



**MINUTES OF 56th RESEARCH ADVISORY COMMITTEE MEETING HELD ON
16th AUGUST, 2025 AT CSB-CTRTI, RANCHI**

The 56th Meeting of the Research Advisory Committee (RAC) of CSB-CTRTI, Ranchi, was held on 16th August, 2025. At the beginning, Dr. N. B. Chowdary, Director and Member Convener of the Committee, extended a cordial welcome to the RAC Chairman, Dr. Subhash Chander, Former Director, ICAR-National Research Institute for Integrated Pest Management (NRIIPM), New Delhi, along with Dr. Amit Pandey, Director, ICFRE-IFP, Ranchi, Dr. M. S. Kundu, Former Director (Extension), RPCAU, Bihar, Dr. Mukesh Kumar Dhillon, Head & Principal Scientist, IARI, New Delhi, Dr. C. M. Bajpeyi, Former Director, CSB, Dr. C. M. Babu, Scientist-D, RCS, Central Silk Board, Bengaluru; Dr. Jyotirmay Ghosh, Principal Scientist, ICAR-NISA, Ranchi, other RAC members, Rearer and Reeler representatives, and Scientists from the institute, its nested units and collaborators. The list of attendees is provided in Annexure-I.

The meeting commenced with self-introductions by the committee members and other participants. This was followed by the opening remarks delivered by the Director, CSB-CTRTI, Ranchi and the RAC Chairman.

Dr. N. B. Chowdary extended a warm welcome to all members of the Committee and informed the house that CSB-CTRTI, Ranchi, has been consistently working towards the welfare of economically disadvantaged tasar farmers. He emphasized that the Institute's research and development, along with its extension initiatives, are directed towards the holistic development of the tribal communities engaged in tasar sericulture and will continue to pursue this mission in the future.

Dr. Subhash Chander, Former Director, ICAR-NCIPM and Chairman of the RAC, emphasized that research efforts should focus on developing environmentally sustainable technologies and products for tasar sericulture. He highlighted that the key thrust areas should include enhancing the economic viability of tasar production, promoting sustainability, improving farmers' income, and strengthening the marketing of tasar products.

He advised scientists to adopt an innovative and problem-solving approach in their research, with greater emphasis on organic practices, minimal use of agrochemicals, reduction of labor-intensive operations, product diversification, and effective utilization of by-products. Dr. Chander also appreciated that the ongoing research at CSB-CTRTI is already aligned with these priorities and recognized the Institute's significant role in benefiting the farming community. He further noted that the essence of scientific research lies in improving farmers' livelihoods by ensuring that technologies move beyond outputs and truly translate into field-level outcomes.

After the opening remarks RAC meeting was commenced as per agenda under the directions of the RAC Chairman.

Agenda No. 1: Confirmation of minutes of 55th Meeting of Research Advisory Committee (RAC) of CSB-CTRTI, Ranchi held on 22nd February, 2025

As no comments had been received from any of the members, minutes of 55th meeting of RAC held on 22nd February 2025 at CSB-CTRTI, Ranchi, were confirmed.

Agenda No. 2: Follow up Action on the General Recommendations/ Decisions of the last RAC Meeting

The follow-up actions on the general recommendations/ decisions of the last RAC meeting were discussed. The committee reviewed the action taken on the decisions made during the last RAC and expressed its satisfaction on the follow-up.

Agenda No.3: Follow up Action Taken on the Project Specific Recommendation/Decisions of the Last RAC Meeting

The follow-up actions on the recommendation/decisions of last RAC with respect to projects were discussed along with the progress & findings of the projects and expressed its satisfaction on the follow-up.

Agenda No.4: Review of Concluded projects

There was no concluded project during the period.

Agenda No. 5: New Project proposal/Concept Note for approval (3)

Projects:

Recurrent selection for high fecundity line in Tropical Tasar silkworm [PI: Dr. Nidhi Sukhija, Scientist-B]

The concept note was presented by the PI and the committee opined that the methodology part needs to be revised thoroughly in consultation with mulberry breeders and resubmitted.

[**Action:** Dr. Nidhi Sukhija, Scientist-B]

Concept Notes:

Evaluation of Hormonal Treatment and Starvation on the Life Cycle and Silk Gland Activity in Tasar silkworm (*Antheraea mylitta*) [PI: Dr. Divya Rajawat, Scientist-B]

PI of the project presented the concept note before RAC and the committee opined that the relevance of the proposal needs to be revisited. The work done on hormones for mulberry silkworm should be referred. The formulation Sampoorna may be included for testing. The work plan and objectives are to be revised after consultation with experts of the area and resubmitted.

[**Action:** Dr. Divya Rajawat, Scientist-B]

2. Nutrient management in tasar culture through nano fertilizers [PI: Dr. Shantakar Giri, Scientist-D]

In view of the rising concerns regarding the nano fertilizers, the concept was denied to be taken up in project mode.

[**Action:** Dr. Shantakar Giri, Scientist-D]

Agenda No.6: REVIEW OF THE PROGRESS OF ON-GOING PROJECTS: (22 Nos.)

Total 22 research projects (21 as PI and 01 as Co-PI) were discussed and RAC recommended

/suggested as mentioned below:

Host Plant Production, Improvement & Protection:

A. As PI:

1. PIB04009SI: Evaluation of identified hybrids of *Terminalia arjuna* × *T. tomentosa* and drought tolerant *T. arjuna* for their suitability in different tropical tasar silkworm rearing regions [PI: Dr. Aparna K, Scientist-C]

PI presented the progress of the project. The committee took note of the progress and suggested to the PI to compare the data with previous concluded projects and local checks.

[**Action:** Dr. Aparna K, Scientist-C]

2. ARP04012SI: Developing ectomycorrhizal bio-inoculants for improving survival and leaf yield of *Terminalia arjuna* and *T. tomentosa* [PI: Dr. Aparna K, Scientist-C]

PI of the project presented the progress of the project. The committee took note of the progress and suggested to explore methods of application of the bioinoculants to ensure their effectiveness.

[**Action:** Dr. Aparna K, Scientist-C]

3. SIP04022SIC: Impact of weather parameter on tasar food plants and silkworm [PI: Dr. Deepika K U, Scientist-C]

PI presented the progress of the project. The committee suggested that impacts other than productivity of both host plant and silkworm due to weather changes may be recorded.

[**Action:** Dr. Deepika K U, Scientist-C]

4. PPA04023SIC: Identification of suitable package of practices for establishment of *Lagerstroemia speciosa* (Jarul) for quality leaf production [PI: Ms. Susmita Das, Scientist-D]

PI of the project presented the progress of the project. The committee took note of the progress and the PI was given the following suggestions:

- a) The pruning schedules to be aligned as per the brushing schedule of the silkworm for both the crops
- b) Economics to be calculated simultaneously
- c) Observations on larval periods to be recorded
- d) Ambiguity on nutrient practices should be avoided and either FYM or Vermicompost should be used consistently

[**Action:** Ms. Susmita Das, Scientist-D]

5. PPA04024SIC: Effect of different plant spacing and pruning heights on chawki leaf productivity of tasar host plants (*Terminalia arjuna*, *T. Tomentosa* and *Lagerstroemia speciosa*) and chawki silkworm rearing [PI: Dr. Harendra Yadav, Scientist-D]

PI of the project presented the progress of the project. The committee took note of the progress and suggested that compilation of the data could be done in a more comprehensive manner for better understanding.

[**Action:** Dr. Harendra Yadav, Scientist-D]

6. PPS 04031 SIC: Exploration of C sequestration potential of *Terminalia sp.* and ways to increase the soil organic C stock [PI: Dr. Aparna K, Scientist-C]

PI of the project presented the progress of the project. The committee took note of the progress.

[**Action:** Dr. Aparna K, Scientist-C]

7. PIG 04033 MIC: Development of Standard Operating Procedure (SOP) for tasar host plant gene bank and maintenance of the gene bank using cultural package of practices [PI: Mr. Haragopal Dutta, Scientist – B]

PI of the project presented the progress of the project. The committee took note of the progress and the PI was given the following suggestions:

- a) Names of active ingredients should be used instead of commercial names of agrochemicals for all reporting and presentation purposes
- b) The publication of germplasm in IJS may be requested for hastening registration.
- c) Passport data and physio-biochemical parameters data should be compared with data generated through older projects on the germplasm collection

[**Action:** Mr. Haragopal Dutta, Scientist – B]

8. PRP 04032 SIC: Identification of pathogens associated with Tasar host plant diseases and their integrated management [PI: Dr. Shreenath Y.S, Scientist – B]

PI of the project presented the progress of the project. The committee took note of the progress. The PI was advised to explore primers other than ITS also for molecular identification of pathogenic fungi.

[**Action:** Dr. Shreenath Y.S, Scientist – B]

Silkworm Crop Production, Improvement & Protection:

9. ARP04016MI: Tasar Silkworm Disease Monitoring and Management in North & Central states of India [PI: Dr. Shantakar Giri, Scientist-D]

The PI presented the progress and the committee gave the following suggestions:

- a) Weather data should be collected and presented along with disease incidence data
- b) Incidence data should be collected for all silkworm diseases rather than only pebrine
- c) Prediction models should be developed from the data for use in fore warning and to develop disease calendars

[**Action:** Dr. Nidhi Sukhija, Scientist – B]

10. AIB04017MI: Selection of Stable Thermo-tolerant line(s) of Tropical Tasar Silkworm *Antheraea mylitta* – Phase II [PI: Dr. I. G. Prabhu, Scientist-D]

The PI presented the progress and the committee gave the following suggestions:

- a) Thermotolerance level of thermotolerant and control lines during larval stage to be calculated
- b) Median thermotolerance level for both the lines should be calculated

[**Action:** Dr. I. G. Prabhu, Scientist-D]

11. [AIB 04018 MI: In situ Conservation of Modal Ecorace of Tasar Silkworm in Odisha] [PI: Dr. I. G. Prabhu, Scientist-D]

PI of the project presented the progress of the project. The committee took note of the progress.

[**Action:** Dr. I. G. Prabhu, Scientist-D]

12. AIB 04019 MI: In situ Conservation of Raily Ecorace of Tasar Silkworm in Chhattisgarh [PI: Dr. H. S. Gadad, Scientist-C]

PI of the project presented the progress of the project. The committee took note of the progress.

[**Action:** Dr. H. S. Gadad, Scientist-C]

13. AIB 04020 MI: In situ Conservation of Sarihan Ecorace of Tasar Silkworm in Jharkhand [PI: Dr. S. Giri, Scientist – D, Scientist-D]

PI of the project presented the progress of the project. The committee took note of the progress. It was suggested to PI to submit the budget reappropriation request as approved by the committee.

[**Action:** Dr. S. Giri, Scientist – D, Scientist-D]

14. SRP 04030 MI: Evaluation of the efficacy of identified formulations for the management of Cytoplasmic Polyhedrosis Virus in *Antheraea mylitta* [PI: Dr. Shreenath Y.S, Scientist – B]

PI of the project presented the progress of the project. The committee took note of the progress.

[**Action:** Dr. Shreenath Y.S, Scientist – B]

Sericulture Extension & Socio-Economics:

15. PR04015CN: Documentation and Validation of Indigenous Technical Knowledge (ITKs) in Tropical tasar Zone [PI: Dr. H. S. Gadad, Scientist - C]

The PI presented the progress and the committee gave the following suggestions:

- a) Listing of all validated ITKs to be done at conclusion
- b) Promising ITKs to be popularized

[**Action:** Dr. H. S. Gadad, Scientist - C]

16. MTS04029MIC: Study on lab to land gaps in adoption & effectiveness of tasar technologies: Constraints and recommendations in major tasar growing areas [PI: Dr. Vishal Mittal, Scientist-D]

The PI presented the progress and the committee suggested that the questionnaire should be short, questions should be precise and only key questions should be asked. Delphi method to be referred for preparing the questionnaire.

[**Action:** Dr. Vishal Mittal, Scientist-D]

Post Cocoon Technology:

17. CEM 04021 MNC: Evaluation of Technologies and Machines Developed in Tasar Post cocoon Technology [Mr. Ashu Kumar, Scientist-B]

- a) The PI presented the progress and the committee gave the following suggestions:
- b) The number of beneficiaries using the machine (Frequency) should be recorded.
- c) The sample size for each machine or technology should be indicated
- d) Technologies developed should be popularized in coordination with CSTRI

[**Action:** Mr. Ashu Kumar, Scientist-B]

Seri By-Product Utilization:

18. BPC 04025SNC: Management of type II diabetic (T2D) condition through tasar sericin [PI: Dr. K. Jena, Scientist-D]

PI of the project presented the progress of the project. The committee took note of the progress.

[**Action:** Dr. K. Jena, Scientist-D]

19. BPS04026SNC: Studies on nutra-ceutical properties of silkworm pupae oil and development of a low-cost combination of vanya and mulberry pupae meal based feed for carp broodstock, and cultivable aquatic species [PI: Dr. K. Jena, Scientist-D]

PI of the project presented the progress of the project. The committee took note of the progress.

[**Action:** Dr. K. Jena, Scientist-D]

External Funded Project (DBT, New Delhi):

20. AIT 04026 SIE: Development of KASP Based SNP Barcoding System for the Molecular Identification of Tropical Tasar Silkworm Ecoraces [PI: Dr. I. G. Prabhu, Scientist-D]

The PI presented the progress of the project, which was duly noted by the committee. The committee emphasized the need to ensure the specificity of the final markers developed.

[**Action:** Dr. I. G. Prabhu, Scientist-D]

21. AIT04028SNE] Inflatable mucoadhesive vaginal tablet coin (VTC) for instant spermicidal action as local vaginal contraceptive and microbicide [PI: Dr. K. Jena, Scientist-D]

The PI presented the project's progress, following which the committee recommended that each batch of sericin be tested for heavy metal contamination. It was also suggested that good-quality cocoons may be utilized in place of damaged ones, provided it remains economically viable.

[**Action:** Dr. K. Jena, Scientist-D]

B. As CI:

21. SRP08012MNC: Development of a Rapid Antigen Test Kit for Diagnosis of Cytoplasmic Polyhedrosis in Vanay Silkworms (*Antheraea assamensis*, *A. mylitta* and *A. proylei*) [CI: Dr. H. S. Gadad, Scientist-C]

The Co-Investigator presented the project's progress and informed the committee that the kit performance did not meet the initial expectations. The committee recommended that the findings be communicated to the Principal Investigator (PI) for further action.

[**Action:** Dr. H. S. Gadad, Scientist-C]

Agenda No.7: R&D highlights of the Institute (March 2025 to till date):

Dr. N. B. Chowdary, Director, CSB-CTRITI, Ranchi, presented an overview of the activities and progress achieved since the previous RAC meeting. The committee appreciated the commendable efforts of the Institute toward the advancement and improvement of tasar sericulture.

Agenda No.8: Trial of Technologies (OSTs/OFTs):

Dr. Shantakar Giri, Scientist-D & In-Charge SEEM Division presented the progress of total 03 technologies (1 OSTs and 2 OFTs) during the RAC meeting. The committee took note of the progress.

The list of OSTs and OFTs are given below:

On Station Trials:

Validation of pruning and brushing schedule

On Farm Trials:

Validation of fertilizer packages for leaf nutrition and fecundity

Evaluation of fertilizers recommendation chart in tasar food plants

[**Action:** Dr. Shantakar Giri, Scientist-D]

Agenda No.9: Extension Communication Programmes (ECP) and other programmes

Progress of the Extension Communication Programmes conducted by the nested units was presented to the Committee. The committee took note of the progress.

[**Action:** Dr. Shantakar Giri, Scientist-D]

Agenda No.10: Training Capacity Building (CBT) and other programmes

Progress of the CBT conducted at the Institute and nested units was presented before the committee. The committee took note of the progress.

[**Action:** Dr. Vishal Mittal, Scientist-D]

Agenda No.11: Any other points for discussion: NIL

Agenda No. 12: Concluding remarks from RAC chairperson and members

All the members appreciated the efforts made by the scientists of CSB-CTRITI and its nested units. The comments and suggestions are as follows:

Mr. Manik Kujur, RAC member and rearer representative, recommended that farmers be made aware of alternative employment opportunities during the non-tasar rearing months.

Mr. Rahul Ranjan Ghosh, Scientist-B, CSB-CSTRTI, Bengaluru, suggested about undertaking collaborative research to develop silk blends utilizing silk waste materials.

Dr. Hasansb Nadaf, Scientist-D, CSB-BTSSO, Bilaspur, suggested about establishing information outlets to facilitate the dissemination of promising technologies.

Dr. Pandey, Scientist-D, CSB-BTSSO, Bilaspur, recommended prioritizing research aimed at enhancing the fecundity of tasar silkworms.

Dr. M. C. Triveni, Scientist-C, CSB-CSGRC, Hosur, suggested about exploring new germplasm resources from the southern regions of the country. She further mentioned that establishing tasar host plant germplasm plantations at CGHRC, Hosur, requires additional provisions, which may be time-consuming.

Dr. Prasanth Sangannavar, Scientist-D, RCS, CSB, Bengaluru, emphasized the need to strengthen collaborations between CSB-CTRTI, Ranchi, and other relevant organizations. He suggested that the technologies developed by CTRTI should be shared with RCS and other stakeholders along with detailed Standard Operating Procedures (SOPs) to enhance their visibility under the Silk Samagra-3 programme. He also recommended refining the existing technologies for improved efficiency and wider applicability.

Dr. C. M. Bajpeyi, Former Director, CSB-CTRTI, Ranchi, and RAC member, appreciated the ongoing research initiatives at the Institute. He emphasized the importance of timely commercialization of sericin and suggested that the ongoing work on ecorace mapping and geotagging should be further expanded.

Dr. J. Ghosh, Principal Scientist, ICAR-NISA, Ranchi, appreciated the progress made in the ongoing projects. He further emphasized that research efforts should focus on conducting systematic surveys to identify fast-growing host plant species suitable for tasar sericulture.

Dr. C. M. Babu, Scientist-D, RCS, CSB, Bengaluru, emphasized that proper maintenance of project registers is essential for the smooth implementation of projects. He noted that exploring the nutraceutical and pharmaceutical applications of by-products could be transformative for the sector. He also suggested strengthening institute–village linkage programmes to facilitate the dissemination of technical knowledge. Furthermore, he recommended that developed technologies be widely popularized and effectively integrated under the Silk Samagra-3 initiative.

Dr. M. S. Kundu, Former Director (Extension), RPCAU, Bihar, emphasized that extension is a crucial component for the successful adoption of technologies. He suggested about developing model villages for technology demonstration and showcasing the potential of these technologies to policymakers. He further stressed that extension activities should be purpose-driven and citizen-centric to ensure greater impact.

Dr. Amit Pandey, Director, ICFRE-IFP, Ranchi, emphasized the importance of peer consultation during the preparation of project proposals. He also appreciated the wasp control technology, describing it as highly innovative and practically applicable.

Dr. N. B. Chowdary, Director, CSB-CTRTI, Ranchi, emphasized the need to strengthen the seed sector of tasar sericulture through focused R&D initiatives in seed production. He highlighted that priority should be given to technology transfer, mechanization, by-product utilization, and addressing the impacts of climate change. He further stressed that research efforts should be more farmer-centric to ensure tangible benefits at the grassroots level.

Dr. Subhash Chander, Chairman, RAC, congratulated the Director and commended the noticeable improvement in the quality of presentations, as well as the incorporation of the committee's previous suggestions. He advised that the new project proposals be revised and resubmitted by the scientists in accordance with the committee's recommendations. He further highlighted that the tasar sector faces several challenges and emphasized the need to accelerate research efforts. The development of high-quality products and technologies should be prioritized, and scientists were encouraged to undertake innovative, problem-oriented research aimed at improving the livelihoods of tasar farmers.

The meeting ended with a vote of thanks to the chair by Dr. Dr. Shantakar Giri, Scientist-D, CSB-CTRTI Ranchi.

A handwritten signature in black ink, appearing to read 'Subhash', with a long horizontal stroke extending to the right.

[Dr. Subhash Chander]

Chairman, RAC

Annexure-1

LIST OF PARTICIPANTS: 56th RAC MEETING OF CSB-CTRTI, RANCHI HELD ON 16th AUGUST, 2025

Chairman:

Dr. Subhash Chander, Retd. Director, ICAR-National Research Centre for Integrated Pest Management, New Delhi

Members:

1. Dr. Amit Pandey, Director, IFP, Ranchi
2. M. K. Dhillon, Head & Principal Scientist, IARI, New Delhi
3. Dr. M.S. Kundu, Retd. Director (Extension), RPCAU, Bihar
4. Dr. Jyotirmay Ghosh, Principal Scientist, NISA, Ranchi
5. DR. C. M. Bajpeyi, Ex Director, CTRTI, Ranchi
6. Dr. N.B. Chowdary, Director, CSB-CTRTI
7. Dr. C. M. Babu, Scientist-D & RCS, Head, Bengaluru
8. Mr. Ramadhar Devagan, Reeler Representative
9. Shri Manik Kujur, Rearer Representative

Scientists: CSB-CTRTI, Ranchi, it's nested units and collaborators

Dr. A.S. Verma, Scientist-D, CSB-RSRS, Bhimtal

Dr. S. Giri, Scientist-D

Dr. S. Das, Scientist-D

Dr. J. P. Pandey, Scientist-D, BTSSO, Bilaspur

Dr. K. Jena, Scientist-D

Dr. Vishal Mittal, Scientist-D

Dr. D.I.G. Prabhu, Scientist-D

Dr. H. S. Nadaf, Scientist-D, BTSSO, Scientist-D

Dr. Prasanth Sangannavar, Scientist-D, RCS, CSB, Bengaluru

Dr. Harendra Yadav, Scientist-C

Dr. Hanmant Gadad, Scientist-C

Dr. Aparna, K, Scientist-C

Dr. Deepika Kumar Umesh, Scientist-C

Dr. Divya Singh, Scientist-C, CSB-RSRS, Bhimtal

Dr. T. Chowdhury, Scientist-C, CSB-STSC, Bhagalpur

Dr. M. C. Triveni, Scientist-C, CSB-CSGRC, Hosur

Mr. Ashu Kumar, Scientist-B

Shri Haragopal Dutta, Scientist-B

Dr. Nidhi Sukhija, Scientist-B

Dr. Shreenath Y.S., Scientist-B

Dr. Divya Rajawat, Scientist-B

Mr. Rahul Ranjan Ghosh, Scientist-B, CSB-CSTRTI, Bengaluru