magazine in Hindi, Vol 1-2, Year 8,) on VVK and Demo and extension activities was brought to highlight AFRI's extension activities.
- **AFRI Publications:** Published 12,800 pamphlets (4600 in English and 8200 in Hindi) on "Khejri Mortality: Causes, severity and Remedies in Rajasthan" and "if'peh jktLFku ea[kstMteR; rk** respectively.
- Prepared 30 display Boards (15 each) on Deficiency symptoms of various nutrients in plants and "e#LFky dh thou js[kk % [kstMte dYio{k dksckusck l dYi**
- AFRI Calendar-2010 Short Term Training Courses & Other Activities.
- Following pamphlet were published:
 - The International Day for biological diversity 2010.
 - June World Environment Day Many Species, One Planet, One Future.
 - 17 June 2010 World Day to Combat Desertification.
- Abstract entitled *Prosopis juliflora* – a tree for prosperity of arid lands “In *Prosopis juliflora*: Past, Present and Future. pg. 36. CAZRI, Jodhpur, ICAR Publication.”

HFRI, Shimla has established two VVKs, one each in Himachal Pradesh and Jammu and Kashmir. Under VVK, Himachal Pradesh, the institute developed pamphlet 500 no. each of *Emblca officinalis*, *Plantanus orientalis*, *Pinus gerardiana*, *Elaeagnus angustifolia* and booklets, (200 no.) each of *Pichrorhizia karrooa* and *Cedrus deodara*.

The institute organized training programme for field functionaries of SFDs and farmers as under:



- Workshop-cum-villagers meeting was held at Nalani village, Mandi on 9th May 2010 to know the farmers preference on various forestry/ agroforestry species.
- Training was held at Krishi Vigyan Kendra, Saru, Chamba H.P. on 14th February 2011 on the Topic “Restoration of degraded areas through Forestry Intervention” attended by total 60 no. of participants from our institute, forest Guards, Dy.Rangers of Forest Division Chamba, Dalhausie, Churaha and adjoining areas.
- One day training was held at Sai-Ropa, Sainj, Kullu H.P. on dated 19th February 2011 on the topic “Cultivation of Temperate Medicinal Plants; An Option for Diversification and Augmentation of Rural Income” attended by total 40 no. of participants from our institute, state Forest Guards, Progressive Farmers, Representative of Mahila Mandals, Yuvak Mandals and NGOs of adjoining areas.
- Five day training-cum-exposure visit on “Agroforestry and NWFP Technologies for Productivity Enhancement” from 14th to 18th February 2011 participated by 35 No. of Progressive farmers from Jammu, Manali, Shilaru, and solan areas. Farmers had various inforamatory interactions with the concerned scientists of HFRI, ICFRE and UHF Nauni and visited Hara Herbal Garden, Ganganagar, Dhaulakuan, FRI museum, Van Vigyan Kendra, Rishikesh, Haridwar.

Nursery at FRS Brundhar, Jagatsukh (Manali):

- Maintained the demonstration nursery at various FRS by carrying out weeding hoeing and watering etc.
- To facilitate the visits of various dignitaries and other stakeholders in the station during their visits to see and understand the forestry

related activities pertaining to Cold Desert Areas at Field Research Station Tabo, a Pucca Path measuring (30 m long x 3 m width and 30mh) was constructed. For propagating the idea of intercropping of medicinal plants with forestry tree species/ horticulture trees- nursery beds in the area 15m² were prepared within and around the tree plots. Medicinal plants like Salam panja (*Dactylorhiza hategirea*); karroo (*Picrorhiza kurrooa*); jangli lahsoon (*Asphodelus tenuifolius*), jangli pyaz (*Urgenia indica*.) and ratanjot (*Arnebia benthami*) were collected from the wild and pricked out in the beds as an intercropping material.

- Production of vermicompost and maintained the vermicompost units to showcase the different stakeholders.

Other Extension activities, Equipment, Office Furniture, Telephone

- Conducted awareness programmes on agroforstrical species, Medicinal plants, Rainwater harvesting at kanaid, Bhangrotu and adjoining areas near Sundernagar.
- Assisisted State Forest Department in extraction of silver fir seeds.
- Raised cuttings of *Tinospora* (50 no.), *Bauhinia verigata* (50 no.) *Grewia optiva* (50no.) and *Prunus* spp. (100).
- Arranged meeting at Poongh village on the importance of organic farming and vermi-composting.

Under VVK Jammu, the institute developed pamphlet on “Chinar” 500 copies. Organised one day training on dated 17th January 2011 on the topic “Application of Technological and Research intervention for Enhancing forest Productivity” at campus of Kathua Forest Division, attended by 30 no. of participant from



the state forest division including forest guards, foresters.

Establishment of Demonstration Nursery

- Procured seeds from the villagers /market of harad (20kg), behara (20kg) and *Eucalyptus* for raising in the nursery beds.
- Planted 5000 no. cutting with different clones of Poplar in nursery beds procured from ICFRE, Dehradun.
- Established Forest Research Station, Nursery site at Nagbani in 1250 sqm area.
- Carried out Line sowing of *Eucalyptus* seeds in an area of 70 sqm, harar seeds in an area of 20 sqm, and behara seeds in an area of 20 sqm.
- Collected and planted buch rhizome in an area of 20sqm.

Demo Villages (DVs)

FRI, Dehradun

Demo Village, Shyampur

One demo village at Shyampur at Dehradun in Uttarakhand has been established by FRI, Dehradun for the demonstration and training of the farmers NGOs associated with forestry produces, People of Small scale industries and students on various issues time to time.

A model nursery has been developed at Shyampur village near Dehradun in collaboration with Bagwan Gramodyog Samiti, Shyampur Village.

The nursery has been developed with the following structures:

- Low Cost Mist Chamber – One
- Propagation Unit – One\
- Water Tank with complete pipe fittings – One
- Motor House with 0.5 HP Motor – One
- Mounted Angle Iron Beds – Eight
- Shade House – One

- Seed Drying Plateform – One
- Vermicompost Unit – One
- Root Trainers – 95 Blocks – 200cc (16 cells)

Achievements :

- Yearly, more than 20,000 seedlings raised and maintained in the nursery.
- 4000 seedlings – Medicinal and forestry was supplied by FRI to Demo Village.
- Maintenance of 25,000 plants – Medicinal and forestry species.
- Distribution of 10,000 plants mostly *Aloe vera* and satavar to the farmers of Baniawala, Nayagaon, Ganeshpur, Selaquie, Ambiwala, Suklapur, Shyampur of Dehradun district for growing in their agriculture fields.

Demo Village (DV) Saidupur (established by CSFER):

- The one of the objective of establishment of Demo Village is to develop low cost model nursery for demonstration purpose. The vermicomposting unit, training shade, Bamboo treatment tank, hand pump for nursery had been developed on the site. The nursery works are in progress for raising seedlings of villager's choice as teak, bel, aonla, imli, jatropha and medicinal species as satawar, kalmegh, chitrak, ashwagandh.
- The following training programmes for farmers of Demo Village (Saidupur) were organized:
 - Preservation Techniques of Bamboos: on 15th November 2010
 - A demonstration-cum-training programme was organized on vermicomposting on 31st January 2011. About fifty farmers participated in the programme.



- Training on plantation and nursery techniques of important forestry species was organized on 29th September 2010.

IFGTB, Coimbatore

Kandiyur Demo Village

Established model plantations of *Eucalyptus*, *Ailanthus*, teak and cashewnut and agroforestry models with cowpea, brinjal and tomato as intercrop in 11 farmers field. Distributed 5000 seedlings to farmers of Kandiyur and nearby villages.

Organized the 3rd Tree Growers Mela on 24th February 2011 and 25th February 2011 at the institute in association with the Tamil Nadu Forest Department for farmers of Tamil Nadu and Puducherry. As part of the mela, a workshop on “Best Practices in Tree Farming and an Exhibition on Plantation Technologies” were organized. More than 700 farmers from various parts of Tamil Nadu and Puducherry besides officers and staff of Tamil Nadu Forest Department, representatives from Wood based industries, scientists and faculty from Research and academic institutions participated. Twenty organizations participated in the exhibition.

A biopesticide product “Vilvekam-*Aegle marmelos* seed oil based biopesticide” a formulation developed from the oil of *A.marmelos* and N Fixer Frankia a growth promoter for casuarinas were released for the farmers.

An awareness training programme on “Environment Protection” was organised on 30th March 2011 for the school children of Primary School, Kandiyur Demo Village. A total of 36 students participated in the training programme.

An awareness training programme on “Environment Protection” was organized for the school children of Primary School, Kandiyur Demo Village on 30th March 2011.

IWST, Bangalore

- An interactive meeting with Sri Shakthi Women Group of the demo village was organized on 17th September 2010. The meeting was attended by Extension Officer, IWST, Panchayat Development Officer, elected members of the village and 25-30 women members of Sri Shakthi Women Group of Demo Village.
- Demonstration cum interactive meeting was organized on 27th September 2010 at Yentaganahalli Panchayat. The meeting was attended by all elected members of 23 villages that come under the Yentaganahalli Panchayat. The Memorandum of Understanding between IWST and Doddekerenahalli, Demo Village was signed in the presence of all the members. During the occasion, seedlings of various tree species like sandal, *Eucalyptus*, silver oak, bamboo etc were also distributed.

TFRI, Jabalpur

TFRI, Jabalpur planted teak of Madhya Pradesh origin in Demo Village, Moiyanalah for demonstrating existence of relative resistance against teak defoliator and leaf skeletonizer.

AFRI, Jodhpur

Demo Village, Salavas (Jodhpur)

Establishment and Strengthening : MoU signed between Director, AFRI and Sarpanch, Salawas village, Jodhpur for establishment of Demo village at Tikeswar Bhakari, Salawas, Jodhpur on 14th October 2010. Fifty seedlings of different



AFRI Scientists Visited Proposed Demo Village Site, Tikeswar Bhakari, Salawas, Jodhpur on 14th October 2010 for Technology Demonstration



Sarpanch Sh. Oma Ram Patel, Planting Sapling During Ceremonial Planting Function at Demo Village Site, Tikeswar Bhakari, Salawas, Jodhpur on 14th October 2010



Dr. T.S. Rathore, Director, AFRI, Jodhpur Inaugurating Demo Village Display Centre Building at Tikeswar Bhakari, Salawas, Jodhpur on 14th October 2010



MoU Signing Between the Director, AFRI, Jodhpur and Sarpanch, Salawas Village, Jodhpur at Tikeswar Bhakari, Salawas on 14th October 2010

tree species were planted at Tikeswar Bhakari, Salawas by AFRI officials and Salawas villagers as ceremonial function. Demonstration Hall of Demo Village and display material were inaugurated by the Director, AFRI, Jodhpur and sarpanch, Salawas village, Jodhpur.

Demo Site: Site was selected near to SFD nursery, Salawas, Jodhpur to establish agroshaded compost unit and other nursery activities for demonstration purposes as well as high quality seedling production for farmer/stakeholders. Compost chamber and agroshade net house and soil conservation works have been taken up through Silviculture and Forest Ecology Division, AFRI, Jodhpur.

The selected area (7.0 ha) of community land at Tikeswar Bhakari, Salawas surveyed, plan and map were prepared to execute the soil and water conservation measures and silvipastoral model. The MoU with Salawas (Gram Panchayat) was signed on 14th October 2010. Later on in November 2010, additional land (1.5 ha) of Salawas GP has been earmarked for Demo site adjacent to Salawas nursery. Salawas GP's land (1800 M²) presently under the custody of RFD at Salawas Nursery also has been allowed for Demo purpose through a MoU (with DFO/Jodhpur) on February 2011.

One day Demo village training was organized at the Arid Forest Research Institute, Jodhpur on 4th March 2011. The total 35 participants (12 forest staffs and 23 farmers) attended the training. They learned about various nursery techniques and VAM, composting manure-forming techniques. Training was organized mainly in demonstration mode.



Demo Village Training Inauguration at AFRI, Jodhpur on 4th March 2011



Demonstration of Composting Techniques to the Participants at Experimental Nursery, AFRI on 4th March 2011



Demo Training Participants Visit to Medicinal Garden at Nursery, AFRI on 4th March 2011



Demonstration of VAM Application in Nursery to Trainees at Nursery, AFRI on 4th March 2011

HFRI, Shimla

Demo Village, Lanabaka, Himachal Pradesh:

i. Meetings with People for Planning and Implementation of Agreed Activities:

- Organized camp workshop cum villagers meeting at Demo Village to plan the activities

ii. Establishment of Technology demonstration Plots:

• Establishment of Intercropping Model for demonstration

Established intercropping model of *Aloe vera* and *Valeriana jatamansi* with *Dendrocalamus hamiltonii* for demonstration.

• Establishment of Mixed Demonstration Plantation

Established the mixed demonstration plantation of *Dendrocalamus hamiltonii*, *Paulownia fortunei*, *Grewia optiva* and *Embilca officinalis* (500) in the spacing of 3x3 M².

iii. Nursery development & maintenance of nursery and plantation:

- Procured sand, cement bags, soil, FYM for nursery and polyhouse beds.
- Established concrete road (60 m long x 3 m width) from mother beds to polyhouse.
- Collected seeds of chharma (25 kg), Colutia (20 kg), Ribs Bhojpatra (5kg), and Ephedra (10kg), Ribes (10).
- Collected medicinal plants kharroo, jangli piaz, rattanjot.
- Prepared 50 sqm nursery bed.
- Repaired water channel surrounding office, Guest house and type 1 quarter.
- Maintained the demonstration nursery by carrying out regular weeding, hoeing and watering etc.
- Maintained the demonstration plantation by carrying out regular weeding, hoeing and watering etc.



IFP, Ranchi

The following demonstrations were taken up in demo village - Hapamuni :

A. Demonstration on Stress Site Reclamation

The village - Hapamuni in Gumla district of Jharkhand was selected as demo village for dissemination of technologies on stress site reclamation. The village has vast tract of stress site characterized by shallow depth, rocky surface, extensive rock fragments mixed with soil of very low water holding capacity, very low in soil organic matter with

the available nutrients. Field survey was conducted during 2009 for collecting soil samples in order to assess the site quality and identify plant growth limiting factors. Plantation work was completed during June, 2009 after raising quality planting stocks of *Bambusa nutans*, clones of *Eucalyptus tereticornis* and *Tectona grandis* and pit soil treatments. A workshop-cum-demonstration on 'Stress site reclamation' was organized on 30th June 2009 and was attended by 65 participants viz., villagers, field functionaries of SFD, NGOs, villagers from Hapamuni.

Plantation description & Amelioration of soil:

Sl	Species	Area & No. of Seedlings/ BPS Planted	Pit size	Spacing	Treatments
1	<i>Eucalyptus</i> (clone)	0.40 ha; 325	60 cm x 60 cm = 0.216 m ³	3m x 3m	Surface Soil 2.5 ft ³ + 1.6 ft ³ pit soil + FYM 1.0 ft ³ + Rice Husk 1.25 ft ³ +100g Lime before plantation & N 200g (as Urea + DAP)+ P ₂ O ₅ 100 g (as DAP) + K 50g (as MOP) + Zn 2.0 g + Mn 2.0 g + B 2.0 g + Cu 0.50 g + Fe 1.0 g + Mo 0.15 g of their salts + Chloropyriphos - twice in 1 st & 2 nd Yr
2	<i>Tectona grandis</i>	0.50 ha; 340	- do -	3m x 3m	- do -
3	<i>Bambusa nutans</i> 1 yr old (BPS)	0.26 ha; 81	75 cm x 75 cm = 0.422 m ³	5m x 5m	Surface soil 5.0 ft ³ + pit soil 3.0 ft ³ + FYM 2.0 ft ³ + Rice Husk 2.5ft ³ + 200g Lime before plantation & NPK+ Micronutrients (double the amount as in <i>Eucalyptus</i> & <i>T. grandis</i>)

B. Demonstration on Bamboo Propagation Techniques

An attempt was taken up to establish “Bamboo Propagation Unit” at the Demo Village - Hapamuni adopted by IFP, Ranchi solely to demonstrate the latest techniques to the villagers and other field functionaries so as to educate and produce BPS in a large number.

Fourteen sand beds (size 0.50m x 1.25m x 3.5m each) were laid with loose brick wall. Culm cuttings of the following species collected from “*ex-situ* conservation garden” and “Bamboosetum” belonging to IFP have been used throughout the year for the demonstration purpose. Transfer of rooted cuttings in polybags containing organic



matter and nutrient elements, placement under shade and watering etc. have also been demonstrated. Thirty five villages participated in demonstration training at Hapamuni Nursery during 2009 and 2010. Few villagers started propagating Bamboos through advanced technique.

Species Propagated through culm cuttings

Bambusa balcooa, *Bambusa bambos*, *Bambusa nutans*, *Bambusa striata*, *Bambusa vulgaris* (green), *Bambusa vulgaris* (purple), *Dendrocalamus asper* and *Dendrocalamus strictus*.

C. Vermicomposting Unit of Demo Village

India is in the process of attaining higher levels of food production for matching the demand of the growing population. Much emphasis has been laid on intensive agriculture sustainable practices because of indiscriminate use of chemical fertilizer and pesticides have led to the deterioration of soil health and soil quality. It is an alarming issue at global level, especially among the agricultural

and environmental scientists. Therefore, there is urgent need to restore soil quality, health and resilience for food security and environmental security with the help of organic manures. Organic manures such as compost, verimcompost etc., not only supply macro and micro-nutrients but also improve physical, chemical and biological properties of soil for sustainable agriculture. In Jharkhand, Gumla, Logardaga and Lathehar districts are one of main farming areas, where availability of organic materials is high. While keeping all points in mind, IFP, Ranchi established a Vermicompost Unit at Demo- village, Hapamuni, Gumla with dimension of 70' X 30' X 7.5' @ ` 1,85,929/- to impart training-cum-demonstration to the farmers and to establish demovermicomposting farms. The Vermicomposting unit includes vermicomposting beds, decomposing tank and vermiwash collection tank. Agricultural wastes, weeds, and farm yard manure are raw materials for vermicompost production. The production capacity of the unit varies between 3-4 tonnes/



Bamboo Propagation Practice & Demonstration



harvest depending upon type and nature of materials used. The earth worm, *Eisenia fetida* is being used for vermicompost production. Training-cum-demonstration on vermicomposting and its application is being organized to the local farmers and sample vermicompost supplied to the participants free of cost.

Internal Monitoring and Evaluation of VVKs and DVs

Evaluation of VVKs

Dr. Rabindra Kumar, DDG (Extension), ICFRE, Dehradun evaluated the work done at VVK, Chandigarh from 21st to 23rd December 2010, VVK, Pinjore on 22nd December 2010 and VVK, Dadra and Nagar Haveli on 27th January 2011.

Shri R.P. Singh, ADG (Media and Publication), ICFRE, Dehradun evaluated the progress of VVK, Delhi on 13th January 2011. He also evaluated the progress of VVK, Assam on 10th January 2011.

Shri Omkar Singh, DDG (Education) conducted visit to VVK, Himachal Pradesh on 13th and 14th December 2010 in connection with the evaluation of progress of the VVK.

Shri Sandeep Tripathi, Director (Project and International Cooperation), ICFRE, Dehradun evaluated the progress of VVK, Jabalpur on 6th March 2011.

Dr. Dharmendra Verma, ADG (Environment Management), ICFRE, Dehradun evaluated the performance of VVK, Karnataka on 21st and 22nd February 2011.

Shri S.D. Sharma, ADG (Statistics), ICFRE, Dehradun evaluated the progress of work at VVK, Tamil Nadu on 20th and 21st December 2010.

Shri Pankaj Aggarwal, ADG (Project Formulation), ICFRE, Dehradun conducted the evaluation of work done at VVK, Rajasthan from 29th November 2010 to 2nd December 2010.

Evaluation of DVs

Shri M.S. Garbyal, DDG (Administration), ICFRE, Dehradun visited DV, Shyampur and evaluated the progress of work on 20th December 2010.

Shri Omkar Singh, DDG (Education) conducted evaluation of DV, Lanabaka on 15th December 2010.

Dr. Rabindra Kumar, DDG (Extension), ICFRE, Dehradun made evaluation of progress of work at DV, Hapamuni on 8th December 2010.

Shri Sandeep Tripathi, Director (Project and International Cooperation), ICFRE, Dehradun evaluated the progress of work at DV, Moiya Nala on 6th March 2011.



Dr. Rabindra Kumar, DDG (Extension), ICFRE, Dehradun at DV, Hapamuni

Dr. Dharmendra Verma, ADG (Environment Management), ICFRE, Dehradun visited DV, Doddakerenahalli and evaluated the progress of work on 21st and 22nd February 2011.

Shri S.D. Sharma, ADG (Statistics), ICFRE, Dehradun visited DV, Kandiyur and evaluated the progress of work on 21nd December 2010.

Shri Pankaj Aggarwal, ADG (Project Formulation), ICFRE, Dehradun evaluated the progress made by the institute at DV, Salawas from 29th November to 2nd December 2010.



Shri Pankaj Agarwal, ADG (PF), ICFRE, Dehradun
at DV, Salavas

Shri R.P. Singh, ADG (Media and Publication), ICFRE, Dehradun conducted evaluation of DV, Meleng Grant on 11th and 12th January 2011.

All the above Evaluation Reports were sent to the Directors of the respective institutes to implement the suggestion/ observations made thereon.

4.2 Technology Transferred

FRI, Dehradun

- Trainees of Forest Training Institute, Kanpur visited CSFER, Allahabad on 29th October 2010. The trainees were trained regarding propagation techniques of bamboos and techniques were demonstrated to the trainees in the research nursery.
- A demonstration on method of vermi-compost preparation was carried out to the farmers of Saidupur village of Allahabad on 31st January 2011.
- The technique of bamboo propagation techniques in nursery was demonstrated to the participants of Van Vigyan Kendra training on 25th January 2011 under VVK training.
- Vegetative Propagation technologies of bamboo species such as Rhizome Offset Planting: Lower part of single culm with rhizome, Juvenile Single nodal Cutting, Whole Culm Cutting, Binodal Culm Cuttings, Single Nodal Culm Cuttings, Branch Cuttings (Vertical and Horizontal), Air Layering, Macroproliferation, Tissue Culture.
- Know-how for “Reshaping the gums” was developed and demonstrated by FRI, Dehradun transferred to M/s R.S. Food Processes (I) Pvt. Ltd., Rajnandgaon, Chhattisgarh at a cost of ₹ 1,15,264/- on 12th August 2010.
- The technology was also transferred to M/s Rajput Enterprises Pvt. Ltd., Bhopal at a cost of ₹ 1,25,000/- by Dehradun on 15th December 2010.
- Application of ZiBOC in block boards is initiated at industrial level.



Honorable Union Minister of Environment and Forests, Govt. of India during All India Meet of National Biodiversity Authority, MOEF and States Biodiversity Boards at Chandigarh on 6th September 2010.



Demonstration of Compost Making from Water Hyacinth to SFD Officials, Punjab on 16th February 2010 at Chandigarh in Presence of Shri R.C. Nayyar, IAS, Financial Commissioner and Principal Secretary, Forests and Wildlife, Punjab, Shri B.C. Bala, IFS, PCCF, Punjab, Shri Jitendra Sharma, IFS, CCF (Hills).



Demonstration of Compost Making from Water Hyacinth to the Followers of Environmentalist Baba Balbir Singh Seechewal at Sultanpur Lodi (Punjab) on 15th February 2010



Essential oil, Perfumery and Aromatherapy from 23rd to 27th May 2011 at FRI, Dehradun



Demonstration of Dye Extraction and Dyeing Technology to SFD Punjab Officials and NGOs

IFGTB, Coimbatore

- Transferred seed handling techniques of forestry species to farmers and foresters through posters and trainings during various training programs and Tree Growers Mela at IFGTB, Coimbatore.
- Developed and disseminated “Regional Yield Table and Carbon Table for plantations of *Casuarina equisetifolia* in Tamil Nadu”.
- A low cost and high recovery protocol for isolation of total RNA from guanidine recalcitrant tissues with high phenolic

content using non toxic chemicals was developed (patent pending). Effort is under taken to commercialize the technology in collaboration with Biotech Consortium India Ltd, New Delhi. The technology assessment report of BCIL revealed high demand for this technology in the R&D market.

- Sh.V.K.W.Bachpai conducted four training for over 90 farmers from eight districts of Tamil Nadu. Clonal technology of *Eucalyptus* and *Casuarina* were demonstrated.



Training to Farmers of Tamil Nadu on “Capacity Building” on Clonal technology of *Eucalyptus* and *Casuarina*.



Supply of Improved Seeds

- About 73 Kg of improved seeds collected from seed orchards of *Eucalyptus*, *Casuarinas* and *Acacias* maintained by the Institute in different states in Southern India, and supplied to farmers, Forest Departments and industries in different states like Tamil Nadu, Pondicherry, Andhra Pradesh, Orissa, UP, Maharashtra and Gujarat for raising quality plantations. The plantation raised through seed orchard seeds showed outstanding growth performance is compared to the local seed source.

IWST, Bangalore

- Technical Bulletin was brought out on “Arbuscular Mycorrhizal (AM) fungi as bio-fertilizer in Forestry” (IWST Technical Bulletin No.5)

TFRI, Jabalpur

Organized one day training-cum-demonstration programme on “*D.sissoo-Zea mays* Silvi-agri system” to transfer the developed package of practice to the farmers of four villages namely Padariya, Khamariya, Neemkheda and Saliwada of Jabalpur district on 31st March 2011 at TFRI, Jabalpur.

RFRI, Jorhat

- PRA techniques and microplanning
- Bamboo Treatment
- Vermicompost
- Apiculture
- Patchouli agrotechniques
- Trichoderma production and field application
- Biopesticide production and field application
- Seed handling-grading and sowing techniques

On-farm Participatory Research on the following has also been Carried out –

1. Agro-techniques for vegetative propagation of patchouli with reference to standard length and diameters of cuttings in nursery stage.

2. Development of patchouli based agroforestry models –
 - a. Arecanut – patchouli agroforestry model
 - b. Agar – patchouli agroforestry model
 - c. Mangium – patchouli agroforestry model
3. Development of King Chili based agroforestry models.
 - a. Arecanut – King Chili agroforestry model
 - b. Mangium – King Chili agroforestry model
4. Development of Arhar–muskdana agroforestry model.
5. Development of Mangium – tea agroforestry model.
6. Development of Participatory Methodology for testing Adaptability and Sustainability of new techniques.

AFRI, Jodhpur

1. Rehabilitation of Degraded Aravalli Hills

Disturbances to the natural habitats through overgrazing, vegetation removal and mining is a common feature in most of the hilly areas like Aravallis, which is an ancient mountain and one of the oldest geological formations in the world and the home of many tribes of India, leading to biological invasion and land degradation i.e., desertification. To restore these degraded hills, an experiment was conducted by applying rainwater harvesting (RWH) and afforestation with different tree species (*Zizyphus mauritiana*, *Acacia catechu*, *Azadirachta indica*, *Emblica officinalis*, *Dendrocalamus strictus*, *Gmelina arborea*, *Holoptelia integrifolia* and *Syzigium cumini*). RWH structures (Contour trench [CT], gradonie [GD], box trench [BT], V-ditch [VD] and a control) and slope gradient (<10%, 10-20% and >20%) of plots were two levels of treatments. Application on RWH improved soil characteristics like, reduction in soil pH and EC, and increase in soil organic carbon, NO₃-N and PO₄-P and reduced in gradients in soil water and nutrients between the plots of



<10% slope and >20% slope. This not only reduced run-off water, soil and nutrient losses and enhanced the growth of the planted seedlings, but also increased herbaceous layer productivity by 24 to 62% (average of six years) and soil carbon stock (by 3.8-fold). Contour trench and box trench were beneficial in plant growth, whereas, gradonie and V-ditch treatments were best for herbaceous growth and productivity. The impact of this practice was an increase in number of species from

39 in 2005 to 92 in 2009, increased water availability period from November to January/ March, fuelwood supply and fodder availability that resulted in enhanced socio-economic condition of the tribal people residing nearby areas. Thus, RWH and afforestation facilitates restoration process in degraded hills by improving soil nutrients, reducing resource in gradient between slopes and enhancing plant growth and herbage biomass.



(a)



(b)



(c)



(d)

Initial Status of the Hills (a & b) and Herbaceous Layer and Plant Growth During Restoration of Degraded Aravalli at Banswara in October 2010 (c & d)

Extension: Visits were made by the state forest department officials for replication by them for the adoption of technology and rehabilitation of

degraded Aravalli hills. Results were published and presented in seminars, workshops and training programmes for wider publicity for adoption.



HFRI, Shimla

The farmers, field functionaries of the State Forest Department and other stakeholders were imparted various training programmes with respect to already standardized technologies.

4.3 Research Publications

Researchers at ICFRE have published 332 research papers in various journals including 92 articles in foreign journals. Three hundred two research papers were presented/published in the proceedings of the conferences/symposia/seminars, etc. A total of 57 books/ book chapters/ brochures, etc. were also published.

The National Centre for Biotechnology Information, USA assigned accession numbers to the following fungus genes isolates:

- a. *Cordyceps sinensis*: 40
- b. *Ganoderma lucidum*: 47
- c. *Ganoderma resinaceum*: 2
- d. *Ganoderma weberianum*: 2

4.4 Seminars/Symposia/Workshops Organized

Seminars

FRI, Dehradun organized the “National Seminar on Advances in Wood Science and Technology Research: Recent Trends, Future Challenges and Opportunities” at FRI, Dehradun on 9th and 10th March 2011 in which nearly 150 delegates from different Institutions/Universities participated.

IFGTB, Coimbatore organized national Seminar on Tropical Ecosystems: Structure, Function and Services (TESFS -2010) on 28th and 29th December 2010.

IFGTB, Coimbatore organized the 2nd National Seminar on Casuarinas on 3rd and 4th March 2011.

IWST, Bangalore organized a National Seminar on “Recent Advances in Bamboo Propagation, Management and Utilization” on 17th and 18th February 2011. Dr. P.J. Dilip Kumar,

Director General (Forests) and Special secretary, MoEF, Govt. of India, inaugurated the seminar. Dr. Kameshwar Ojha, DDG, National Bamboo Mission, New Delhi delivered the keynote address. Dr. Ashwatha Narayan, M.L.A., Malleshwaram, Bangalore and Sri. C.S. Vedanth, M.D., KSFDC was the guest of honour. Sri. S.C. Joshi, Director, IWST, Bangalore welcomed the delegates. Dr. Pankaj K. Aggarwal, Sc-E, IWST, Bangalore delivered vote of thanks. On this occasion a souvenir containing the abstracts of the papers was also released by the chief guest. In the two days deliberation, about 65 papers were presented orally and 18 papers were presented in the form of posters. On the 18th February 2011, a concluding session was conducted and recommendations of the seminar were finalized.

IFP, Ranchi organized a regional seminar on “Challenging and Emerging Issues in Sustainable Utilization of Medicinal Plants” on 28th January 2011.

Workshops

ICFRE, Dehradun organized two days workshop for finalization of DST training programme at ICFRE, Dehradun on 28th and 29th January 2011. Thirty two participants from different institutes participated in this workshop.

FRI, Dehradun organized National Workshop on “Landscape Restoration Process-Challenges and Opportunities” on 22nd and 23rd February 2011.

FRI, Dehradun conducted one summer school for the students, teachers and research scholars of Uttarakhand state from 26th September to 8th October 2010.

IFGTB, Coimbatore organized two days “Consultative Workshop on Strategies for Formulation of Forest Genetic Resources Management Network (FGRMN)” at IFGTB,



Coimbatore on 9th and 10th March 2011. A total of 118 participants of senior Forest officers from different states, Professors from Universities, scientists from various Research Institutes and officials from Industries attended the workshop.

IFGTB, Coimbatore organized the “Stakeholder's Workshop on Forest Research and Extension” at Thiruvananthapuram on 19th May 2010.

IFGTB, Coimbatore organized a Stakeholder workshop on Forest Research and Extension involving the officials of Tamil Nadu Forest Department at Panagal Maligai, Forest Headquarters, Tamil Nadu on 28th April 2010.

IFGTB, Coimbatore organized stakeholder's workshop on Forest Research and Extension in collaboration with the Kerala Forest Department at Forest Headquarters, Tiruvananthapuram on 19th May 2010.

IFGTB, Coimbatore organized the stakeholder's workshop on Forest Research and Extension in collaboration with the Department of Environment and Forests, Andaman and Nicobar Islands on 31st May 2010.

IFGTB, Coimbatore organized an interactive workshop with farmers on Plantation Technologies on 5th June 2010.

IFGTB, Coimbatore organized workshop on All India Multi-Locational Trials of *Eucalyptus*” on 29th and 30th July 2010.

IFGTB, Coimbatore organized workshop on organizational behaviour with the objectives of Exposing the “Live Scientists” to some fundamental concepts of behavioural science and organization behavior on 20th August 2010.

IFGTB, Coimbatore organized capacity building workshop for production of genetically improved planting stock” on 13th August 2010.

IFGTB, Coimbatore organized training workshop on “Management of Forest Genetic Resources” for Indian Forest Service officers on 18th and 19th October 2010.

IFGTB, Coimbatore organized workshop on Methodologies for QTL and Association Mapping on 23rd December 2010.

IFGTB, Coimbatore organized workshop on Papaya Mealy Bug (*Paracoccus marginatus*) infesting Tree Crops for farmers and foresters on 30th December 2010.

IFGTB, Coimbatore organized workshop on cultivation and management of tree crops for farmers of Kerala organised in association with Kerala Forest Department on 31st January 2011.

IFGTB, Coimbatore organized workshop on best practices in tree farming for farmers of Tamil Nadu in association with Tamil Nadu Forest Department on 24th and 25th February 2011.

IFGTB, Coimbatore organized workshop on "Bio-remediation of contaminated soils for sustainable productivity" with Tamil Nadu Forest Department on 25th March 2011.

IWST, Bangalore organized workshop on wood handicrafts: future strategies on 9th July 2010. The workshop was inaugurated by Mr. Lukose Vallatharai, Managing Director, KSHDC; Mr. A.K. Verma, MD, KSFIC; Mr. C.S. Vedant, MD, KSFDC; Mr. S.C. Joshi, Director, IWST were the other dignitaries. Nodal Officer was Dr. Pankaj K. Aggarwal, Scientist E.

TFRI, Jabalpur organized a workshop on 'Research needs and the financial, technological and capacity needs and constraints to address climate change concerns *vis a vis* forests and forest products in India' on 1st September 2010.

TFRI, Jabalpur organized a workshop/ Interface programme on “Conservation and



Sustainable harvesting practices of medicinal plants and other NTFPs for the Forest Protection Committee members and interested persons of village Bhundakone, Umargohan and Damgarh of Amarkantak Range on 6th January 2011 and village Karidih of East Karanjia Forest Division (MP) on 7th January 2011.

TFRI, Jabalpur organized a workshop on “Non-Timber Forest Products Marketing: Issues and Strategies” on 19th February 2011.

AFRI, Jodhpur organized one day interactive workshop on Climate Change Concerns: Needs, opportunities and gaps” on 14th June 2010 to discuss on research needs, and the financial, technological and capacity needs and constraints to address climate change concerns vis a vis forest products in the arid zone of India.

AFRI, Jodhpur organized an interactive workshop on National Mission on Green India-linking research and future scope on 2nd July 2010 to discuss the opportunities and challenges to linking research to the mission activities and goal.

AFRI, Jodhpur organized a three days workshop-cum meeting on khejri mortality from 21st to 23rd August 2010 in which scientists from different institutes of ICFRE, ICAR, NGO's, and progressive farmers participated.

AFRI, Jodhpur organized DST-Group monitoring workshop for Technology Interventions for Addressing the Societal Needs (TIASN) on 18th and 19th November 2010.

HFRI, Shimla organized a Stakeholders' Consultation titled “Setting up of Forestry Research Need Assessment: Institutionalizing the Process in the State of Jammu & Kashmir” for identifying research priorities of the state on 1st July 2010 at Van Bhawan, Jammu (Jammu & Kashmir) under the Chairmanship of Shri Jagdish Kishwan, IFS, Principal Chief

Conservator of Forests, J&K. For making the consultative process more broad based across various cross-section of stakeholder of the region, participants from various specialists groups, NGOs, progressive farmers and local community based organizations such as Mahila Mandals, Yuva Mandals etc. were invited.

HFRI, Shimla organized Stakeholder's Consultations on Forestry Research Need Assessment: Institutionalizing the Process in the State of Himachal Pradesh on 6th August 2010 under the Chairmanship of Shri Vinay Tandon, IFS, Principal Chief Conservator of Forests, H.P. About 50 participants comprising of Senior Forest Officers of the State Forest Department, other stakeholders of the state and officers & scientists of the institute including research staff were present during the meeting.

HFRI, Shimla organized a workshop on Conservation, Assessment, Management and Prioritization of Medicinal Plants of Himachal Pradesh (CAMP Workshop) for strategizing conservation actions from 1st to 4th December 2010.

In order to identify the status, research needs, policy frame work and other related issues of watershed especially in the Western Himalayan context, HFRI, Shimla organized a one day's brainstorming interactive workshop on "Enhancing Water Potential of the Watershed: Issues and Concerns" on 23rd March 2011. The workshop had also been integrated with the celebration of INTERNATIONAL YEAR OF FORESTRY. About 60 participants from Himachal Pradesh Forest Department, Line Departments of Government of Himachal Pradesh, Scientists from UHF, Nauni, Solan Integrated Institute of Himalayan Studies, Representatives of non-governmental Organization including Progressive Farmers, participated in this workshop. Besides, officers,



scientists and other research support staff from the Institute were also present during this day long deliberations.

IFP, Ranchi organized national workshop on Optimizing Biodiversity and Social Security in Mining areas on 7th October 2010 in collaboration with Balipara Tract & Frontier Foundation, Assam.

Conference

IFP, Ranchi organized a national conference on “Conservation, Improvement and Sustainable use of Medicinal Plants & Non Wood Forest Products” on 8th and 9th March 2011.

4.5 Consultancies

Environment Management (EM) Division under the Directorate of Extension, ICFRE undertakes consultancies in the area of environment and forest for sectors like hydropower, mining, infrastructure, highways etc. Also, it coordinates with the EIA Cells in the institutes of ICFRE for undertaking region based consultancies. Till March 2011, the Division has completed 30 EIA/ EMP studies worth ₹ 1193.02 lakh and 10 projects worth ₹ 295.81 lakh are underway.

ICFRE is a leading identified service provider in the field of environment and forestry. The council helps clients in diverse sectors based on natural resources, such as, hydropower, mining sector, highways, oil exploration, infrastructure, forest management, landscape and restoration development by providing environmental management solutions.

During the year 2010-2011, following consultancies have been completed and awarded:

A. Completed Consultancies:

- Environmental Impact Assessment and Environment Management Plan for Kuther Hydroelectric Project (KHEP) studies for generation of 260 MW, a run-off river scheme proposed on River Ravi,

Chamba districts of Himachal Pradesh of JSW Energy Ltd. Mumbai.

- Biodiversity assessment was made under various ecosystems along the proposed Ganga Express Highway from Greater Noida to Balia. A detailed report has been submitted to M/s Jaypee Ventures P. Ltd., Noida, Uttar Pradesh.



Cultivated Agriculture Land with Agri- Crops and Water Bodies



Nilgai (Females) in Agriculture Field in UP

- Biodiversity assessment was made for proposed Unnao Land parcel, Unchahar Land Parcel and Wet Land Study of Patiyali Land Parcel project”. M/s Jaypee Ventures P. Ltd., Noida, Uttar Pradesh. Detailed report has been submitted.
- Biodiversity assessment in ravines and Chambal Sanctuary for Kanera lift irrigation scheme in Bind district of Madhya Pradesh and report submitted to Water Resources Department, Gwalior, (M.P.).



B. Awarded Consultancies:

1. Comprehensive EIA and EMP study for Bhunakha hydroelectric project in Chukha Dzongkhag District in Bhutan by Tehri Hydro Development Corporation India Limited (THDC).



View of Settlement in Study Region in Bhutan

2. Comprehensive EIA studies and formulation of EMPs for Gyspa (300MW), Nakthan (141 MW) and Beri Nichli (78MW), Thana Plaun (141 MW) and Surgani Sundla (42 MW) in Himachal Pradesh by Himachal Pradesh Power Corporation Limited (HPPCL).



Gyspa Project Site, HP



Thana Plaun Project, HP

3. Catchment Area Treatment Plan for the Kutehr Hydropower Project in Himachal Pradesh by JSW Energy Limited.

During the period, the EIA team of ICFRE has also participated in Expert Appraisal Committee meetings conducted by MoEF for the following projects:

1. EIA and EMP for Kuther Hydroelectric Project (KHEP) (260 MW) Chamba districts Himachal Pradesh. JSW Energy Ltd. Mumbai.
2. EIA & EMP with Catchment Area Treatment Plan (CATP), Hydrology and Drainage Studies for Ankua Iron Ore deposits in Jharkhand. JSW Steel Ltd. Mumbai.

During the period from April 2010 to March 2011, the division has successfully completed following project:

1. Preparation of EIA & EMP with Catchment Area Treatment Plan (CATP), Hydrology and Drainage Studies for Ankua Iron Ore deposits in Jharkhand. JSW Steel Ltd. Mumbai.
2. EIA, EMP, SIA, Socio-economic Baseline Survey and R&R Plan” for Tidong – II (60 MW) HEP project in Kinnaur district, Himachal Pradesh. Himachal Pradesh State Electricity Board.
3. Biodiversity Assessment report for Ganga Expressway from Greater Noida to Balia Project'. M/s Jaypee Ventures P. Ltd., Noida.
4. Biodiversity Assessment study report for Unnao Land parcel, Unchahar Land Parcel and Wet Land Study of Patiyali Land Parcel project”. M/s Jaypee Ventures P. Ltd., Noida.
5. Biodiversity Impact Assessment study for Kanera lift irrigation scheme in Bhind district of Madhya Pradesh. Water Resources Department, Gwalior, (M.P.)

Keeping in view the quality of earlier undertaken consultancy to the Royal Government of Bhutan, Tehri Hydro Development Corporation India Ltd. has awarded another hydroelectric project Bunakha HEP for comprehensive environmental impact assessment for worth ₹ 75.80 lakh.



An MoU has also been signed with Himachal Pradesh Power Corporation Limited for undertaking comprehensive EIA studies for the following projects worth ₹ 205.01 lakh:

1. Comprehensive EIA study for Gyspa Hydroelectric Project (300 MW), Himachal Pradesh.
2. Environmental Impact Assessment and Environmental Management Plan for Tosh Parvati (400 MW) HEP Project, Himachal Pradesh.
3. Comprehensive EIA study for Beri Nichli Hydroelectric Project (78 MW), Himachal Pradesh.
4. Comprehensive EIA study for Thana Plaun Hydroelectric Project (141 MW), Himachal Pradesh
5. Environmental Impact Assessment and Environmental Management Plan for Surgani Sundla (42 MW) HEP Project, Himachal Pradesh.

Moreover, JSW Energy Limited has also awarded preparation of Catchment Area treatment plan for the Kutehr HEP, Himachal Pradesh.

During the year, following projects for which EM Division, ICFRE conducted EIA studies and formulated EMP was accorded Environmental Clearance from Ministry of Environments and Forests:

1. EIA and EMP for Kuther Hydroelectric Project (KHEP) (260 MW) Chamba districts Himachal Pradesh. JSW Energy Ltd. Mumbai.
2. EIA & EMP with Catchment Area Treatment Plan (CATP), Hydrology and Drainage Studies for Ankua Iron Ore deposits in Jharkhand. JSW Steel Ltd. Mumbai.

FRI, Dehardun

- Undertaken analysis for characterization of biomass feed stock from Nagarjuna Fertilizers and Chemicals Limited, Nagarjuna Hills, Hyderabad.

- Ten numbers of steam-heated type kilns were modernized and re-installed at the premises of the U.P. Export Corporation Limited, Saharanpur under the technical supervision of scientist of the Wood Seasoning Discipline last year. One year technical service after the completion of the consultancy was done during the year. These kilns are fully being used commercially for timber seasoning by the Corporation.
- Dr. Vimal Kothiyal, Head, Forest Products Division, provided consultancy to M/s India Tourism Development Corporation Ltd and revenue earned from consultancy.
- Consultancy on, "Laboratory Testing of Bio-Pesticide *Photobacterium luminescens* Akhurstii Strain K1-52% v/v E.C." for 10 months (October 2010 to July 2011), from Nirmal Seeds Pvt. Ltd, Pachora- Jalgaon. Maharashtra India.
- Archaeological Survey of India for conservation of trees at Ta Prohm temple at Cambodia.
- Bodhgaya temple Management Committee, Bodhgaya for the maintenance of Bodhi vriksha.
- Worked in consultancy of "Renuka Dam" Project funded by Himachal Pradesh Hydroelectric Project Ltd.
- Worked in consultancy of "DEFRA project".
- Worked in consultancy on "Development of potted plants for NCT of Delhi" funded by Govt. of Delhi.

IFGTB, Coimbatore

Environmental Impact Assessment (EIA)/ Environmental Management Plan (EMP) for Bunakha Hydroelectric project of Bhutan awarded by Tehri Hydro Electric Development Corporation Ltd.



Preparation of Comprehensive Environmental Impact Assessment (EIA)/ Environmental Management Plan (EMP) for Sankosh multipurpose Hydroelectric project, Bhutan awarded by Tehri Hydro Electric Development Corporation Ltd.

Completed a consultancy project on “DNA profiling of *Eucalyptus* and *Acacia* hybrids” for the Mysore Paper Mills, Bhadravathi, Karnataka.

IWST, Bangalore

- Monitored and evaluated the work carried out by the College of Forestry, Ponnempet, University of Agricultural Sciences, Dharwad from ICFRE Grant-in-aid.
- Monitored and evaluated the work carried out by College of Forestry, Sirsi, University of Agricultural Sciences, Bangalore from ICFRE Grant-in-aid.
- Services such as wood identification, determination of moisture content, density and strength properties were rendered to various organizations (Govt/No-Govt/PSU/Private etc.)
- Provided EIA and EMP consultancy to the Bhunakha Hydro-electric project (180 MW) taken up by the Bhutanese Government.
- Provided EIA and EMP consultancy to the Sankosh Hydro-electric project (4060 MW) and Sankosh multi-purpose project, taken up by the Bhutanese Government.
- Provided EIA/EMP consultancy to Ankua Iron Ore mines of JSW Limited, Jharkhand.

TFRI, Jabalpur

1. Survey and documentation of flora and fauna in core and buffer zones of cement plant and limestone mining areas near Maihar (district– Satna, M.P.).
2. Assessment of green cover and its tangible and intangible benefits and tree cover management plan for NCPP-Dadri Project.

3. Concluded the study and submitted final report on 'Survey and documentation of flora and fauna in core and buffer zones of cement plant and limestone mines in Maihar (Dist. – Satna, M.P.) to Reliance Cementation Pvt. Ltd., Mumbai.
4. Assessment of green cover and its tangible and intangible benefits and tree cover management plan for STPP-Korba Project.
5. Conducting the study on faunal aspect of Biodiversity impact assessment study for Kanera Lift Irrigation Scheme in Bhind district of Madhya Pradesh as a consultant and submitted the survey report to ICFRE Dehradun vide letter No.Ento-3/TFRI/JBP/2010/1161, 29th June 2010.
6. Monitoring and Evaluation of development work in Achanakmar-Amarkantak Biosphere Reserve, Bilaspur (March 2011).

RFRI, Jorhat

A consultancy project entitled “Biodiversity Impact Assessment study for the strategic road Flaghill-Dokala, Pangolakha Wildlife Sanctuary in Sikkim State” was awarded to RFRI, Jorhat by BRTF-Ministry of Road Transport and Highways, Government of India.

HFRI, Shimla

The institute recently has been awarded a consultancy by State Forest Department Jammu and Kashmir for Assessment of Khair Trees in non-Forest Land in Five District of Jammu at a cost of ₹ 57.50 lakh.

The institute recently has been awarded a consultancy for Preparation of CAT Plan for Phinan Medium Irrigation Project in Chuwari of Dalhousie Forest Division, District Kangra at a cost of ₹ 15.00 lakh.

The institute has successfully completed a Consultancy titled, “Taking Up Studies on Environment Impact Assessment (EIA) and Preparation of Environment Management Plan



(EMP) for Integrated Kashang Hydroelectric Project (243 MW) in District Kinnaur of Himachal Pradesh”, assigned by M/ S Himachal Pradesh Power Corporation Ltd., Shimla to the tune of ₹ 30.0 lakh. After undertaking the EIA studies, a comprehensive EMP was prepared in which all the required aspects, including Public Hearing and Public Consultation meetings with the local administration and local people were organized. The relevant suggestions put forth by the local administration and local people were incorporated in the EMP. The EIA and EMP were presented before the Specialist Committee constituted by the Government of Himachal Pradesh for the purpose, authorities of Himachal Pradesh State Pollution Control Board. The relevant suggestions of both the above authorities were incorporated in the Plan. Finally, the Plan was presented before the Expert Appraisal Committee (EAC) of Ministry of Environment & Forests, Government of India, New Delhi on 14th September 2009. The EAC has raised certain issues and suggested to take up studies on Fish Fauna. The suggestions of the EAC were incorporated in Plan and the revised Plan was presented before EAC again on 15th December 2010. Finally, the EIA and EMP prepared by HFRI was approved by the EAC and the efforts put in by the HFRI were appreciated.

A consultancy titled “Preparation of Catchment Area & Treatment Plan for Phina Singh Medium Irrigation Project, Nurpur, Distt. Kangra (HP)” to the tune of ₹ 15.00 lakh only was finalized and submitted to the consulting Organization i.e. Executive Engineer, IPH Division, Nurpur, District Kangra (HP).

Director, Himalayan Forest Research Institute Shimla organized a presentation of Phina Singh Medium Irrigation Project at the institute on 4th September 2010, where officers from State Forest Department and Irrigation & Public Health Department Himachal Pradesh were present. This

consultancy is being implemented by HFRI, Shimla for preparation of CAT Plan of the project.

IFP, Ranchi

- Terms of reference for the project on “Estimate of Kendu (*Diospyros melanoxylon*) leaves production in Jharkhand” was signed on 19th January 2010 in between Jharkhand State Forest Development Corporation Limited, Ranchi (Funding Agency) and Institute of Forest Productivity, Ranchi (Implementing Agency). [Budget: ₹ 29.00 lakhs; Project Period: 6 months]
- “Preparation of Conservation Plan of the specified Faunas at Karo and Tetariakhar OCP” awarded by CCL, Ranchi was completed.

4.6 Technical Services

FRI, Dehradun

- Rendered various technical services to Indian Pulp and Paper Industries.
- One sample of derivatized starch received from M/s DAVAR Adhesive, Gwalior was analyzed.
- Ten samples of starch received from M/s Anil Products Limited, Ahmadabad were analyzed to ascertain their modification.
- Total 53 samples of 39 clients were tested for moisture contents during the year.
- About 950 cft of timber was seasoned for 6 clients during the year.
- Mechanical Testing of 62 wood samples from 17 firms were done during the year.
- Preservative testing of wood samples were extended to several firms during the year.
- Adhesive testing on plywood were carried out for several firms during the year.
- Soil samples were analyzed for various divisions of FRI.



- Technical services provided through the testing of wood and wood products to the firms/organizations as given below:
 1. M/s Rashtriya Chemicals and Fertilizers Ltd., Thal Unit, Raigad, Maharashtra.
 2. M/s Common Wealth games Div. V C.P.W.D. MDC National Stadium New Delhi.
 3. M/s HPCL (Lube refinery Mumbai).
 4. M/s Polyplex Ltd., Noida.
 5. M/s Southern Cooling Tower Pvt. Ltd., Kolkata.
 6. M/s Paltech Cooling Towers & Equipments Ltd., Gurgaon.
 7. M/s Hindustan Petroleum Corp. Ltd., Mumbai.
 8. M/s Sub Divisional Engineer Provl. Sub Div No.1 PWD B & R Panipat.
 9. M/s Sterlite Industries (I) Ltd., Tuticorin.
 10. M/s North Street Cooling Towers Private Ltd., Ghaziabad.
 11. M/s Central Sub Div.-IV C-85 HIG Colony, Bhuvneshwar, ODISHA.
 12. M/s Melfrank Engineers, Mumbai.
 13. M/s Koolaquo Towers Private Ltd., Kolkata.
- Field Inspection of *Dalbergia sissoo* and *Eucalyptus* entries for release. Visited Punjab (Patiala, Ludhiana, Hoshiarpur); Haryana (Hissar); Uttarakhand (Haldwani), from 21st to 28th September 2010 for observations on insect attack on the clones.
- Investigations on oak defoliator at Nauharadhar, Himachal Pradesh.
- Surveyed Haryana, Uttarakhand and Punjab for Status of *Leptocybe invasa*, infestation on *Eucalyptus*.
- Identification of fungal deterioration in wood for wood based industries
- Phytosanitary certificate issuance
- Mortality in deodar trees at Pithoragrh to DFO, Pithoragarh Forest Division
- Shisham mortality in Hoshiarpur Forest Division for CF (Research), Punjab Forest Department
- For advisory role in Haryana Forest Department activities like nurseries and plantations
- For teak mortality in Saharanpur for Shiv Shakti Plantations Ltd., Bareilly
- Quarantine Clearance to Bo Tree from Shri Lanka at Gaya Airport
- Disease inquiry of dying poplar trees at Vaishali, Bihar
- Medicinal plants seedling production for Delhi government
- Identification of Insect Services:
 1. Dr. M. Sawmliana Chanmari, West Aizawal, Mizoram sent insect material for identification on 31st December 2010. (Report on identification has been sent).
 2. Dr. S.P. Saxena, ASPEE College of Horticulture and Forestry, Navsari Agriculture University, Navsari Gujarat, sent insect material for identification on 6th November 2010. (Report on identification has been sent).
 3. Dr. S. I. Ahmed , Arid Forest Research Institute, Jodhpur Rajasthan sent insect material for identification on 24th January 2010 (Report on identification has been sent).

IFGTB, Coimbatore

IFGTB provided technical advice to Kerala Forest Department, establishment of seed production areas. The team identified



1492 ha of teak plantations out of the 3143 ha area surveyed for conversion into Teak Seed Production Areas.

The institute rendered the services for identification of about 28 species near Eco-restoration Centre at Thathengalam for Wildlife Warden, Silent Valley National Park, Kerala.

Plant Identification Services rendered in the Fischer Herbarium

Plant identification services were rendered to the Tamil Nadu Forest Department, various research divisions of IFGTB, College and University students, and farmers as and when requested.

Provided the information on nectar and larval host plants of butterflies suitable for Kerala condition to the Chief Conservator of Forests (Wildlife), Palakkad, Kerala. Also provided information on nectar and larval host plants of butterflies suitable for Coimbatore condition to the Park Group of institutions, Coimbatore, for developing the butterfly park.

IWST, Bangalore

Timber testing:

- Analytical services were rendered to Wild life Crime Control Bureau, Southern Region, Chennai, Commissioner (customs), Chennai, Forest Department and public. Analysis of essential oils from sandalwood samples, *Pterocarpus santalinus* samples, other wood powders etc. A number of technical inquiries on utilization of various non wood forest products from Government Departments and public were attended to and advice given.
- Five wood samples received from end users were analyzed for their preservative content and reports were sent.
- Several enquiries were attended from Forest department officials and NGO's with respect to

entomological and pathological problems in nursery and plantations & timber-in-service and suitable remedial measures were suggested.

- Inspection in the zoo garden was carried out for the "Wood Decay problems" in living trees and suggestions were given.
- Tested the samples received from Reliance Industries Ltd. for the presence of fungus and test report was sent.
- Suggested control measures for the disease problem of neem tree as per a request from FRO, Bangalore.
- MoU for the project "Termite and borer resistance of shellac-based varnishes" in collaboration with IINRG was signed by Director and sent to ADG, ICFRE for approval on 8th March 2011.
- Technical advice on wood utilization under marine conditions to the Shipwright School, Indian Navy, Visakhapatnam

TFRI, Jabalpur

- Technical and advisory services to M.P. Forest Department, on insect attack in teak at Khandwa Forest Division, Khandwa, from 2nd to 4th August 2010.
- Technical and advisory services to M.P. Forest Department, on defoliator and borer attack in sal forests at Karanjia range of Dindori Forest Division, Dindori, on 12th and 13th August 2010 and also on borer attack in sal forests from 7th to 9th December 2010.

AFRI, Jodhpur

- Evaluation of plantation work on GAURAV PATH developed by Jodhpur Development Authority (JDA), Jodhpur.
- Prepared display materials and demonstrated research findings on forest soils, Biodrainage, rain water harvesting for increasing



productivity of degraded Aravalli hills at Van Vigyan Kendra and Kisan mela.

- Disseminated research findings to farmers through lectures organized at different institutions.
- As and when required, provided technical services to SFD, Rajasthan, Gujarat, Ministry of Environment and Forest, New Delhi, Farmers and NGO's in the forestry and allied aspect with particular emphasis on combating desertification, rehabilitation of degraded land, silviculture, modern nursery, forest protection and tree improvement.

HFRI, Shimla

The institute provided plant identification, analysis of soil (moisture contents, organic carbon) for Forest Survey of India, Northern Zone, Shimla.

4.7 Activities of Rajbhasha

ICFRE and its institutes are continuously working in the direction of implementation of Rajbhasha rules and regulations in its day to day functioning with a view to promoting the use of Rajbhasha to the maximum. ICFRE, Dehradun organized a training workshop on Hindi Software “Saransh” on 23rd November 2010. Over 250 officers, scientists and staff of ICFRE and FRI attended the training workshop. The workshop was addressed by Shri J.P. Singh and Shri Gagan Sharma, Aryan E-Soft, Pvt. Ltd., New Delhi.

ICFRE, Dehradun also organized a training workshop on Quarterly Progress Report

on 27th January 2011. Over 50 personnel of ICFRE and FRI attended the training workshop. The workshop was addressed by Shri M.R. Saklani, Deputy Director Rajbhasha and Secretary NARAKAS, Dehradun.

The Council is conducting Rajbhasha Karyanvayan Meetings on regular interval at the institutes and the headquarters. Quarterly Progress Report is being compiled and sent to the Official Language Department of the MoEF. We are also observing Hindi Divas on 14th September and regularly organizing Hindi Week/Fortnight. ICFRE, Dehradun also participating in the NARAKAS Meetings at the regular basis.

With a view to promoting the implementation of Rajbhasha Hindi, ICFRE is regularly publishing its in house magazine *Taruchintan* and half yearly Newsletter, Vaniki Samachar.

FRI, Dehradun

- Regular reports on Hindi work were submitted in the prescribed format.



Training a Hindi Software “Saransh” at ICFRE, Dehradun



- The scientists and staff of the Pathology Division participated in Hindi Goshthi on 3rd October 2010
- Hindi Diwas was organized on 14th September 2010. Hindi Essay and Shrut lekh competition was also organized for the officials of CSFER.
- Regular Rajbhasha samiti meetings were attended by officials by CSFER.
- Quarterly meetings regarding improvement in Hindi works were organized regularly.
- Scientific trainings/literature (pamphlets, brochures handouts etc.) have been developed in Hindi for different target groups.

IFGTB, Coimbatore

- IFGTB was awarded certificate and shield for commendable performance in implementation of official language for the year 2009-10 in Govt. Offices Category.
- Hindi Translator was recruited.
- Employees of IFGTB were nominated for training in Official language.
- Training was imparted to the employees of IFGTB in software “Saransh”.
- Hindi Translator attended Half yearly meeting of TOLIC at Coimbatore.
- Preparation of brochure of IFGTB in Hindi.
- Submission of quarterly reports.
- Replying in Hindi for the communication received in Hindi.

IWST, Bangalore

Instructions regarding implementation of Rajbhasha issued by the Government of India and ICFRE during 2010-11 were followed. In the chairmanship of the Director of the institute quarterly meetings of Rajbhasha were conducted regularly.

All efforts have been made to meet the target of 55% of correspondence in Hindi. The subject on the files available in different divisions and section of the institute has been written bilingually.

This institute is member office of Town official language implementation committee (NARAKAS) and takes active participation in seminars and meeting conducted time to time and the instruction/ suggestions are being followed.

Rajbhasha Orientation Programme for the officers of the institute on 31st August 2010 and 28th March 2011, Hindi noting and drafting for clerical staff on 25th June 2010 and a workshops on the working of Hindi software Saransh on 16th December 2010 were conducted.

Besides this, a workshop with an objective to provide general knowledge of Hindi stenography to the English stenographers was organised on 30th August to 10th September 2010 for the Hindi Pragma examination passed stenographers.

Two LDC's were trained in Hindi typing by placing them on deputation to learn Hindi typing at Government of India Central Hindi training sub institute, Bangalore on 40 days full time Hindi typing conducted on computer.

“Hindi Pakhwada” and “Hindi Diwas Samaroh” were observed from 14th to 28th September 2010.

FRC, Hyderabad

- Hindi fortnight was celebrated at Forest Research Centre from 14th to 24th September 2010. Essay, singing and eloquence competitions were conducted to celebrate the occasion.
- A workshop on implementation of Hindi was conducted at FRC, Hyderabad on 15th December 2010. Shri S.P. Choubey, Director, Rajbhasha, delivered a lecture on the importance and provisions of Rajbhasha in the official works of the MoEF.

TFRI, Jabalpur

- Organized Hindi pakhwara at TFRI, Jabalpur.
- Organised training/workshop in Hindi for the ministerial and technical staff of the institute.



RFRI, Jorhat

“Hindi Week” was celebrated in Rain Forest Research Institute, Jorhat from 8th to 14th September 2010. The opening ceremony was inaugurated by Shri N.K. Vasu, Director, RFRI. In his speech, Director briefly explained the importance of Hindi as an official language in Central Govt. offices/organizations. Almost all employees of RFRI attended the ceremony and most of them participated in various competitions like Hindi essay writing, dictation, poem recitation etc. The week long programme was ended on 14th September 2010 with the celebration of “Hindi Divas”. Prizes and certificates were awarded to the best performers. This time, a special award was given to Shri S.N. Rahang for doing day to day official work in Hindi.



Officials Attending the Hindi Divas Ceremony at RFRI, Jorhat



Ms. I Ao, IFS and GC (R.) Distributing the Prizes

- A workshop in Hindi on the topic “Problems & Solutions regarding the implementation of Official Language in Office” was held on 29th November 2010 in the Conference Room of the Institute. Mr. N. K. Vasu, Director, RFRI chaired the session. Other attendants included I. Ao, GC(R), Scientists & other Officials of the Institute. Mr. Pandey A. K. Arun, Manager (Official Language), United Bank of India, Jorhat delivered a lecture in the workshop as Guest Lecturer.



Mr. Pandey A. K. Arun Delivering Lecture on Official Language Issues



Participants in the Workshop

- A workshop entitled “Use of Hindi in the Computer” was organized on 4th March 2011 in the Biotechnology & Genetics Division. Special emphasis was given on the practical use of Hindi in the day to day official works.



AFRI, Jodhpur

During the year 2010-11, 88.42% noting on the files were written in Hindi. Four Hindi workshops were conducted. Hindi magazine of the institute "AFRI DARPAN" were made more userfriendly and research activities were publicised in simple Hindi. Hindi fortnight was observed from 14th to 28th September 2010 during which various competitions were conducted. During Hindi fortnight, official language prizes for the year 2009-10 for the works in Hindi were given to the officials.

Two officials of the institute got five day training to work in Hindi on computer through C-DAC, Noida. The information book of the institute has been published in Hindi.

Institute was awarded with Rajbhasha Chal Vaijyanti and with appreciation certificate by NARAKAS, Jodhpur for the year 2009-10 for use of Hindi in the institute. Training and extension materials were prepared in Hindi and distributed. Useful and standard scientific articles/materials were sent for publication in different Hindi magazine.

HFRI, Shimla

Besides providing training material in Hindi, with a view to giving Hindi a proper place in the working system of the office, following forms were changed in Hindi/Bilingual:

1. All orders related to leave
2. Leave forms
3. Medical forms
4. Tour allowances and leave tour form facility
5. Credit Voucher
6. Debit forms
7. Application form for forest advance
8. Expenditure sanction forms
9. Application for vehicle
10. Annual confidential Report forms and office order in bilingual

A review committee has been constituted to review the progress of implementation of Rajbhasha Hindi in the institute. The committee in different reviews observed that percentage of work in Hindi has increased considerably in comparison to the earlier.

Saransh Software provided by the Headquarters has been installed in all the computers, which made the work easy. A training programme was also conducted for making the officers and officials well versed with the use of the software.

The institute regularly participated in the meetings of Town Official Language Implementation Committee, Shimla.

Hindi Diwas on 14th September and Hindi fortnight from 13th to 26th September was observed in the institute. Different competitions were organised during the fortnight and the certificates were provided to the winners.



Director, HFRI, Shimla Distributed Certificates to the Winners of Essay Writing Competition

IFP, Ranchi

- Shri Binay Kumar Mishra, DCF and Shri A. K. Pandey, UDC attended the meeting of Ranchi Nagar Rajbhasha Karyanvayan Committee held on 25th August 2010 and 28th January 2011 at Ranchi.

4.8 Awards and Honours

FRI, Dehradun

- Dr. Rashmi, Scientist-C, Chemistry Division bagged Young Scientist Award for Best



Presentation (2010) in the 2nd Rashtriya Yuva Vaiganik Sammelan, Dehradun.

- Presentation entitled “HPTLC Fingerprinting profile of *Phaseolus trilobus* root” by Navpreet Kaur, Rashmi, Y.C. Tripathi was awarded 1st Prize for Best Presentation in the 7th Symposium on Phytochemistry and Ayurveda: Potential and Prospectus' held on 25th December 2010 at Dehradun.
- Presentation entitled 'Green approaches towards characterization of *Tinospora sinensis*' by Shipra Nagar, Vineet Kumar and Y.C. Tripathi was awarded 1st Prize for Best Presentation in the Conference on Environmental Conservation, Sustainable Natural Resource Management and Strategies for Regional Development - with reference to Uttarakhand, 1st and 2nd May 2011, Organized by Department of Chemistry, D.B.S. Post Graduate College, Dehradun.
- Dr. Parul Bhatt, Scientist-C received young scientist Award for presenting a research paper entitled “Characterization of DGPR and its applications as biofertilizers for growth enhancement in Chickpea (*Cicea Arietinum* L.)” at 5th Uttarakhand State Science & Technology Congress held from 10th to 12th November 2010 at Doon University, Dehradun.
- C.M. Mathavan and A. K. Raina received 3rd Prize in Poster presentation entitled “Pedospheric distribution of soil cationic micronutrient status under various landuse systems in Uttarakhand” at National conference on landscape restoration processes: Challenges and opportunities held at FRI, Dehradun on 22nd and 23rd February 2011.
- Dr. H.S.Ginwal was awarded by Brandis Award for best research publication for the year 2009, published in Indian Forester (Ginwal, H.S. and V.S. Jadon 2009).

Observations on provenance variation in *Pinus kesiya* Royle ex Gordon using RAPD markers. Indian Forester 135 (4) : 449-458).

- Ms. Parveen, Scientist-C received award for best oral presentation on “Conservation and Propagation of Important and Threatened Medicinal Plants through Tissue Culture” during the technical session on “Sustainable Resource Utilization, Biodiversity characterization” of the “International conference on wildlife and biodiversity conservation vis-a-vis climate change” held at Sher-e-Kashmir University of Agricultural Sciences and Technology-Kashmir, Srinagar, J & K, India from 3rd to 5th June.
- Ms Parveen, Scientist-C and Ms Shivani Dobhal, Scientist WoS-B was awarded SAP for attending Pre-Congress Training from 15th to 21st August 2010 and IUFRO World Congress, Seoul, Korea from 23rd to 28th August 2010.
- Dr. Manisha Thapliyal won the Young Scientist Award for best oral presentation in Environmental Science & Forestry for her paper “Seed Morphology, Germination and Desiccation Studies in *Diploknema butyracea*” at 5th Uttarakhand State Science & Technology Congress, Doon University, Dehradun from 10th to 12th November 2010.

IFGTB, Coimbatore

- Dr. R. Yasodha obtained a travel award from IUFRO to attend the XXIII IUFRO Forestry Congress at Seoul, North Korea from 23rd to 28th August 2010.
- Dr. Modhumita Dasgupta, Scientist-E was awarded the Scientist Assistance Program (SAP) grant to attend the XXIII IUFRO World Congress 2010 from 23rd to 28th August 2010 at Seoul, Republic of Korea.



TFRI, Jabalpur

- Dr. R.K. Verma, Head, Forest Pathology Division received Association for Plant Taxonomy (APT), Prof. K.S. Thind Medal for the year 2010 for his significant contribution in the field of Mycology.

RFRI, Jorhat

- RFRI, Jorhat was awarded for progressive use of Official Language in the autonomous category in the 22nd meeting of Town Official Language Implementation Committee, Jorhat on 7th March 2011.



Shri N. K. Vasu, Director, RFRI, Jorhat is Receiving the Award

IFP, Ranchi

- Shri R. Das, received Life time achievement award for his contributions in community based natural resource management by Global Consortium of Contemporary biologists (2010).

4.9 Special Activities (Such as Van Mahotsava, Forestry Day and Other occasions)

National Technology Day

FRI, Dehradun observed the “National Technology Day” at Shatabdi Van Vigyan Kendra by F.R.I, Dehradun on 11th May 2010. On this occasion, almost 800 students participated from

different schools. On this occasion, entry to all the six museums was free.

World Environment Day

- FRI, Dehradun organized Environment Awareness programme while celebrating the World Environment Day & FRI Day in Convocation Hall of main building on 5th June, 2010. Dr S.S.Negi, Director, FRI appealed to clean surroundings and make it free from plastic and polythene. All the six museums were also kept free to the visitors during the celebration of the World Environment Day & FRI Day.
- FRC, Hyderabad observed the World Environment Day' by planting tree saplings at the FRC campus, Hyderabad on 9th June 2010.
- AFRI, Jodhpur observed the World Environment Day on 5th June 2010 by way of preparation of banner on the theme “Many Species, One Planet, One Future” and various activities such as lectures and plantation of tree saplings. A pamphlet was also released and distributed on the occasion to create awareness among the people.
- Confederation of Indian Industry and Young India alongwith IWST and Jain College of Engineering celebrated Environment Day on 5th June 2010. Dr. Pankaj K. Aggarwal, Extension Officer delivered a key note address during the function. Planting program was also done.
- HFRI, Shimla, in close collaboration with Himachal Pradesh State Forest Department (Wildlife) organized an “Awareness Generation Workshop of School Children and Local Villagers” on the “World Environment Day” i.e. on 5th June 2010 at Potter's Hill, near Himachal Pradesh University, Summer Hill, Shimla. The function was attended by the officers of State Forest Department of Himachal Pradesh, including representatives



Celebration of World Environment Day
at Potter's Hill, Shimla

of NGOs. About 150 school children from various schools along with their teachers and villagers from nearby villages participated in the activity. For encouraging the school children, competitions like Quiz Competition, Declamation contest, Slogan writing and Drawing/ painting competition were also organized by the institute.

Wildlife Week

- FRI, Dehradun observed the “Wildlife Week” from 1st to 7th October 2010. On this occasion the institute had organized an exhibition in the information centre of the FRI main building.
- RFRI, Jorhat observed the Wildlife Week from 1st to 7th October 2010. Painting competition, photo exhibitions, screening of Wildlife movies in the institute and Demo Village, bird watching and talks on wildlife.



Children Participating in a Drawing Competition at RFRI

Vigilance Awareness Week

- FRI, Dehradun observed “Vigilance Awareness week” from 25th October to 1st November 2010. During the week, an essay competition on the subject “Bhrashtachar ke Virudh Jagrukta Utpatti Evam Prachar” was organised. A workshop was also organised in the board room of FRI.
- Vigilance awareness week was observed at IFGTB, Coimbatore during the November 2010. Various competitions were held and prizes were distributed during the validation of the awareness week.
- “Vigilance Awareness Week” was observed at FRC, Hyderabad from 25th October to 1st November 2010. Essay writing and eloquence competitions were conducted to observe the occasion.

National Science Day

The Forest Research Institute celebrated the National Science Day on 28th February 2011. During this day, there was free entry to all six museums for the school children and visitors.

World Forestry Day

Forest Research Institute celebrated the World Forestry Day. An Exhibition was organized at the FRI Information Centre which included posters and models depicting the achievements of the institute. FRI museums were thrown open to the public for the day. A large number of students



Participants of the Workshop “Enhancing Water Potential of the Watershed : Issues and Concerns” at HFRI, Shimla

from various educational institutions and the general public availed this ticketless opportunity.

A one day's brainstorming interactive workshop on “Enhancing Water Potential of the Watershed: Issues and Concerns” was organized at HFRI, Shimla on 23rd March 2011. The workshop had also been integrated with the celebration of International Year of Forestry. About 60 participants from Himachal Pradesh Forest Department, Line Departments of Government of Himachal Pradesh, Scientists from UHF, Nauni, Solan Integrated Institute of Himalayan Studies, Representatives of Non-governmental Organization including Progressive Farmers, participated in this workshop.

World Forestry Day was organized at **RFRI, Jorhat** on 21st March 2011 at the “Demo Village- Mellang Grant”, Jorhat, Assam. Painting competition for school children, release and



Shri N.K. Vasu, Director, RFRI, Jorhat Releasing a Poster on Biodiversity of NE Commemorating International Year of Forest at RFRI Demo Village (Meleng Grant)

display of posters on forestry activities, tree planting etc. were activities of the day involving the villagers.

Van Mahotsava

Van Mahotsava was celebrated at FRC, Hyderabad by planting trees in the FRC campus, on 27th July 2010.

AFRI, Jodhpur celebrated “Van Mahotsav” at Kendriya Vidhyalya No. 2, Sikargarh Army Area, Jodhpur on 23rd July 2010. Around 150 seedlings of various shade trees were planted by the teachers and student in the KV campus. Director, Principal, HODs and some of students put their views on importance of forest and wild life. On the occasion of 'Van Mahotsav' a brochure was published and distributed among students of Kendriya Vidhyalya No. 2, Sikargarh Army Area, Jodhpur.

Miscellaneous

Forest Research Institute, Dehradun participated the “Second yearly Dehradun Tree Festival” on the occasion of birth anniversary of Pandit Jawaharlal Nehru at Citizen For Green Doon, 140/9 Rajpur Road, Jakhan, Dehradun.

Birth Anniversary of Late Shri. Hari Singh (Former IGF) at Siri Fort Auditorium complex, New Delhi on 10th December 2011. On this occasion, a book “Hari Singh : A life sketch” was released. Dr. P.J.Dilip Kumar, Director General of Forest and special secretary, Govt. of India was the chief guest of this function.

Earth Day was celebrated at IWST, Bangalore at on 23rd April 2010. A plantation programme was organized. Mr. A.K. Verma, PCCF & MD, KSFIC and Prof. Ravindranath, IISc, Bangalore delivered talks on the occasion in addition to Director, IWST.

Demonstration cum interactive meeting was organized on 3rd September 2010 at Sitharamahattarapalya village of Yentaganahalli Panchayat by IWST, Bangalore. The villagers



were briefed about institute's different activities which are beneficial for the farmers and other village community. The information on techniques i.e., development of model nurseries, sandal plantation techniques, bamboo propagation and their uses etc. were given. The farmers were also told about the economic benefits and local usability (possible end use) various lesser known and plantation grown timbers i.e., *Acacia auriculaeformis*, *Dalbergia sissoo* (sissoo) and *Hevea brasiliensis* (rubberwood), *Grevillea robusta* (silver oak), *Melia composita* (malabar neem), *E. hybrid* etc. Farmers enquired about the availability of seedlings of these species so that they can grow in their own fields.

Under the ongoing project titled "Integrated Community based Forest Management Project in Bihar", to give a further impetus to the agroforestry programme in North Bihar in general and district Vaishali in particular, a "Buyer-Seller Meet" on 27th and 28th July 2010 was organized at Patna which facilitated a direct interaction between the growers/ farmers involved in the activity and the agencies which either market or consume the agroforestry produce.

A wood user interactive meet and product exhibition was organized in the Institute of Wood Science and Technology during 23rd and 24th March 2011. The exhibition and meeting was inaugurated by Mr. Kaushik Mukherjee, Principal Secretary, Department of Forests, Govt.

of Karnataka. The inaugural programme was also attended by Deputy. Director General Doordarshan, Bangalore along with local MLA. During, the meet, interactive sessions with architects, builders, interior decorators, handicraft sectors and wood utilization sector was organized. The wood product exhibition was well accepted by local peoples, students and several organizations. Large number of local people, students and wood industries visited the exhibition. The closing of the exhibition was done by Small scale industries and Forest Minister, Karnataka.

Participated in XI Paschimi Rajasthan Hasta-shilp Utsav 2011, Jodhpur organized by DIC and District administration to acquaint students, NGOs, progressive farmers and others with research highlights and technologies of AFRI from 2nd to 11th January 2011.

International Day for Biological Diversity on 22nd May 2010 was celebrated at AFRI, Jodhpur by on way of preparation of banner on the theme "Biodiversity, Development and Poverty Alleviation" and various activities such as lectures by scientific dignitaries and plantation of tree saplings. A pamphlet was also released on the occasion and distributed for wide publicity to create awareness among the people.

World Day to Combat Desertification on 17th June 2010 was celebrated at AFRI, Jodhpur by way of preparation of banner on the theme "Enhancing soils anywhere enhances life



Buyer-Seller Meet on Consumption of Agroforestry Produces at Patna





everywhere” and various activities such as lectures and plantation of tree saplings. A pamphlet was also released on the occasion.

Distinguished Visitors

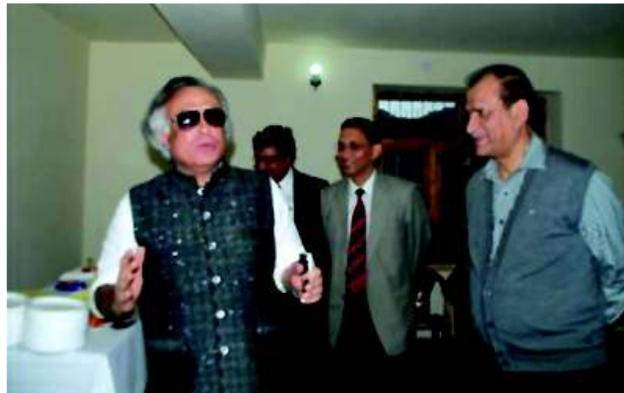
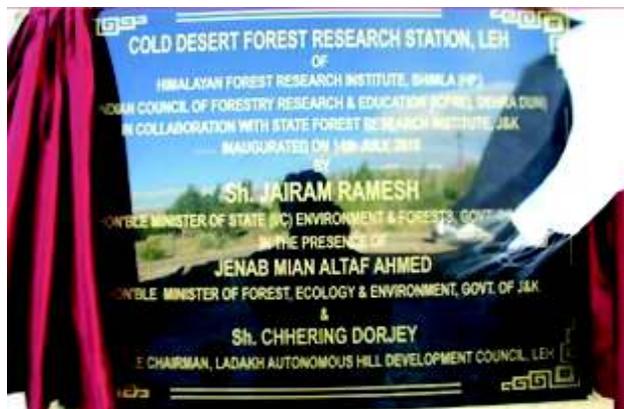
Dr. Phil Harris, Prof. of Plant Science, Deptt. of Geography and Environment, Conventry University, UK visited AFRI, Jodhpur and delivered a guest lecture on 17th May 2010.

Shri Anant Roy, Honourable Forest Minister, West Bengal visited AFRI, Jodhpur on 20th and 21st October 2010. He learned about developed technologies and activities by AFRI, Jodhpur. He visited labs, interacted and addressed to Forest officials and scientists of AFRI, visited AFRI nursery. Director AFRI, CCFs Jodhpur and wild life informed to MIC, FT WB about various works. He also visited VVK works at Mohangarh and Bikaner with Shri M.R. Baloch, Head, Agroforestry and Extension Division, AFRI and with local Forest officials of state forest department, Rajasthan.

Shri K.S.Chouhan, IFS, CCF, Haryana, Panchkula, Shri Jagdish Chander, IFS,CF, Research Circle, Pinjore, Shri Balbir Singh Khokha, HFS, Divisional Forest Officer, Seed Collection Division, Pinjore and Sh. Paramjit Sagwan, Divisional Forest Officer, Research Division, Pinjore visited Institute from 31st January to 2nd February 2011. Detailed discussion was held with Director, Head of the Divisions related to forestry and agroforestry work of AFRI in arid regions of Rajasthan.

To provide further boost to forestry research activities especially in the Cold Deserts of Leh and Ladakh, falling in the state of Jammu & Kashmir, Sh. Jai Ram Ramesh, Hon'ble Minister of State (I/C) Environment & Forests inaugurated Cold Desert Field Research Station at Leh on 14th July 2010 in the presence of Jenab Mian Altaf Ahmed, Hon'ble Minister of Forest, Ecology and Environment, Govt. of J&K and Shri Chhering Dorjey, Hon'ble Chairman, Ladakh Autonomous

Hill Development Council, Leh (J&K) and Shri Hem Pandey, IAS, Joint Secretary, MoEF, Govt. of India, New Delhi. Dr. G.S. Rawat, DG, ICFRE, Shri Mohinder Pal, IFS, Director, HFRI and other distinguished dignitaries and guests were also present during the inaugural ceremony of the station.



Inauguration of Cold Desert Field Research Station at Leh by the Then Hon'ble Minister of State (I/C) Environment & Forests, Shri Jai Ram Ramesh

For making the people more aware of the environmental issues in the present day scenario, a discussion followed by a film show was organized on 17th September 2010 by an Expert Team from British Council, New Delhi in association with WWF Shimla Unit. Senior functionaries of the Council besides officials from the institute attended the same.

Melas

Forest Research Institute participated in the Basant Mela organized by ITBP, Seemadwar, Dehradun from 11th February to



14th February 2011. During this programme, an exhibition was also arranged in the Basant Mela.

IFGTB, Coimbatore organised the second Karshaka Mela in association with Department of Forests and Wildlife, Kerala at Fine Arts Society Auditorium, Ernakulam, Kerala on 31st January 2011. Shri Binoy Viswam, Hon'ble Minister for Forests and Housing, Govt. of Kerala, Shri Dominic Presentation, Member of Legislative Assembly, Ernakulam, Shri T.M. Manoharan, IFS, Principal Chief Conservator of Forests and Head of Forest Force, Kerala, Senior officers of the Forest Department, scientists from KFRI, NGO representatives participated. About 600 farmers from various parts of Kerala took part in the mela. A workshop on cultivation and management of tree species suited to Kerala was organised.

IFGTB, Coimbatore participated in the Palakkad District Tree Growers Association on

18th February 2011 at Perumatty and discussed about the cultivation and management of tree species suitable for Palakkad region, the marketing, quality planting stock production, plantation technologies, clonal forestry, seed handling methods, etc to more than 150 farmers.

IFGTB, Coimbatore participated by putting up a stall in the Forest Fest "Vana Vishmayam" organized by Kerala Forest Dept. From 6th to 10th February 2011 at Thiruvananthapuram.

IFP, Ranchi set up an exhibition stall in Kissan Mela 2011 organized by Rama Krishna Mission, Morhabadi, Ranchi at Getalsud, Ranchi from 4th and 5th February 2011. The IFP's stall was adjudged the best and was awarded 1st Prize.

IFP, Ranchi participated in Kissan Mela 2011 organized by Indian Institute of Natural Resins and Gum (ICAR), Namkum, Ranchi (IINRG), at Ranchi on 10th February 2011.