

## **Proceedings of XXVII RAC meeting, ICAR-Indian Institute of Natural Resins and Gums, Ranchi**

Twenty-seventh meeting of the RAC, IINRG was held on 08-09 July, 2020 on the virtual platform in the Chairmanship of Dr. Pitam Chandra, former ADG (PE) & former Director, ICAR-CIAE, Bhopal. Following members were present:

- Prof. RN Jagtap, Prof-Head, Institute of Chemical Technology, Mumbai
- Dr. Suresh Walia, Emeritus Scientist, ICAR-IARI, New Delhi
- Dr. Subhash Chander, Professor and PS, ICAR-IARI, New Delhi
- Dr. Sanjaya K. Dash, Dean, OUA and T, Bhubaneswar
- Dr. Kanchan K. Singh, ADG (FE), ICAR, New Delhi
- Dr. Kewal Krishan Sharma, Director, ICAR-IINRG, Ranchi
- Dr. NK Sinha, PS, ICAR-IINRG, Ranchi : Member Secretary

### **Invited members**

- Dr. Nirmal Kumar, Head, TOT Division
- Dr. Soumen Ghosal, Head, LP Division
- Dr. Niranjana Prasad, Head, PPD Division
- Dr. MZ Siddiqui, Incharge, PMEC

At the outset, Dr NK Sinha, Principal Scientist and Member Secretary, RAC welcomed the Chairman and members.

### **Welcome Address by the Director IINRG**

Dr. KK Sharma, Director, IINRG welcomed the Chairman and other members of the RAC. He presented the salient achievements and developmental activities completed during the last one year. He also informed the house about the recently revised scientific cadre strength and reorganization / renaming of the Divisions including creation of a new Division as approved by the SMD.

### **Opening remarks by the Chairman, RAC**

Dr. Pitam Chandra, Chairman RAC, appreciated the efforts of the scientists and the Director for excellent work carried out during past one year and wished that IINRG will make much more progress in the years ahead. He urged scientists to work more for better visibility of the institute at international level. The Chairman, RAC also expressed his views that as the institute will be completing 100 years in the coming plan period, efforts should be made to initiate Centenary celebration preparations in a befitting manner worthy of a national Institute. He opined that the institute should organize an International Seminar and come-up with a Coffee Table Book. It is a great opportunity to compile the institute's achievements since inception with good photographs, brief CV of all past Directors, RAC and QRT members on the occasion of centenary celebration. He hoped that the Council would whole heartedly support financially to create/renovate required infrastructure for this grand occasion.

### **Remarks of Dr. KK Singh, ADG (FE), ICAR and Member, RAC**

Dr. KK Singh, ADG (FE) appreciated the research work carried out at IINRG. He emphasized on making a wide comprehensive plan for commercialization of developed technologies. He

reiterated that the technologies developed under the projects should be given to the Transfer of Technology Division for evaluation in the farmer's field and then transfer them to end users. ADG (FE) appreciated the efforts of Institute for timely conducting DPC of the scientists wherein two scientists were promoted to next higher grade under CAS.

He added that (i) ATR of RAC proceedings may be pursued on quarterly basis, (ii) Social and economic impact study of the commercialized technologies may be carried out, (iii) Planning should begin for the Institute's Centenary celebrations, and (iv) Outcome or impact assessment of the trainings conducted by the institute may be carried out.

#### **Presentation of Research achievements of the Institute during the reported period**

Dr. MZ Siddiqui, PS & I/c PME Cell presented the research progress of the Institute and informed about all the on-going institutional, externally funded projects of the Institute.

#### **Presentation of ATR of last RAC**

Dr. NK Sinha, PS and Member Secretary presented the ATR on the recommendations made by the RAC in its XXVI meeting. The RAC approved the ATR after due deliberations.

#### **Progress of Research Divisions**

- Dr. S. Ghosal, PS & In-charge, Head, Lac Production Division presented the progress of his Division. The RAC suggested to (i) compile the existing gaps in nutrient management of lac-hosts for improving yield and taking up studies to fill those gaps, (ii) conduct studies on biochemical analysis of lac-host plants during lac infestation leading to a robust study on understanding the lac insect-host plant interaction including molecular approach, and (iii) provide criteria for selection of plastic mulch by collecting more information about the thickness and the properties of the plastic mulch.
- Dr. N. Prasad, PS & In-charge Head, Processing and Product Development Division, presented the progress and highlighted the achievements of the Division. The RAC suggested that a brain-storming session should be conducted to solve the problem regarding the fabrication of pilot plant for guar derivatives and also recommended the exploration of alternate possibilities for the same including working in collaboration with sister organizations like CIAE, Bhopal.
- Dr. Nirmal Kumar, PS & In-charge Head, TOT Division, presented the progress. The committee emphasized the need to work with the state Government for livelihood generation of migrant laborers of the state and recommended the development of linkages with national and international stakeholders for technology absorption and commercialization. RAC enquired about the market information of NRGs. The RAC also suggested for conducting impact assessment of the training/ capacity building programmes organized by the Division.

#### **Network Project on HPVA**

Dr. N. Prasad, PC, NP-HPVA presented the progress of the project. The Chairman suggested that the edible and non-edible gums and resins may be classified with respect to their diverse applications in various sectors. RAC advised to conduct validation of the technologies developed in the projects and documentation of the ITKs for value addition and processing of NRGs. The committee suggested that presentation may be made commodity-wise instead of Centre-wise.

### Network Project on CLIGR

Dr. KK Sharma, PC presented the progress of the project. The RAC suggested that the survey of remaining districts of the country may be completed in the next plan period to prepare the country's lac map, identifying potential lac growing areas in the country, and publish the field guide of lac-host plants in the form of e-book. The RAC urged to utilize Network Centers for location specific studies to promote lac cultivation in different parts of the country and characterize the lac insects cultured in different regions of the country. It was also suggested to explore the alternative lac-hosts like *Cajanus cajan* (Pigeonpea).

### Presentation of Completed Project

Dr. Vaibhav D Lohot, Sr. Scientist, presented the report on 'Collection, conservation, characterization and documentation of lac insect and host plant bio-diversity' (Phase III)

Dr. MF Ansari, Pr. Scientist presented the report on 'Biodegradation studies of lac resin using soil burial method'

The RAC suggested that the major recommendations of the completed projects may be given to the Transfer of Technology Division for including them in their training programmes and on-farm field trials.

### New Project Proposals

The following new projects were presented by the respective PI and discussed:

Sl. No.	Project	PI
1.	Collection, conservation, characterization and documentation of lac insect/host plant diversity (Phase IV)	Dr. Vaibhav D Lohot, Sr. Sci.
2.	Lac Integrated Cropping System through Participatory Approach	Ms. L. Chanu Langlentombi, Sci.
3.	Synthesis of rosin derivative for its use as Tackifier	Dr. MF Ansari, Pr. Sci.
4.	Assessment, Diffusion and Adoption of Crop Production and NRGs Technologies (KVK activities)	Dr. Jyotirmoy Ghosh, Pr. Sci.

The RAC approved the new project proposals at Sl. No. 1, 2 and 4. The RAC suggested that activities of continuing nature like the one under project at Sl. No. 1 and training *etc.*, taken up in project mode should be implemented in Annual Plan Mode *i.e.* targets should be quantified at the beginning of every year and report submitted at the end of the year. Project of this nature should not have any sun-set clause. Dr. RN Jagtap offered his good services to provide detailed literature available on rosin Tackifier technology and guide the PI in preparing the rosin based Tackifier so as to complete the proposed study within six months. Accordingly, the work may be taken up as exploratory study initially. He also assured to get the lac based paint analyzed.

**Final recommendation of the RAC:**

1. The models may be developed for correlation of weather parameters with lac production.
2. The biodegradation study of lac may be outsourced for accelerated degradation analysis.
3. Low cost, on-farm technologies for processing and value addition of NRGs may be developed.
4. Success stories may be documented, published and distributed among the concerned departments of lac growing states. Social media resources should be used to disseminate the cultivation and processing technologies and also the products developed by the Institute.
5. Outcome of the completed research projects in the form of recommendations should be passed-on to the TOT Division and same should be taken up for on-farm demonstration involving the inventor as Co-PI.
6. Trainings on value addition of lac in bangle making should be taken up by the institute for women empowerment.
7. All the natural gums and resins in their purest forms may be exhibited in the museum along with their natural sources. The museum may be updated with new products and technologies annually or every two years to maintain the up-to-datedness.
8. The Report on 'Current Status, trends and future prospects of NRG production, processing and value addition in India & Overseas' may be updated.
9. IPM interventions at the farmers' fields in KVK should be supported through the linkages with service providers so that required amounts of the same may be made available as per need.
10. KVK should train farmers in preparation of bio-pesticides with locally available materials *i.e.* neem oil and other extract *etc.* to make the rural economy self-sufficient and sustainable.

**General observations:**

1. Institute should come out with a book/compendium on achievements of the Institute on the occasion of centenary celebration of the institute.
2. Support for startups should be provided through institute.
3. ITKs on NRGs including lac should be documented through Network Cooperating Centers.
4. The scientists should strive for more externally funded project.

**Vote of thanks by the Director**

Dr. KK Sharma, Director extended sincere thanks to the Chairman and members of RAC for their valuable scientific inputs to improve the research programmes of the institute.