

Research Highlights



Research Highlights

The Biodiversity and Climate Change (BCC) Division is working on forestry and climate change related policy issues leading to international negotiations under United Nations Framework Convention on Climate Change (UNFCCC). BCC Division has undertaken several short and long term policy programmes to address the problems of Biodiversity Conservation and Climate Change. Division is also engaged in capacity building programmes by conducting various training programmes on climate change, clean development mechanism (CDM) and forestry for forest officers and other stakeholders.

Research Planning Division of the Directorate of Research deals with the planning, formulation and finalization of plan funded forestry projects of eight

research institutes and four research centres of ICFRE located in different geographical regions of the country. The process involves stakeholders meets, Research Advisory Group (RAG) meetings at each institute and National level Research Policy Committee (RPC) meeting at ICFRE HQ, keeping in view the balance among international, national, regional and state research requirements and decide investment in high quality forestry research with bottom-up, transparent and participatory approach. It also reviews the ongoing projects under Five Year Rolling Plan.

Recently, four research thrust areas and thirty five themes have been identified for ICFRE research. Also two thrust areas, one each for Forestry Extension and Forestry Education were identified. These are :

Thrust Area	Themes
A. Research	
1. Managing forests and forests products for livelihood support and economic growth	1. Silviculture
2. Biodiversity conservation and ecological security	2. Social Forestry, Agro-forestry /Farm Forestry
3. Forests and Climate Change	3. Sustainable Forest Management (SFM)
4. Forest Genetic Resource Management and Tree Improvement	4. Forest Economics
	5. Forest Biometrics and Yield Modelling
	6. Participatory Forest Management
	7. Wood Science and Technology
	8. Chemistry of Forest Products
	9. Wood Based Industries
	10. NTFP Resource Development
	11. Bio-prospecting and Bio-piracy
	12. Seed Science and Technology
	13. Forest Certification
	14. Forest Hydrology
	15. Food Security
	16. Bio-fuels and Bio-energy
	17. Integrated Pests and Disease Management
	18. Application of Microbes in Forestry
	19. Weeds and Invasive Species
	20. Forest Fire and Grazing



	<ol style="list-style-type: none">21. Bio-informatics and Geo-informatics22. Policy and Legal Issues23. Biodiversity conservation24. Forest Botany25. Ethnic and Traditional Knowledge Systems26. Tree Improvement27. Vegetative Propagation28. Biotechnology29. Environment Management
B. Forestry Education Forestry Education and Policy Research to meet Emerging Challenges	<ol style="list-style-type: none">1. Extension and Technical Support towards improving formal Forestry Education2. Quality Assurance in Forestry Education through Accreditation3. Networking Forestry Education with Research and Extension4. Capacity Building of Scientific and Management cadre in Forestry
C. Forestry Extension Forestry Extension for taking research to people	<ol style="list-style-type: none">1. Collection, compilation and publication of forestry related reports, statistics, periodicals, books and brochures.2. Dissemination of developed technologies to the various stakeholders.3. Evolving and coordinating comprehensive extension strategies in Forestry Research.4. Consultancy services related to Environment Management.

Also Institute –wise specialization/ priority areas of excellence were laid down and are given below:-

Institutes	Specialization/Priority area
1. Forest Research Institute (FRI), Dehradun	<ul style="list-style-type: none">● Managing forests and forest products for livelihood support and economic growth● Biodiversity conservation and ecological security● Forestry interventions for climate change mitigation and adaptation● Management and improvement of forest genetic resources



Annual Report 2011-12

2. Institute of Wood Science and Technology (IWST), Bangalore	<ul style="list-style-type: none"> Managing forests and forest products for livelihood support and economic growth
3. Rain Forest Research Institute(RFRI), Jorhat	<ul style="list-style-type: none"> Biodiversity conservation and ecological security
4. Institute of Forest Genetics and Tree Breeding (IFGTB), Coimbatore	<ul style="list-style-type: none"> Management and improvement of forest genetic resources
5. Himalayan Forest Research Institute (HFRI), Shimla	<ul style="list-style-type: none"> Himalayan ecosystem management
6. Arid Forest Research Institute(AFRI), Jodhpur	<ul style="list-style-type: none"> Arid and semi-arid forest management, especially in western India
7. Tropical Forest Research Institute(TFRI),	<ul style="list-style-type: none"> Tropical forestry in Central India
8. Institute of Forest Productivity (IFP), Ranchi	<ul style="list-style-type: none"> Forestry in fertile plains in the eastern part of India comprising Bihar, Jharkhand, West Bengal and Sikkim

Stakeholders Meet: Coordinated with the institutes for holding of stakeholders meet in each of SFD headquarters to facilitate a meaningful and continuous exchange of research information, and project implementation.

Research Advisory Group (RAG) meetings of each of the eight ICFRE institutes were convened at Institute level on the dates mentioned below:-

Name of Institute	Date of RAG
IFP, Ranchi	19 – 20 September 2011
IFGTB, Coimbatore	3 – 4 October 2011
TFRI, Jabalpur	12 – 13 October 2011
FRI, Dehradun	20 – 21 October 2011
RFRI, Jorhat	8 & 9 November, 2011
AFRI, Jodhpur	3 – 4 November 2011
IWST, Bangalore	8 November, 2011
HFRI, Shimla	17- 18 November, 2011

Research Policy Committee Meeting (RPC)

XII Research Policy Committee (RPC) meeting was convened on 8 and 9 April, 2011 at Van Vigyan Bhawan, New Delhi under the Chairmanship of Shri A.K. Bansal, DG, ICFRE. 157 new projects with budget outlay of Rs. 2349.3 were placed before the XII RPC.

118 New projects with budget outlay of Rs.1602.18 lakhs were approved by the RPC. However, due to financial constraints, these approved projects were relooked and revisited. After revisit and relook, outlay of Rs.1198.00 lakhs were approved.



Thrust area wise details of 98 approved projects are given below:-

Thrust Area	Number of projects
Managing forests and forests products for livelihood support and economic growth	55
Biodiversity Conservation and Ecological Security	18
Forests and Climate Change	1
Forest Genetic Resource Management and Tree Improvement	24
Total	98

XIII RPC Meeting was convened on 14-16 Feb., 2012 under the Chairmanship of Dr V.K Bahuguna, DG ICFRE at ICFRE HQ. All the proposals were placed in

four thrust areas. Thrust area wise number of projects with proposed budget are given below:-

Thrust Area Wise Abstract of New Research Project Proposals along with Budget	
Managing Forests & Forest Products for Livelihood Support and Economic Growth	50 projects with budget of Rs. 674.3 lakhs
Biodiversity Conservation & Ecological Security	24 projects with budget of Rs. 333.3 lakhs
Forests and Climate Change	7 projects with budget of Rs. 209.3 lakhs
Forest Genetic Resource Management and Tree Improvement	29 projects with budget of Rs. 842.9 lakhs

All the proposals were segregated and merged to formulate the AICP/Inter Institutional/Net working projects in these four Thrust Areas. Final approval of these projects will be done in the Follow up meeting of XIII RPC through Video conferencing.

Directors' Meet: On 28 June, 2011, VI Directors' meet was organized at ICFRE hqrs, under the chairmanship of DG ICFRE. The Directors' Meet was organized to discuss some of the important issues for which agenda was fixed by different directorates in consultation with the Directors of the Institutes.

Monitoring and Evaluation Division under the Directorate of Research deals with the annual review and evaluation of all the ongoing research projects of

ICFRE institutes. It suggests corrective measures for timely completion of the projects and achievements of the objectives with perfection. During June – October, 2011, the annual review of 426 (337 ICFRE funded and 89 externally aided) ongoing and completed research projects of all ICFRE institutes was conducted and reviewed. Apart from above, independent review of 17 (completed/ ongoing) research projects have also been carried out through independent subject matter experts/agencies.

All ongoing research projects were reviewed and corrective measures were suggested to expedite the physical and financial achievements for timely achieving the objectives of the projects. The Annual



Annual Report 2011-12

Review Reports have been communicated to all Directors of the ICFRE Institutes by November, 2011 to take follow up action on the observations made in the report.

Total 83 ICFRE plan funded and 33 externally aided projects were completed during 2010-11. Total 98

ICFRE plan funded projects have been initiated during 2011-12. Total ongoing research projects, (2011-12) of ICFRE are 409 i.e. 352 ICFRE plan funded projects are and 57 externally aided projects.

The details of reviewed research projects for ICFRE institutes as per annual review, 2011-12 are as follows:

Institute-wise Ongoing Research Projects Reviewed During 2011-12.

Sl. No.	Name of Institute	Date of Review	No. of Ongoing & Completed Projects Reviewed		
			ICFRE Funded	EAP	Total
1	AFRI, Jodhpur	5 – 6 Sept., 2011	24	10	34
2	FRI, Dehra Dun and CSF & ER, Allahabad	12 – 18 July, 2011	104	22	126
3	HFRI, Shimla	21 – 22 June, 2011	17	7	24
4	IFGTB, Coimbatore	25 – 26 July, 2011	62	14	76
5	IFP, Ranchi	23 August, 2011	23	2	25
6	IWST, Bangalore and FRC, Hyderabad	27 – 29 July, 2011	48	13	61
7	RFRI, Jorhat	10 –13 October, 2011	34	5	39
8	TFRI, Jabalpur and CFHRD, Chhindwara	8 – 9 Sept., 2011	25	16	41
Total			337	89	426

Half yearly Progress Reports of individual projects from Directors for the period ending September, 2011 were scrutinized for conformity with the approved action plan and corrective measures were suggested for timely achieving the objectives.

The erstwhile **Project Formulation Division** of ICFRE was created to function as a facilitator between the ICFRE institutes and its centres and potential funding agencies for the formulation of research projects in the identified thrust areas and their submission to various national and international funding

agencies. It also coordinates with ICFRE institutes and other institutions /ministries etc with respect to signing of MoUs, consultancies etc. Besides, it maintains the database of external funded projects. The Division also looks after matters pertain to international cooperation. The division has now been redesignated as **Policy Networking and Local Governance Division** with a broadened mandate of initiating studies on Policy Networking and Local Governance.



Summary of Achievements

- 1) Collaborated projects are being carried out with a number of National and International donor agencies for project funding. The total no of ongoing externally aided projects (EAP) (2011-12) are 57 with the sanctioned worth of Rs. 1153.64 Lakhs. 04 projects are internationally funded out of 57 externally aided projects with the sanctioned worth of Rs. 83.13 Lakhs. 33 externally aided projects worth of Rs. 597.46 Lakhs have been completed in this year. The international funding agencies providing funding support to ICFRE for research include, International Foundation for Science (IFS), Sweden; Australian Agency for Industrial Development, Australia and Department of Primary Industry and Fisheries, Australia.
- 2) In order to carry out collaborative projects/programmes, 09 MoUs and agreements were signed between ICFRE institutes and various National and International agencies including research institutions and industries. Division is also involved in reviewing of half yearly and annual progress of all the EAP projects/programmes in ICFRE and collects their status reports.
- 3) International Poplar Commission (IPC): In recognition of the significant place of Poplars and Willows in livelihood and economy of the people of India as well as the pioneering work done by ICFRE, the FAO and the IPC, a technical statutory body of FAO have agreed to hold the 24th Session of the IPC and 46th Meeting of its Executive Committee to be held in Dehradun in October, 2012. It is for the first time that this prestigious event of IPC would be held in India.
- 4) Integrated Community Based Forest Management Project in Bihar {Samudai Adharit Samanvit Van Prabandhan Evam Sanrakhshan Yojna (SASVPESY)}/Bihar Project: This project was launched during 2006, funded by Planning Commission, Govt. of India and being implemented by ICFRE, Dehradun. Actual physical activity started

in January, 2007 in Vaishali Dist. of Bihar with focus on wellbeing of each and every section of the farming community including landless labourers, small, marginal and big farmers by involving them into nursery raising, uprooting and seedling transporting and planting in farmlands. The project will be completed in two phases. In Phase-I, Vaishali District has been taken up and in the Phase-II remaining districts of North Bihar have been taken up. Total outlay for agro-forestry component being implemented by ICFRE is Rs.1894.76 Lakh. The main activities undertaken for implementation of the project are i) Socio-economic Survey, ii) Selection of Suitable Plant species and their propagation, iii) Raising quality planting stock, iv) Facilitating plantation on farmlands, v) Establishment of field demonstration plots, vi) Training extension and NGO involvement, vii) Establishment of Clonal Seed Orchards, viii) Identification of VAM fungi and inoculation, ix) Engagement of consultants / experts, and x) National Seminar/Workshop.

During 2011-12, 3.87 Lakh ETPs were planted at farmers field while 1.68 Lakh ETPs were used for raising the nurseries and total 7.12 Lakh seedlings/plants of various tree species like poplar, teak, mahogany, gamhar, semal, kadam, jamun, bamboo etc. have been distributed to farmers from model nurseries. However, more than 6000 farmers have been trained in nursery practices and Agroforestry Systems based on Poplars and other forestry species till date. A European Union Inter-parliamentary delegation village Sheetal Bhakur, Lalganj visited during April, 2011 and interacted with farmers who have planted Poplar on their fields.

2) New initiatives

International level

International Cooperation

- To foster International Cooperation among the countries of the Hindu Kush – Himalayan Region, especially in the field of REDD+ and other Climate



Change issues, an ICFRE team under the leadership of Dr. V.K. Bahuguna, Director General, ICFRE visited the International Centre for Integrated Mountain Development (ICMOD), Nepal where extensive discussions on various issues were held. An MoU has also been signed between ICMOD and ICFRE.

- A UK-India Forest Land Restoration Project in collaboration with UK Forestry Commission has been effective in providing a close look in providing a long going conservation strategies in three states viz. Odisha, Madhya Pradesh and Uttarakhand for building sustainable relationship between community and eco-system. The phase I of the project is being extended to 2012 – 2013, while in phase II, the project will be extended to other states in India. Besides, an umbrella project is also being developed.
- A five member delegation from ICFRE under the leadership of Dr. V.K. Bahuguna, Director General, ICFRE visited the Chinese Academy of Forestry on 23 April, 2010 to foster new linkages. A six member delegation from Chinese Academy of Forestry paid a return visit to ICFRE, Dehradun on 19 December, 2011. Opportunities for bilateral cooperation in the area of forestry research between ICFRE and Chinese Academy of Forestry were deliberated. The strength of China in Bamboo Technology and the strength of India in Tree Improvement Programme will be shared in an institutional manner in sustainable management of natural resources and livelihood support.

Japan International Cooperation Agency (JICA) Project

To meet the future challenges in forest management, particularly in biodiversity, livelihood issues and scientific management of forestry, particularly carbon sequestration, floral and faunal biodiversity conservation and soil amelioration, the forestry research has to broaden its horizon by

developing technologies and tools to be utilized by stakeholders including field foresters and farmers. A comprehensive All India Coordinated Projects developed by ICFRE has been submitted to Japan International Cooperation Agency (JICA) for funding for an amount of Rs 1800 crore over a period of 5-8 years.

National level

- a) **Creation of Ginger Group/ Knowledge Pool:** Consultative group of ICFRE scientists and other eminent forests officers to think beyond the traditional concept of stakeholder / demand driven / need driven research concepts has been created to bring 'innovative ideas and out of box thinking' for solving the problems of Consumers on the issues relating to emerging challenges of forestry science.
- b) **Designation of National Subject Matter Coordinators (NSMCs):** The NSMCs have been nominated to develop systematic approach on various subject matters and to develop site specific and subject specific research programmes. They are expected to coordinate research, extension and marketing activities in identified themes. National subject matter experts have been designated in 35 thematic areas.
- c) **Appointment of National Project Directors (NPDs):** National Project Directors (NPD) nominated in six thrust areas to develop All India Coordinated Projects on the Thrust Areas and prepare a road map to undertake research in program mode. The thrust areas are i) Managing forests and forest products for livelihood support and economic growth, ii) Biodiversity conservation and ecological security, iii) Forests and Climate Change, iv) Forest Genetic Resource Management and Tree Improvement, v) Forestry Education and Policy Research to meet emerging Challenges, and vi) Forestry Extension for taking Research to People.
- d) **Direct to Consumer Scheme:** Research communication is a two way process. The forest



Annual Report 2011-12

officers are vital link between linking research/scientists and management practices in the field of forest conservation / development and forest based livelihoods. The work of ICFRE scientists/professionals needs to be transferred to the field to meet the emerging challenges of climate change, forests and water security and biodiversity

conservation. The existing requirement is to enhance the outreach of research findings, so that the extension of research makes immediate impact of research in the field. Therefore the **“Direct to Consumers”** scheme for immediate transfer of recently developed technologies to the consumers has been initiated.



Growth of Poplar Planted in January, 2008 at Vaishali



Model Nursery at Jadua Site I, Vaishali, Bihar



ICFRE Demo Plot at Goraul



Pre-Planting Farmer's Training at Goraul



Farmer's Demonstration Plot at Patepur