

# **MINUTES OF THE XXIV RAG MEETING**

**(28<sup>th</sup> September 2018)**



**ORGANIZED BY**

**FOREST RESEARCH INSTITUTE**

**DEHRADUN**

## Proceedings of the XXIII RAG of Forest Research Institute, Dehradun

The XXIV Research Advisory Group (RAG) meeting of Forest Research Institute, Dehradun was held on 28<sup>th</sup> September, 2018 in the Convocation Hall of FRI. The meeting was chaired by Dr. Savita, Director Forest Research Institute. The meeting was attended by the following members of RAG.

S.N	Name	Designation & Organization
1.	Dr. Savita	Director, FRI
2.	Shri S. D. Sharma	Deputy Director General (R), ICFRE
3.	Dr. N S Bisht	PCCF, Arunanchal Pradesh (Retd.)
4.	Dr. Ishwar Singh	Addl. PCCF&CW Ltd. Govt of NCT, New Delhi
5.	Dr. Jagdish Chandra	APCCF, Haryana Forest Department
6.	Dr. N. Ravindra	CCF, Lucknow U.P. Forest Department
7.	Dr. T. K. Behera	CF (Research) PFD Punjab Forest Department
8.	Dr. T. C. Nautiyal	CF Chandigarh Forest Department
9.	Dr. S P S Kushwaha	Former Group Director & Dean Academics, IIRS
10.	Sh. Madan Mohan Varshney	Senior Vice president Flex Food Ltd., Dehradun
11.	Dr. N. S. K. Harsh	Scientist G (Retd) FRI
12.	Dr. Ruchi Badola	Scientist G WII, Dehradun
13.	Dr. M K Dubey	Joint Director, IPIRTI
14.	Dr. Vimal Kothiyal	ADG (RP), ICFRE
15.	Dr. N. K. Upreti	Scientist G&GCR, FRI
16.	Dr. Sadhna Tripathi	Scientist G & Chief Librarian, FRI
17.	DR. Kishan Kumar	Scientist G, Forest Product Div
18.	Dr. Moh. Yousuf	Scientist G & Head, Forest Protection Div
19.	Dr. A.K. Pandey	Scientist G & Head, Forest Extension Div
20.	Dr. H.S. Ginwal	Scientist G & Dean Academics, FRIDU
21.	Dr. Sangeeta Gupta	Scientist G, Botany Div
22.	Dr. V.K. Varshney	Scientist G, Chemistry & Bioprospecting Div
23.	Dr. Vineet Madan	Scientist G & Head Chemistry & Bioprospecting Div
24.	Dr. Dinesh Kumar	Scientist G, SFM Div
25.	Dr. Sudhir Kumar	Scientist G, Forest Protection Div
26.	Dr. Ashok Kumar	Scientist F & Head, G&TI Div
27.	Dr. N. Bala	Scientist F & Head, FE & CC Division
28.	Dr. P.S. Rawat	Scientist F, Research Coordination Section
29.	Dr. Tara Chand	Scientist D, FE&CC Div, RCS
30.	Dr. M S Bhandari	Scientist D, G&TI Division
31.	Dr. Sachin Gupta	ACTO, Forest Product Div

In a small inaugural ceremony, Director FRI welcomed the members of RAG, thanked them for sparing their valuable time for coming and attending the RAG meeting and also emphasized on the need of having quality research in forestry sector. Dr. N. K. Upreti, Group Coordinator (Research) briefed about the marking pattern and other procedures as well as an importance of the RAG in prioritizing the project proposals to be recommended for

Research Policy Committee (RPC). Shri S.D. Sharma, Deputy Director General (Research), Indian Council of Forestry Research and Education (ICFRE) gave glimpses of ICFRE research being undertaken to increase the farmers income twofold, fulfilling international commitments of carbon sequestration potential of forest-based ecosystem and various initiatives taken by ICFRE to fulfill the Research Need of various stakeholders. He emphasized that Research activities in ICFRE would be prioritized on the basis of outcome of regional seminars being organized at different ICFRE institutes in 2017-18.

A total of 23 new project proposals and 6 rolling plan projects were discussed in the meeting. The project wise recommendations are given as following:

Sl. No.	Title of the project proposal	PI	Comments
<b>Thrust Area I - Managing Forests and Forest Products for Livelihood Support and Economic Growth (Chair: Dr. Ruchi Badola; Co-chair: Shri N. Bala)</b>			
1.	Suitability of adopting finger-jointing in reducing wastage of plywood in the furniture sector	Krishan Kumar	<ul style="list-style-type: none"> <li>• Comparison of finger joints made with reusable material available in the market should also be incorporated in the study.</li> <li>• Recommended for RPC.</li> </ul>
2.	Study on the effect of fire-retardant chemicals on internal bond strength of particle board	D.P. Khali	Recommended for RPC.
3.	Development of particle boards and fibre boards using radio frequency adhesive curing techniques	D.P. Khali	<ul style="list-style-type: none"> <li>• Cost benefits analysis and time factors (manufacturing time) should be analyzed during the research work.</li> <li>• Recommended for RPC.</li> </ul>
4.	Study on eco-friendly neem seed oil and methyal borate fumigation of in-service bamboo for controlling sap stain and borer attack.	Sadhna Tripathi	<ul style="list-style-type: none"> <li>• Species causing fungal infection and borer attack should be incorporated in the project proposal.</li> <li>• Possibility of funding from National Bamboo Mission may also be explored.</li> <li>• Recommended for RPC.</li> </ul>
5.	Stiffness and strength studies on multilayered laminated bamboo composites	Sachin Gupta	<ul style="list-style-type: none"> <li>• Procurement of suitable bamboo strips as raw material from Assam and Tripura need also be explored.</li> <li>• Recommended for RPC.</li> </ul>
6.	Development of composite boards from wood of <i>Jatropha curcas</i>	IsmitaNautiyal	• Recommended for RPC.
7.	Study the Tree Biomechanics behavior with respect to the hollowness(decay) of urban trees in cyclone affected area	R. Ezhumalai	<ul style="list-style-type: none"> <li>• Stress waves (Acoustic) analysis should be incorporated.</li> <li>• Study on Heart rot infected wooden boles should also be incorporated in project.</li> <li>• Recommended for RPC.</li> </ul>

8.	Thermo-Hygro-Mechanical (THM) modification of short rotation, plantation grown timber of <i>Melia dubia</i> for its value addition	Shailendra Kumar	During the course of investigation the focus on a few properties only after completion of preliminary study.
9.	Evaluation of bamboo-based agroforestry and its interaction with understorey crops in riparian area of Uttarakhand	Devendra Kumar	<ul style="list-style-type: none"> <li>• Spacing should be minimum of 8 X 8 m during the designing of experiment.</li> <li>• Recommended for RPC.</li> </ul>
<b>Thrust area II - Biodiversity Conservation and Ecological Security</b> (Chair: Dr. N.S.K. Harsh; Co-chair: Dr. Arti Chaudhary)			
10.	Ethnobotanical and Ecological Status of Wild Edible Fruits in Different Forest Types of Uttarakhand	Praveen Verma	Recommended for RPC.
11.	Revision of Kanjilal's Forest Flora of the Chakrata, Dehradun and Saharanpur Forest Division, Uttar Pradesh for conservation and sustainable utilization.	Anup Chandra	<ul style="list-style-type: none"> <li>• Use 'addition' or 'deletion' or any other suitable word instead of 'revision' in the title, if possible. Updation was considered appropriate.</li> <li>• Use geo-coordinates data particularly for precise location of the species.</li> <li>• Ecological information should be highlighted in context with actual reasons for loss and addition of species in particular geographical area during the survey.</li> </ul>
12.	Revision of Osmaston's Forest Flora for Kumaon for Conservation and sustainable utilization	Anup Chandra	<ul style="list-style-type: none"> <li>• Both the projects have been recommended for RPC</li> </ul>
13.	Isolation and characterization of <i>Rhizobium</i> strains from leguminous trees and their evaluation in biological nitrogen fixation	Vipin Parkash	<ul style="list-style-type: none"> <li>• Research carried out by FRI on aspects <i>Rhizobium</i> in tree species may also be consulted.</li> <li>• Dr. Santan Barthwal may be included as Co-PI for nitrogen metabolism study.</li> <li>• Recommended for RPC.</li> </ul>
14.	Identification of Grassland Types of Uttarakhand for bio-prospecting of potential fodder grass species	Ranjana Negi	<ul style="list-style-type: none"> <li>• Work carried out by IGFRI, Jhansi on grassland and fodder species may also be referred.</li> <li>• Recommended for RPC.</li> </ul>
15.	Impact assessment of Invasive species in Different Forest Types of Uttarakhand	Ranjana Negi	<ul style="list-style-type: none"> <li>• Title should include word "plant" between words 'invasive' and "species".</li> <li>• Recommended for RPC.</li> </ul>
16.	Reclamation of degraded land in Vindhyan region of Uttar Pradesh by <i>Cymbopogon citratus</i> (Lemon grass)	Anita Tomar	<ul style="list-style-type: none"> <li>• Availability of Irrigation facility may also be taken in account before selection of plantation sites.</li> <li>• Forest Department, Uttar Pradesh may be approached for reclamation of forest</li> </ul>

			<p>degraded land.</p> <ul style="list-style-type: none"> <li>• Consult NBRI, Lucknow for important variety and work on lemon grass.</li> <li>• Recommended for RPC.</li> </ul>
<p><b>Thrust area III -Forests and Climate Change</b> (Chair: Dr. N.S.K. Harsh; Co-chair: Dr. Arti Chaudhary)</p>			
17.	Effect of elevated CO <sub>2</sub> and varying nitrogen regime on physiology, growth dynamics, productivity, carbon sequestration and nitrogen use efficiency of <i>Gmelina arborea</i>	Hukum Singh	<ul style="list-style-type: none"> <li>• Results should also be extrapolated to the field trials /plantations.</li> <li>• Recommended for RPC.</li> </ul>
18.	Evaluation of carbon regulating services and soil health of restored limestone mine overburden areas	N. Bala.	<ul style="list-style-type: none"> <li>• Cost benefit analysis on per hectare and annual basis should be incorporated.</li> <li>• Recommended for RPC.</li> </ul>
<p><b>Thrust area IV - Forest Genetic Resource Management and Tree Improvement</b> (Chair: Dr. Mohammad Yousuf; Co-chair: Mrs. Neelima Shah)</p>			
19.	Develop Germplasm Repository of Endangered Medicinal Tree <i>Oroxylum indicum</i> (Shyonak)	B. P. Tamta	<ul style="list-style-type: none"> <li>• Title of the proposal should be “Development of Germplasm Repository of Endangered Medicinal Tree <i>Oroxylum indicum</i> (Shyonak)</li> <li>• Germplasm may also be collected from North-east region.</li> <li>• Recommended for RPC</li> </ul>
20.	Genetic Evaluation and characterization of <i>Toona ciliata</i> for enhanced productivity	Rama Kant	<ul style="list-style-type: none"> <li>• Title may be changed to “Genetic Evaluation and characterization of <i>Toona ciliata</i> for productivity enhancement”.</li> <li>• Geographical distribution of the species should be explored at wider scale.</li> <li>• Disease and insect pest aspects should also be incorporated in the project proposal.</li> <li>• Co-PIs from Forest protection Div may also be included</li> <li>• Recommended for RPC.</li> </ul>
21.	Screening and evaluation of <i>Dalbergia sissoo</i> germplasm for tolerance against salinity and drought stress	R. K. Meena	Recommended for RPC.
22.	Micro-propagation of <i>Guadua angustifolia</i> Kunth and establishment of demonstration plot	J.M.S. Chauhan	Recommended for RPC.
23.	Stability, adaptability and growth performance of	Dr. Ashok Kumar	Recommended for RPC.

	<i>Gmelina arborea</i> Roxb. and assessment of resistance to <i>Craspedonta leayana</i>		
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Over all 6 rolling plan projects were presented before the members of RAG committee and recommended for the approval of the RPC as per the requirement and justification given by the respective PIs of the projects.

Sl. No.	Title of the project proposal	PI	Comments
<b>Thrust Area I - Managing Forests and Forest Products for Livelihood Support and Economic Growth</b> (Chair: Dr. Ruchi Badola; Co-chair: Shri N. Bala)			
1.	High- density plantation management for wood production and assessment of wood properties of coppiced material	Dinesh Kumar	<ul style="list-style-type: none"> <li>• A post of Project Assistant may be sanctioned at the prevailing approved rates of ICFRE i.e. @Rs. 13,500 per month <u>at no extra cost to the project.</u> The cost of fellowship will be adjusted from by reducing Field Research Expenses of the project.</li> <li>• Recommended for RPC.</li> </ul>
2.	Value addition and utilization of <i>Cassia tora</i> seeds	Pradeep Sharma	<ul style="list-style-type: none"> <li>• Extension of one year with no extra cost recommended for approval of RPC approval</li> </ul>
3.	Chemical examination and value addition of edible mushroom <i>Astraeus hygrometricus</i>	V. K. Varshney	<ul style="list-style-type: none"> <li>• Extension of one year with no extra cost recommended for approval of RPC approval</li> </ul>
4.	Assessment of hydrological services imparted by forest of Kempty watershed (Mussoorei)	Parmanand	<ul style="list-style-type: none"> <li>• Extension of three years with no extra cost recommended for approval of RPC approval</li> </ul>
<b>Thrust area III -Forests and Climate Change</b> (Chair: Dr. Mohammad Yousuf; Co-chair: Mrs. Neelima Shah)			
1.	AICP - <i>Melia composita</i>	Ashok Kumar	<ul style="list-style-type: none"> <li>• Upgradation of SRF into RA in the project.</li> <li>• Dr. Kumud Dubey, FRCER, Prayagraj as designated as Component PI as she is involved in plantation and data recording work of Eastern Uttar Pradesh.</li> <li>• Ranjana Jawantha to be included as Co-PI along with her research component on wood decay study.</li> <li>• Recommended for the approval of RPC.</li> </ul>
2.	Field evaluation recombinants emanating from F1 and F2 generations of <i>Corymbia</i> (Syn. Eucalyptus) hybrid <i>C. Citroedora</i>	Ajay Thakur	<ul style="list-style-type: none"> <li>• Additional budget requirement of Rs. 4.0 Lakh in FRE due to the increase in manpower wages has been requested by PI.</li> </ul>

	Hook. X.C. <i>Torelliana</i> F.v. Muell for high productivity		• Recommended for the approval of RPC.
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The Director FRI appreciated the involvement of all present in the meeting and for their active participation as well as sharing of knowledge for the improvement of the project proposal presented in RAG. The meeting ended with vote of thanks by Dr. P.S. Rawat, RCS to all the Hon'ble RAG members, Director FRI, DDG (R), ADG (RP), Special invitees, Head of the Divisions, PIs, Rapporteurs, Scientists, PLO, official staff of Research & Coordination Section and all concerned for active participation and successful conduction of the meeting.