

PROCEEDINGS OF RESEARCH ADVISORY MEETING
HELD AT INSTITUTE OF FOREST BIODIVERSITY ON 24 SEPTEMBER 2018

The Research Advisory Group meeting of Institute of Forest Biodiversity (IFB), Hyderabad was held on 24th September 2018 to prioritize new research projects for the year 2019-20 and review the progress of the ongoing projects. Altogether thirteen members of the Research Advisory Group attended the meeting (Annexure I).

Sri D. Jayaprasad, Director and Chairman RAG, IFB Hyderabad, formally welcomed the members and informed them about the purpose of the meeting. A self-introduction followed.

Dr. Vimal Kothiyal, ADG (RP), ICFRE, Dehradun, welcomed the RAG members over video conference from Dehradun and informed them about the funding status of the 31 all India Co-ordinated projects (AICRPs) approved by RPC during February 2018. These AICRPs are on selected high values species and some selected themes, in order to generate substantial knowledge, products and processes having societal impacts. He urged the RAG members to critically review the new project proposals.

Dr G.R.S. Reddy, Scientist G, gave a power point presentation on the past achievements of IFB, Hyderabad and the achievements of Forest Research Centre for Coastal Ecology, Visakhapatnam. He highlighted the research findings of the various projects and the consultancy works undertaken by the Institute.

Sri P. H. Chawhaan, Scientist G, Group Co-ordinator (R), IFB Hyderabad, informed the newly constituted group about the purpose and function of the Research Advisory Group. He informed the members about the status of various all India co-ordinated research projects. He briefly described the process of evaluating new projects using the five technical criteria and the process of prioritizing the projects using the weighted scores of ten criteria. He urged the members to critically evaluate the projects.

The occasion was utilized to inaugurate the Institute brochure by the honourable research advisory group members.

New Project Presentations

New project presentations started with Dr. Ratnaker Jauhari, who presented a new project proposal titled “Study on socio economic status of people in Nallamalai, Seshachalam and north coastal Eastern Ghats in relation with forest biodiversity” over video conference facility from Dehradun .The following discussions were held after the project proposal presentation.

- Dr. P. Muthuraman suggested that a suitable project fellow belonging to Anthropology or Sociology should be recruited for the project. Further, he suggested that the P.I. should contact ITDA for further improvement of the project.
- Dr. J. Kotesk Kumar enquired about the methodology of selecting villages. Dr. Ratnaker replied that PRA exercise will be done at village level to see the presence of any variation among hamlets. Following which appropriate sampling of hamlets will be done.
- Sri D. Jayaprasad gave a brief background about the working plan consultancies being implemented by IFB Hyderabad in the states of Andhra Pradesh and Telangana. He informed that the biodiversity data available from these consultancies will be used by Dr. Ratnaker to establish linkage/correlation with socio economic status of people.
- Dr. A. K. Tiwari expressed that the source of data on biodiversity (working plan consultancy) should have come in the presentation without which the proposed budget looks meagre. He suggested that the P.I. should select more samples/area so that the data statistically precise.
- Dr. Vimal Kothiyal informed that ICFRE has already implemented a project titled “Forest resource dependence and ecological assessment of forest fringes in rainfed districts of India” funded by National Rainfed Area Authority and an all India coordinated project on estimation of demand and supply of timber, fuelwood and fodder is in the pipeline. The P.I. should consult the concerned persons (Dr. Raman Nautial, NPC) and the project documents to refine his project. The project must have clear cut outcome and deliverables.

Dr. S. Pattanaik, Scientist F, presented a new project proposal titled 'Development of molecular resources for genetic improvement, sex determination and domestication of *Givotia moluccana* (L.) Sreem'. He talked about the importance of the species, especially, in the handicraft industry and its conservation status, emphasizing on the need to take up

domestication of the species by initiating tree improvement programme in the species. The following discussions were held after the project proposal presentation.

- Dr. N. Bhola enquired about the rotation age of the *G. moluccana*. The P.I. informed that the rotation is around 15 years.
- Dr. G. Padmaja, the Co-PI of the project informed the house that this plant available in Kondapalli area of Andhra Pradesh. She, also, informed that the works such as *in vitro* seedling germination, extraction of oil and their fatty acid composition, active constituent Benzoylsalicylic acid have been done by her group at University of Hyderabad.
- Dr. A.K. Tiwari appreciated the project work and suggested that P.I.s should also explore the chemical constituents/active markers available in the plant which will be helpful in indicating further medicinal uses.
- Dr. C. S. Jha informed that niche modelling in *G. moluccana* will be successful only if the species is having a very narrow range or specific ecological requirement.
- Dr. P. C. Panda informed the P.I. that their group earlier had a project on recovery programme for endangered species of Eastern Ghats. The distribution grid for *G. moluccana* available in the earlier project may be useful for the proposed project. Also, he informed that sex linked markers have been developed by their group in *Calamus guruba* using EST markers. The same technique may be useful in *G. moluccana*. He agreed to share the grid as well as the results of his project.
- Dr. Ariff Khan informed that sex determination in Papaya is done at very young age based on phenolic content and whether the same has been tried in *G. moluccana*. He questioned the use of *in vitro* techniques instead of cheaper clonal propagation method. The P.I. informed that work on clonal propagation was also tried earlier but results were not satisfactory.
- Dr. Vimal Kothiyal suggested that farmers should be involved in the project as domestication is one of the objectives of the project. The P.I. replied that domestication is a long term objective of the project; however, the possibility of laying the progeny trials in farmer's field will be explored.
- Dr. G. R. S. Reddy informed that during his recent visit he could locate a very sizable *G. moluccana* population at Kondapalli, Andhra Pradesh

Sri M. B. Honnuri presented a new project proposal titled "Development of *Dalbergia sissoo* Roxb. and *Tectona grandis* L.f. based agroforestry model for increased productivity of

farmland of Telangana state”. The following discussions were held after the project proposal presentation.

- Dr. P. Muthuraman enquired why chilly has been selected for the project? And whether it can withstand drought? The P.I. replied that Chilly is a cash crop which is widely cultivated by the farmers in Telangana. Dr. Muthuraman suggested that P.I. should work out the economics or cost of cultivation for the proposed project.
- Dr. N. Bhola expressed his reservations about the spacings proposed in the project. He suggested not including any scheduled tree species in the proposed model. Also, he suggested to insure control plot in the model should also have similar spacing.
- Dr. A. K. Tiwari informed that *Capsicum annum* proposed by the P.I. is known as Shimla mirch which is a creeper. On the other hand, *Capsicum frutescens* is used as spice. The P.I. should confirm which Capsicum he intends to incorporate in his model.
- Dr. Vimal Kothiyal wanted to know how the project is going to benefit ICFRE and how the project can be linked to the all India coordinated project on *Dalbergia sissoo* and *Tectona grandis*.

Ongoing Project Presentations

Ongoing Project presentations started with Dr. M. Deepa, who presented her first ongoing project titled “Screening for establishing bio-efficiency of ethno-insecticidal plants from the forest of Andhra Pradesh”. The following discussions were held after the presentation.

- Dr. A. K. Tiwari suggested that the P.I. should check the effects of aqueous methanol and aqueous ethanol extracts on the target insects as methanol/ethanol itself is toxic to insects.
- Dr. J. Kotesch Kumar commented that PI should use aqueous ethanol and aqueous methanol extract as chemical constituent available in the plant are more soluble in aqueous phase. Also, he suggested that the P.I. should apply different concentration of ethanol or methanol as control because of their toxicity to insects.

Dr. M. Deepa presented her second project titled “Development of integrated pest management system (IPM) for *Sapindus trifoliatus* of Andhra Pradesh”. The following discussions were held after the presentation.

- Dr. A.K. Tiwari suggested that the P.I. may utilize the expertise of IICT & CIMAP for the azadirachtin analysis.

Dr. M. Deepa presented her third ongoing project titled “Identification of indigenous species of Trichogramma (Hymenoptera: Trichogrammatidae) and their assessment against major insect pests of teak in Telangana”. The following discussions were held after the presentation.

- Dr. M. A. Ariff Khan enquired whether the cards are intended for small trees only. The P.I. informed that the cards can be attached to the branches of tall trees also.
- Dr. P. Muthuraman informed that one Bangalore based firm is supplying commercial cards for control of insect pests, PI may look into this.
- Dr. A.K. Tiwari enquired about the benefit of the project to common people and scope for commercialization.

Mr. Pankaj Singh presented the ongoing project titled “Exploring the potential of natural bio-stimulant on the growth and biochemical content in *Rauwolfia serpentina* (L.) Benth. Ex. Kurz”. The following discussions were held after the presentation.

- Dr. A. K. Tiwari appreciated the work done by the P.I. Commenting on the alternate effect of lower and higher concentration of biostimulants, he suggested that the extract concentration need to be standardized using HPLC.
- Dr. J. Kotesh Kumar enquired about the selection of Moringa for the project. He suggested that the P.I. should compare the reserpine content of plants under different treatments instead of Chlorophyll A, B and C. He suggested that the PI should utilize the instrumentation and expertise of the CIMAP for this project and take up other collaborative works on medicinal plants in future.
- Mr. Pravin H. Chawhaan informed the house that as the crop is 18 month duration and thus estimation of reserpine content are planned to be undertaken at later stage.

Shri. D. Jayaprasad presented his ongoing project titled “Impacts of nutrient loading from droppings of nesting migratory waterfowl in the wetland ecosystem of Nelapattu bird sanctuary, Andhra Pradesh”.

- Dr. P. Muthuraman offered that the PI can use the facility at IIRRI for any microbiological analysis requirement in the project.
- Dr. Ariff Khan opined that the total amount of faecal matter going into the lake should be quantified. Also, soil and water samples should be collected before and

after the nesting season and analysed. The P.I. replied that samples have been collected and analysed in the same way.

Mr. M. B. Honnuri presented the ongoing project titled “Natural regeneration studies of important tree species of Nallamalais, Seshachalam Hills and Kaundinya wildlife sanctuary of Eastern Ghats of Andhra Pradesh”. P.I. informed the house that the project has been concluded in September 2018 and presented some of the findings.

- Sri A. Venkateshwarlu enquired about the sample size used for generation of data for the project

Dr. S. Pattanaik presented his first ongoing project titled “Recovery programme for *Syzygium alternifolium* - an endangered species from Eastern Ghats”. The following discussions were held after the presentation.

- Dr. J. Kotesk Kumar enquired about the food value of *Syzygium alternifolium* fruits. The P.I. informed that fruits are of smaller in size and collected by the local people for medicinal purpose.

Dr. S. Pattanaik presented his second ongoing project titled “Productivity improvement in *Pterocarpus santalinus* L.f. through mass selection and selective breeding.” The P.I. informed about the slow progress of the project for obvious reasons. Further, he informed that the project will be subsumed in the AICRP on Red sanders when the same commences.

Panel discussion

Following all project presentations, a panel discussion was held. The RAG members expressed their views and gave the following valuable suggestions for further improvement of the research projects at IFB, Hyderabad.

- Dr. A.K. Tiwari suggested that the institute should come up with certain collaborative projects and utilize the expertise and experimental facilities of CSIR-IICT.
- Dr. J. Kotesk Kumar expressed that CSIR-CIMAP will be happy to help and collaborate with scientists of IFB in areas like chemistry, agronomy, biochemistry, breeding and varietal development. IFB Scientists can utilize the facilities and expertise of CSIR-CIMAP for standardization of protocols. Also, he suggested that

the P.I. of *R. serpentina* project should visit and explore the collaborative opportunity with CIMAP for the scientific standardization of the procedure.

- Dr. A. Venkateshwarlu, informed the house that NMPB is facing the problem of seed availability in *R. serpentina* plant and that the institute should look into this matter with emphasis to develop some cost effective plant production system. Also, he suggested that the institute should work on alternative species for meeting demands of industry.
- Dr. M. A. Ariff Khan expressed that the institute should take up more projects on agroforestry as this is the need of the hour to improve the food security in India.
- Dr. P. Muthuraman invited IFB to collaborate with IRRI and KVK for extension of technologies developed by the institute. He, also, suggested that the institute should develop a forest portal and online courses for faster dissemination of information, which will have far reaching influence on the socioeconomic conditions and livelihood of people.
- Dr. G. Padmaja expressed that the institute is working on very good projects like ethno-insecticidal plants and medicinal plants like *R. serpentina*. However, she suggested that P.I. should work on the bioactive constituents available in ethno-insecticidal plants and work on techniques to increase chemical constituents like reserpine.

The meeting was concluded with a vote of thanks from Dr. G.R.S. Reddy.

ANNEXURE-I**LIST OF RAG-2018 MEMBERS PRESENT DURING THE MEETING**

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| 1. Mr. D. Jayaprasad IFS, Director IFB, | - Chairman of RAG |
| 2. Mr Pravin H. Chawhaan, Scientist-G and GCR
IFB, | - Member secretary |
| 3. Dr. Vimal Kothiyal, ADG (RP), ICFRE, Dehradun, | - Through Video conferencing |
| 4. Dr. A.K. Tiwari, Senior Principal Scientist CSIR-
IICT, Hyderabad | -Representative from CSIR |
| 5. Dr. P. Muthuraman, Principal Scientist, Indian
Rice Research Institute-ICAR | -Representative - sister organization |
| 6. Dr. A. Venkateshwarlu, D.F.O, TSMPB | -Representative - funding agency |
| 7. Dr. P.C. Panda, Principal Scientist, RPRC,
Bhuvaneshwar | -Eminent Scientist outside ICFRE |
| 8. Dr. C.S. Jha, Principal Scientist, Head, Forestry
and Ecology Division, NRSC, Hyderabad | -Subject Matter Expert- Ecology |
| 9. Dr. J. Kotesch Kumar, Scientist-in-Charge, CIMAP-
Hyderabad | -Subject Matter Expert- Chemistry |
| 10. Dr. N. Bhola, Associate. Professor, College of
Forestry, Bhuvaneshwar | -Subject Matter Expert- Forestry |
| 11. Dr. G. Padmaja, Professor Genetics, Department
of Plant Sciences, University of Hyderabad | -Subject Matter Expert- Genetics |
| 12. Dr. G.R.S. Reddy, Scientist-G, IFB, Hyderabad | -Internal Member |
| 13. Dr. S. Pattanaik, Scientist F, IFB, Hyderabad | -Internal Member |

OTHER OFFICERS AND SCIENTIST PRESENT IN THE RAG-2018

1. Dr. M.A. Ariff Khan, Principal Scientist cum Coordinator KVK, Nalgonda.
2. Dr. Abha Rani, Scientist-E, IFB, Hyderabad
3. Mr. Arulrajan, IFS, DCF, IFB, Hyderabad
4. Dr. Deepa M. , Scientist-C, IFB, Hyderabad
5. Mr. M.B. Honnuri, Scientist-C, IFB, Hyderabad
6. Mr. Pankaj Singh, Scientist-B, IFB, Hyderabad
7. Mrs. Asha Kumari, ACTO, IFB, Hyderabad

GLIMPSES OF RAG -2018



Director, IFB, Hyderabad interacting with the RAG members



Self introduction by the RAG members



Release of IFB, Hyderabad brochure