

# Forestry Education and Policy Research to Meet Emerging Challenges



**Indian Council of Forestry Research and Education (ICFRE) is mandated to promote forestry education in the Country by providing grant-in-aid to the universities which offer graduate and post-graduate courses in forestry. ICFRE also undertake capacity building measures for the skill up-gradation of scientists, managerial and research support staffs by means of organizing need-based trainings.**



## 6.1 Improving Formal Forestry Education

ICFRE provides grants to develop technical capabilities and strengthen infrastructure for forestry faculties in the universities imparting forestry education at the graduate and post-graduate levels. Grant to various universities imparting forestry education in the country is regulated as per the guidelines of ICFRE.

### FRI University

Ministry of Human Resource Development, Government of India, New Delhi has granted Deemed University status to FRI vide Notification No. F.9-25/89-U.3 dated 06-12-1991. After the conferment of (Deemed) University status, academic activities of the Institute have increased tremendously and it has been fostering research and education in forestry, environment and other allied disciplines in a more meaningful and productive way. The FRI (Deemed) University has been offering the following academic courses on a regular basis:

- Two years M.Sc. courses in Forestry, Environment Management, Wood Science & Technology and Cellulose & Paper



Annual Sports Meet of FRI University

Technology.

- One year Post-Graduation Diploma in Aroma Technology.

Officers/ scientists of ICFRE (Hq) and its institutes delivered lectures, supervised dissertation and provided guidance to research scholars.

University organized Annual Sports Meet from 10 to 18 March 2016.

## 6.2 Accreditation of Universities

Accreditation is a process of assuring high institutional quality, and also a tool for betterment and maintenance of educational standard. The Accreditation process not only improves the quality and relevance of the education but also brings uniformity in the course curriculum/programmes being offered by various Universities across the country. Process of re-accreditation of 14 Universities accredited with ICFRE earlier and accreditation of four new Universities is under progress. During the year 2015-16, the Evaluation Team of ICFRE has visited following six Universities to validate the data submitted by the University in their Self Appraisal Report:

- H.N.B. Garhwal University, Srinagar (Uttarakhand)
- Orissa University of Agri. & Tech., Bhubaneswar (Odisha)
- Dr. Y.S. Parmar University, Solan (Himachal Pradesh)

- Sam Higginbottom Inst. of Agri. Tech. & Science, Allahabad
- Uttar Banga Krishi Vishwavidyalaya, Cooch Behar (West Bengal)
- Dr.B.S.S. Konkan Krishi Vidyapeeth, Dapoli (Maharashtra)



Visit of Evaluation Team of ICFRE to College of Forestry, Dr. Y.S. Parmar University of Horticulture & Forestry, Nauri, Solan, H.P.

## 6.3 Networking Forestry Education with Research and Extension

### Directorate of Education

A national level networking project has been initiated to assess the gaps and challenges in Non-Timber Forest Produce sector with the help of ICFRE institutions and the State Agricultural Universities under this project accredited by the ICFRE.

Funds were released to Navsari Agricultural University, Navsari, Sher-E-Kashmir University, Srinagar, H.N.B. Garhwal University, Srinagar and Tamil Nadu Agricultural University, Mettupalayam to carry out the project work.

### FRI, Dehradun

A team of scientists from Wood discipline of Czech Republic visited Forest Research Institute University on 15 April 2015 and interacted with students of M.Sc. Wood Science & Technology.

Special lecture was delivered by Dr. Klaus von Gadow from Germany, Dr. Stephen Sheppard, Canada, Dr. Mohit Gera from IGNFA, Dr. M. L. Kapoor, Scientist (Retd.), Professor Virendra Kumar from Himachal Pradesh Agricultural University, Palampur, Prof. Mats Sandewall from Swedish University of Agriculture, Sweden and Mr. Abhishek Mani Tripathi, Research Scholar from Mendal University, Czech Republic on various forestry related topics to the students of M.Sc. Forestry, M.Sc. Environment Management and Ph.D. Scholars.

### IFGTB, Coimbatore

The Forest Genetic Resources Management Network (FGRMN) is being created in collaboration with State Forest Departments, Research Institutes and Universities across the country to rationalize the use of Bio-diversity.

### Participation in Seminars/Symposia/Workshops/Trainings

About 140 scientists and officials of ICFRE and its institutes participated in various seminars/symposia/workshop/trainings/meetings organized by various organizations throughout the country on variety of subjects. Details of participation of scientists and officials of ICFRE and its institutes in various seminars/symposia/ workshop/trainings/meetings organized by various organizations are as follows:

#### ICFRE

- Consultative Group on Forestry Matters for International Negotiations to firm up the country's views for UNFF,
- The meeting of GEF project,
- Workshop of stakeholders of medicinal and aromatic plants on 'Current Challenges and Recommendations',
- The meeting related to Green India Mission ,
- The meeting regarding aligned National Action Programme to Combat Desertification,



One week training programme for scientists and technologists working in Government sector on Climate Change vulnerabilities and adaptation strategies





- The meeting of National Bamboo Mission,
- E-conference organised by The Inter-governmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES),
- Sixth meeting of National Steering Committee on Climate Change,
- UNDP Biodiversity Finance Initiative (BIOFIN) India side event on 'Mobilizing Resources for Biodiversity Conservation and Sustainable Development' and GIZ side event on 'Facilitating Capacity Development for Sustainable Management of Coastal and Marine Biodiversity',
- Workshop on climate change impacts, vulnerability and adaptation regarding initiation of the process of launching studies for climate change impacts, vulnerability and adaptation under the Third National Communication,
- ICIMOD Regional Knowledge Sharing Workshop on 'Demystifying REDD+ Safeguards for South Asia',
- Meeting to discuss strategy to meet India's INDC's in Forestry Sector,
- ICIMOD Regional Meeting on Vegetation Type Harmonization and Validation for Kailash Sacred Landscape,
- India-ICIMOD workshop at New Delhi from 10 to 12 December 2015,
- Stakeholder consultation on Biodiversity Finance Initiative (BIOFIN) project in New Delhi on 14 January 2016,
- Consultative meeting on REDD+ Survey for Indian Forestry Projects organised by JICA.

#### **FRI, Dehradun**

- First Consultative Meeting of Uttarakhand Stakeholders on Draft Project Report (DPR) Preparation of Forestry Intervention for Ganga,
- 1<sup>st</sup> Kick off meeting of all stake holders of five States' for DPR preparation of Forestry interventions for Ganga,
- National level stake holders meet for DPR preparation of Forestry interventions for Ganga,
- Silviculture/Forestry for the personnel of Eco-task force of Territorial Army,
- Certificate Training Programme on Termite



FRI Team in Stall of FRI at ITBP Basant Mela

- Management and Wood Preservation; Eco-restoration of Wastelands and Ecological Restoration of Mined Lands,
- National Conference on Science & Technology for Indigenous Development in India, consultancy meeting/workshop on restoration of mining site,
- Stakeholders consultation on Biodiversity Finance Initiative (BIOFIN) Project,
- Uttarakhand State Science and Technology Congress,
- International Symposium on Biodiversity, Agriculture and Environment,
- National workshop on Himalayan Medicinal Plants,
- Promoting Space Technology based Tools and Application in governance & Development,
- Small Scale Forestry and community forestry and the changing nature of forest landscapes,
- Phyto-chemistry and Ayurveda : Potential and prospects,
- National Symposium on Perspectives on Research in Science and Health Care,
- National Level Stakeholders Meeting on "DPR Preparation on Forestry Intervention for Ganga Rehabilitation,
- 6<sup>th</sup> International Symposium on Current Trend in Drug Discovery and Research,
- Economic valuation of ecosystem services,
- National Bamboo Database,
- PSIP for enhancement of productivity,
- Institutional Bio-safety Committee (IBSC) of the Indian Institute of Technology Roorkee,
- Monitoring Environmental, Forest and Wild





Visit of Shri S. S. Negi, Hon'ble Minister of Science & Technology, Uttarakhand to FRI stall in 10<sup>th</sup> Uttarakhand State Science & Technology Congress (USSTC), Dehradun

Life Clearance Proposals on R & D Perspective for Rejuvenation of River Ganga,

- Advances in Science, Engineering and Technology,
- National Conference on Natural Resource Management,
- National Workshop on TBOs: Way Ahead,
- Applications of RS & GIS in Forestry/ Ecology,
- National Natural Resources Management System (NNRMS),
- The Role of Natural World Heritage Sites in Disaster Risk Reduction,
- Green Highways Plantation, Transplantation, Beautification and Maintenance.

#### **IFGTB, Coimbatore**

- Frontiers in Ecological sciences and its applications,
- Research Trends in Plant Sciences and its Societal Impacts,
- Germplasm to Genes: Harnessing Biotechnology for Food Security and Health,
- Frontiers in MS Technology and Emerging Applications,
- Management and Advances in Utilization Options,
- Emerging Trends in Plant Science, IUFRO Eucalypt Conference,
- Challenges and Opportunities in Mycological Research,
- Emerging approaches in land use planning,
- Recent Advances in Life Sciences, environment and biology,

- Status of medicinal plants in Tamil Nadu,
- Current Scenario and prospects, threats, challenges and mitigation of Invasive alien species in natural forests,
- Environmental issues : A factual profile Medicinal plants in primary healthcare,
- Recent Trends in Biological Science and Research,
- Biological Diversity Act, 2002,
- Agroforestry Models: Establishment and Management,
- Recent Advances in Zoological Researches,
- Faunal Diversity of the Eastern Ghats and Western Ghats.

#### **IWST, Bengaluru**

- Effects of Weathering,
- UNEP - Environmental Effects Assessment Panel (EEAP),
- Review and Revision of National Forest Policy-Regional Stakeholder Consultation workshop for Western Ghats,
- Integration of Forest Resources for Climate change, Livelihood and Ecological Security,
- Application of Statistical Techniques in Biological Research,
- Marine Biodiversity and management of coastal ecosystems,
- India Wood 2016,
- Intellectual Property Organization and Geographical Indication Registry,
- GARUDANKN Partners meet-2015,
- Social Innovation Forum,
- Faunal Diversity of Eastern Ghats and Western Ghats,
- Plant Biodiversity and Phytoluxuriance as a way and means for eternal green globe,
- Basic techniques of pesticide formulations,
- High through-put biological data analysis,
- Synthesis and characterization of Nano-particles,
- INDIANano Conference.

#### **TFRI, Jabalpur**

- Recent Advances in Research and Development in Medicinal and Aromatic Plants-A Country Scenario,
- Farmers-Industrialist meet,



- Network project of conservation of Lac insect genetic resources,
- Study -cum-survey to assess the demand and supply of medicinal Plants of India,
- Invasive Weed Management in Forests and Grasslands of Wildlife Protected Areas,
- Document supply and value chains of major medicinal plants in select mandies and to identify gaps and priorities for action by National Medicinal Plants Board of India,
- Agroforestry,
- Materials & Methods for Sustainable Development, Plant, Pathogens and People,
- Agroforestry systems and management practices,
- Biodiversity Conservation and Rural Livelihood Improvement,
- Finalization of Bamboo Working Manual,
- Tools and Techniques of Ethno-biology.

#### **AFRI, Jodhpur**

- Faunal diversity of the Desert ecosystem,
- GEF National workshop; Recent Innovation in Technical Terminology and Biodiversity,
- Study-cum survey to assess the demand and supply of medicinal plants in India,
- Environmental Governance in the Context of Sustainable Development in India,
- Conservation Biotechnology and DNA Barcoding,
- Jaiv vividhta Evam takniki shabdavali mei naveentam navachar,
- Vigyan Evam engineering shabdavali mei naveentam navachar,
- Biotechnology and Nanotechnology,
- Advances in Natural Science For Indigenous Development in India,
- Recent Advances in Biological Sciences; Biotechnology and Sustainable Development,
- Innovation platform meeting for the CGIAR Research Programme on dry land systems,
- Kharif Kisan Sammelan,
- Agricultural Development for Western Dry Region.

#### **RFRI, Jorhat**

- 23rd State Level National Children's Science

Congress,

- Livelihood-Forestry Mela,
- Destination North East, 2016,
- MSM Expo Jorhat 2016.

#### **HFRI, Shimla**

- Alignment of National Action Programme on Combating Desertification to 10 year Strategy of UNCCD,
  - Science: Emerging Scenario and Challenges,
  - Cumulative Environment Impact Assessment of Sutlej Basin (CEIAS), Himachal Pradesh ,
  - Living with Leopard; assessment study for social and environment impact of eco-tourism projects of HP State Forest Department,
  - Conclusive Meeting of CEIAS, Sutlej,
  - National Forest Policy: Review and Revision,
  - National Mission for Sustaining the Himalayan Eco-System (NMSHE) aiming at formulation of strategy for collective efforts towards dealing Climate Change Issues confronting Indian Himalayas,
  - Global Environmental Change in the Himalayan Region: Controversies, Impacts, Future,
  - Indo-Swiss Joint Research on Integrated Vulnerability, Risk & Hazards Assessment in Kullu District; Review and Revision of National Forest Policy (NFP)-1988,
  - Strengthening of High Altitude Medicinal Plants,
  - Resources in Trans Himalayan district of Lahaul & Spiti and Kinnaur of Himachal Pradesh,
  - Dialogue on Development of Tools, Methodologies, Guidelines and Framework for Implementing ABS Provisions of Biological Diversity Act, 2002 and Identification of Technical Support Group for PBRs,
  - e-Procurement,
  - Revision of EIA/EMP of Kashang HEP,
  - High altitude medicinal plants NMPB-ICFRE.
- #### **IFP, Ranchi**
- Plant and Animal Molecular Biology,
  - Socio-economic development through



Workshop on "Socio-economic development through Poplar plantation on Bihar" – Technical Session chaired by Dr. Ashwani Kumar, DG, ICFRE, Dehradun co-chair Dr. S. P. Singh, DDG (Administration), ICFRE (left) and Delegates at the workshop (right)

Poplar plantation in Bihar,

- Inception-cum-Appraisal Meeting on Consultancy Assignment/ Study on Environmental Audit of M/S Coal India Limited and Subsidiary Coal Companies,
- GIS for Forest Range Officers of State Forest Department Jharkhand,
- 3rd International Plant Physiology Congress (IPP Congress-2015) 'Challenges and Strategies in Plant Biology Research,
- Forestry Interventions for Ganga,
- Role of Forestry in Disaster Management.

#### IFB, Hyderabad

- Mainstreaming biodiversity in energy sector,
- Weed Science for Sustainable Agriculture, Environment and Biodiversity,
- Integrated Farming Systems for Sustainable agriculture and Enhancement of Rural livelihoods,
- Current trends in Conservation, Cultivation and Marketing of Medicinal Plants - Oshadi 2015,
- National Knowledge Network,
- Forest land records modernisation,
- FMIS&GIS applications with decisions support system for ecosystem management,
- Forest Genetic Resource Assessment and Conservation.

#### Visits Abroad

##### Directorate of Education:

40 cases of the officers & scientists have been processed for their foreign visit (abroad) and sent to the MoEF &CC for permitting and issuing

them necessary Political/FCRA Clearances to visit abroad. Details of foreign visits of scientists & officers of ICFRE and its institutes are given below:

#### ICFRE, Dehradun

- Dr. Ashwani Kumar, DG visited Philippines from 28 to 30 April 2015 to attend "Asia C&I Regional Workshop".
- Dr. Ashwani Kumar, DG participated in "3rd World Teak Conference-2015" at Ecuador from 11 to 15 May 2015.
- Sh. V.R.S. Rawat, Scientist -F, BCC Division participated as a member of Indian delegation in the 42nd session of the Subsidiary Body for Scientific and Technological Advice (SBSTA) of United Nations Framework Convention on Climate Change from 1 to 11 June 2015 at Bonn, Germany.
- Dr. N. S. Bisht, Director (IC) visited U.S.A. from 25 to 31 July 2015 to attend "Policy Exchange on Reducing Emission from Deforestation and Forestry Degradation (REDD+) under the Partnership for Land Use Science (Forest -PLUS) Technical Assistance Programme".
- Dr. Rajiv Pandey, Scientist-E visited Kathmandu, Nepal from 20 to 22 July 2015 to participate in the "Regional Training Course on regional training on SERVIR Science Application with a special focus on MODIS products.
- Dr. T.P. Singh, ADG (BCC) visited Turkey on 16 September 2015 to attend conference of parties (COP - 12) meeting of UNCCD.
- Dr. T.P. Singh, ADG; Dr. Shilpa Gautam,





- Scientist - D and Dr. R. S. Rawat, Scientist- C of BCC Division attended the First Regional Workshop on Developing Strategies for Communication, Partnership and Monitoring of the Regional Programme of REDD+ Himalayas at Kathmandu, Nepal from 21 to 28 September 2015.
- Dr. T.P. Singh, ADG (BCC) visited Turkey (Ankara) as a member of Indian Delegation for participating in a high level ministerial segment of 12th Session of Conference of Parties (COP 12) of United Nation Convention to Combat Desertification (UNCCD) from 15 to 20 October 2015.
  - Shri V.R.S. Rawat, Scientist- F, BCC Division visited Paris (France) for participating in the twenty-first session of the Conference of the Parties (COP) and the eleventh session of the Conference of the Parties serving as the meeting of the parties to the Kyoto Protocol (CMP) under UNFCCC from 30 November to 06 December 2015.
  - Dr. Ashwani Kumar, D.G, Dr. G. S. Goraya, DDG (Research) and Dr. T.P. Singh, ADG (BCC) visited Paris, France to participate in the 21st Conference of Parties (CoP) from 05 to 11 December 2015.

#### **FRI, Dehradun**

- Dr. N.S.K. Harsh, Scientist-G and Group Coordinator (Research), visited Siem Reap and Preah Vihear, Cambodia from 05 to 11 June 2015 for health assessment and conservation treatments of trees at Ta Prohm Temple (4th Enclosure), Siem Reap and vegetation and site study of Preah Vihear Temple.
- Dr. Vineet Kumar availed DAAD revisit program at Technische University, Braunschweig from July 01, 2015 to August 31, 2015 to work in the area of structural studies on polysaccharides.
- Dr. Meena Bakshi, Scientist-E participated in the "IUFRO eucalypts Conference" from 21 to 24 October 2015 at Zhanjiang, China.
- Dr. Karan Pal Singh, Scientist-D participated in the 10th World Bamboo Congress from 17 to 22 September 2015 at Damyang, South Korea and presented the paper entitled "Incidence, intensity of attack and control of the Bamboo borer, *Phloeobius crassicornis* Jord".

- Dr. Manisha Thapliyal, Scientist-E attended a training workshop on 'Systematic Review in Forest Science' at Forest Research Institute Malaysia at Selangor, Malaysia from 17 to 19 November 2015.
- Shri Jawaid Ashraf, Scientist-B visited Centre for integrated area studies, Kyoto University, Kyoto Japan on 24 and 25 February 2016 to participate in a symposium "Illegal logging of the global east" as statistical expert and developing a conceptual idea and framework leading to a paper in forest transition.

#### **IFGTB, Coimbatore**

- Dr. B. Nagarajan, Scientist- F visited Zhangziang, Guangdong, China from 19 to 25 October 2015 for presenting paper in the IUFRO Eucalypt conference-2015.
- Dr. Modhumita Dasgupta, Scientist-F attended and presented paper (oral and poster) in the IUFRO Eucalypt Conference 2015 held at Zhangziang, China from 19 to 25 October 2015.
- Dr. Mathish Nambiar-Veetil, Scientist-E visited University of Osnabruck, Germany, from 13 to 26 February 2016 on a DAAD fellowship for pursuing a study on "Evaluation of dsRNA chitosan nanoparticles for enhancing RNAi in *Manduca sexta*".

#### **IWST, Bengaluru**

- Dr. K. K. Pandey, Scientist-G attended UNEP - Environmental Effects Assessment Panel (EEAP) meeting in Australia from 22 to 30 September 2015.
- Sh. M. Srinivasa Rao, C.F. and Dr. Ashutosh Srivastava, Scientist-E visited Hanoi, Vietnam from 21 to 25 September 2015 to attend Conference on "Sandalwood and Medicinal Plants".

#### **RFRI, Jorhat**

- Dr. R.S.C. Jayaraj, Director attended the First Regional Workshop on Developing Strategies for Communication, Partnership and Monitoring of the Regional Programme of REDD+ Himalayas at Kathmandu, Nepal from 21 to 28 September 2015.
- Dr. R.K. Borah, Scientist-F attended World Incense Repopulation Technical and Academic Discussion Forum on 17 November 2015 organized by World Incense Repopulation Alliance Taiwan organization in Taipei.



One week training programme for scientists and technologists working in Government sector on Climate Change and Carbon Mitigation

## 6.4 Capacity Building Scientific and Management Cadre (Trainings Organized)

Trainings are aimed for acquiring more and new knowledge, developing competencies and skills and adopting behaviours that improve performance in current jobs. Details of various training programmes organized by the ICFRE, Dehradun and its institute are given below:

### ICFRE

- Role of Forest in Disaster Management,
- Training on Role of Forest in Disaster Management at ICFRE, Dehradun,
- Training programme on Climate Change and Carbon Mitigation,

- Training workshop on REDD+ in India: Issues and Challenges,
- Training programme on Climate Change: Vulnerabilities and Adaptation Strategies.

### FRI, Dehradun

- Essential Oils, Perfumery & Aromatherapy,
- Development of Agroforestry Models with special reference to Melia, Aonla and Medicinal plants,
- Advanced Wood Finishing Systems,
- Ecological restoration of mined lands,
- Preparation of Bamboo Handicrafts,



Training on Role of Forest in Disaster Management at ICFRE, Dehradun



- Handmade Paper from *Lantana camara*,
- Role of Forestry in Disaster Risk Management,
- Forest Transition,
- Termite Management and Wood Preservation,
- Forestry Management,
- Conservation and management of Coastal Ecosystem,
- Forest Fire Disaster Risk Mitigation,
- National Working Plan Code 2014.

#### **CSFER, Allahabad**

- Training Programme for Farmers in Raising, Managing and Marketing Bamboo.

#### **IFGTB, Coimbatore**

- Forest Genetic Resource Management,
- Bio-prospecting - Role of State Forest Departments,
- Agroforestry models - Establishment and Management,
- Various implications of Biological Diversity Act, 2002 on the research activities of scientists, research scholars working in universities/ colleges/ research institutions, officials of various plant-based industries and Ayurvedic physicians; Hands-on training on vegetative propagation of Casuarina clones,
- Bio-fertilizer Production and Application Methods in Nursery and Field.

#### **IWST, Bengaluru**

- Advancements in wood products and utilization,
- Wood Science and Technology,
- Wood Identification and Wood Protection,

- Field identification of important timbers,
- Wood Protection,
- Sandalwood: Seed handling, nursery and plantation technology,
- Wood Science and Forestry,
- Computer Applications.

#### **TFRI, Jabalpur**

- Carbon sequestration through afforestation.

#### **CFRHRD, Chhindwara**

- Environmental Awareness,
- Bio-fertilizers and Organic farming,
- Agroforestry/NTFPs harvesting, processing and value addition/Food from forest,
- Diseases and Insect pests in forest nurseries and plantations and their control measures,
- Utilization of Wastelands,
- Pollinators/farmer friendly Insects and bio-pesticides,
- Nursery Techniques of *B. lanzan*, Chironji,
- Collection methods of Mahua/Bio-fertilizers and bio-pesticides.

#### **AFRI, Jodhpur**

- Integrated approach for sustainable development of fragile desert eco-system.

#### **IFP, Ranchi**

- National Bamboo Database Web Portal,
- Agriculture, greening, training capacity building and income generation programme,
- Raising, management and marketing of bamboos for the farmers of Jharkhand and its adjoining states.

#### **RFRI, Jorhat**

- Propagation, Nursery Management, Commercial Cultivation and Value Addition of Bamboo,
- Bamboo based Livelihood generation and other Tree species,
- Genetic Improvement of important forest species of NE; Agarwood, Seed Technology; Propagation, Nursery Management and Cultivation of Bamboo; Diseases of forest nursery/ plantation and their management; Vermi-composting and Biofertilizer Applications in Forestry; Application of GIS in Forestry and Statistics,



Two days training programme for IFS offices on "Bio-prospecting – Role of State Forest Departments" at IFGTB, Coimbatore





Three days exposure visit of farmers under "Agriculture, greening, training capacity building and income generation programme" at IFP, Ranchi

- Bamboo propagation and nursery management practices, different product development activities and Bamboo treatment,
- Lac cultivation, techniques of bamboo propagation and nursery management practices, different product development activities and bamboo treatment,
- Agarwood,
- Bamboo propagation, preservation and value addition for skill up gradation and entrepreneurship Development,
- Bamboo Handicrafts and Jewellery,
- Bamboo nursery disease management and Bio-pesticides application

- Bamboo Treatment Technique,
- Low-Cost Vermi-composting Techniques,
- Bamboo and Rattan Cultivation and Preparation of Bamboo Charcoal,

**HFRI, Shimla**

- Cultivation of Atish, Ban Kakri, Chora and other important high valued temperate medicinal plants,
- Protection Technology for Control of Insect-pest and Diseases in Medicinal Plants,
- Water Conservation, Sanitation, Hygiene and Organics,
- Planting Stock Improvement Programme for Productivity Enhancement



Training programme on Planting Stock Improvement Programme for Productivity Enhancement at HFRI, Shimla



A training programme on "Cultivation of Atish, Ban Kakari, Chora and other \important high valued temperate medicinal plants" at Bhadarwah, Jammu

- Capacity Building Programme,
  - Eco-restoration of Wastelands,
  - Management of Insect Pest and diseases of Juniper,
  - Cultivation of Himalayan medicinal plants.
  - Cultivation of Medicinal Plants in a Cluster of Villages,
  - Forest Genetic Resource Assessment and Conservation,
  - Cultivation of Medicinal Plants in Agroforestry.
- IFB, Hyderabad**
- Agroforestry Models,

Summary of trainings organized by ICFRE & its institutes are given below:

Sl.No.	Hqs/Institute	No of Trainings	Duration ( in days)
1.	ICFRE, Dehradun	4	15
2.	FRI, Dehradun	17	107
3.	IFGTB, Coimbatore	8	21
4.	IWST, Bengaluru	11	220
5.	TFRI, Jabalpur	12	17
6.	RFRI, Jorhat	20	34
7.	HFRI, Shimla	15	28
8.	IFP, Ranchi	4	13
9.	IFB, Hyderabad	7	15
10.	AFRI, Jodhpur	1	5

## 6.4 Policy Research

ICFRE is an apex organization dealing with the forestry research and education in the country. Hence, the conduct of policy research in arena of forestry and wildlife is one of the important mandates of ICFRE. A committee, in this regard, was constituted vide letter No. 12-1/2006-FP dated 23 August 2006 and revised on 30 March 2010 to deliberate upon and finalize the issues/subject areas related to economic, social, and environmental aspects of forestry &

wildlife, and to direct researches on the same through ICFRE Institutes or outsourcing the same from the identified expert agencies/organization.

6th meeting of Policy Research Committee of ICFRE was held on 5 January 2016 at Indira Paryavaran Bhawan, Jor Bag, New Delhi under the Chairmanship of DG, Forest and Special Secretary, MoEF&CC, New Delhi.