



MINUTES OF 57th RESEARCH ADVISORY COMMITTEE MEETING HELD ON 23rd MARCH, 2026 AT CSB-CTRTI, RANCHI

The 57th Research Advisory Committee (RAC) meeting of CSB–Central Tasar Research and Training Institute was held on 23rd March 2026 at the Institute, under the chairmanship of Dr. Subhash Chander, Retd. Director, ICAR-NCIPM, New Delhi. The meeting aimed to evaluate new project proposals and review ongoing and completed projects, along with Technology Transfer (TOT), Capacity Building Training (CBT), and Extension Communication Programme (ECP) activities.

At the outset, Dr. S. Balasaraswathi, Director, CSB-CTRTI, Ranchi, warmly welcomed the Chairman, Dr. Subhash Chander, and other RAC members, who were also greeted by the scientists of the Institute.

The Chairman welcomed all members and congratulated Dr. S. Balasaraswathi on her appointment as Director, CSB-CTRTI, wishing her success and progress for the Institute. He highlighted the importance of innovative, problem-solving research, effective extension, technology dissemination, and waste-to-wealth approaches. He noted that tasar activities significantly contribute to livelihood and socio-economic upliftment, and stressed that research should focus on identifying field problems, developing strategies, and ensuring utilization by stakeholders. He emphasized that technology transfer must ultimately benefit farmers.

Director, BTSSO, underscored that research outputs should translate into measurable impact at the farmers' level, particularly through effective seed channel dissemination. The proceedings then continued as per the agenda, facilitated by Dr. Deepika Kumar Umesh, Scientist-C & In-charge, PMCE Division.

Agenda No. 1: Confirmation of the minutes of 56th RAC meeting held on 16th Aug. 2025 at CSB-CTRTI, Ranchi

As no comments had been received from any of the members, minutes of 56th meeting of RAC held on 16th August 2025 at CSB-CTRTI, Ranchi, were confirmed.

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

Follow-up actions taken on the recommendations and suggestions of the last RAC meeting were reviewed. The members expressed satisfaction over the actions taken.

Dr. Dhillon suggested that since this is the third year of this RAC, all recommendations made during the RAC period should be compiled, and future project presentations should be evaluated considering these suggestions. The Committee emphasized:

1. Extension activities shall be pursued effectively.
2. Technologies successfully tested at farmers' level shall be mass-produced.
3. At least one or two stakeholders shall be developed into entrepreneurs to motivate others.

The Committee stressed the adoption of SMART technologies, ensuring they are Specific, Measurable, Achievable, Relevant as well as Time-bound. Collaboration efforts should continue to be strengthened. The Chairman further emphasized that for all technologies, the destination should be commercialization, especially in the Post-Cocoon Technology sector.

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

The follow-up actions taken on the recommendations/decisions of the last RAC meeting with respect to project-specific suggestions were reviewed along with the progress and findings of the projects. The Committee expressed its satisfaction with the follow-up actions taken and the progress achieved.

AGENDA NO. 4: Review on Concluded Projects: Five (5)

4.1 ARP04012SI: Developing ectomycorrhizal bio-inoculants for improving survival and leaf yield of *Terminalia arjuna* and *Terminalia tomentosa* (Feb. 2022 to Jan. 2026) [PI: Dr. Aparna Kopparapu, Scientist-C, CSB-CTRTI]

Dr. Aparna Kopparapu presented the progress. The Committee provided the following suggestions: the term 'interaction' should be used instead of 'infection' when referring to fungal association with the host; the locations where On-Station Trials (OST) and On-Farm Trials (OFT) will be undertaken, should be clearly specified; the use of paper cups bearing the CTRTI name was suggested for raising saplings; and commercialization of the developed strain/consortium was recommended. The House further suggested strict adherence to the project timelines.

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

4.2 AIB04017MI: Selection of Stable Thermo-tolerant line(s) of Tropical Tasar Silkworm *Antheraea mylitta* – Phase II (March 2023 to February 2026) [PI: Dr. Immanuel Gilwax Prabhu, Scientist-D]

Immanuel Gilwax Prabhu presented the progress of the project. The Committee discussed particularly about the release of thermo-tolerant lines. The Committee recommended evaluation of survivability, yield, and commercial characters of the developed lines; development of suitable mechanisms to maintain thermo-tolerant traits; conduct of field trials to validate performance under field conditions; assessment of the suitability of the lines for use in breeding programmes; and proper preservation and handing over of the developed lines to successor scientists or concerned institutions to ensure continuity of research.

It was further emphasized that every scientist undertaking research projects should aim to generate tangible outputs in the form of a product, a package of practices, and improved laboratory techniques.

[**Action:** Dr. Immanuel Gilwax Prabhu, Scientist-D]

4.3 APR04015CN: Documentation and Validation of Indigenous Technical Knowledge (ITKs) in Tropical tasar Zone (December 2022 to November 2025) [PI: Dr. H. S. Gadad, Scientist-C, CSB-CTRTI]

PI presented progress of the project. The Committee reviewed the progress of the project and provided the following recommendations: utilization of bamboo and locally available grasses for brushing was suggested as a practical approach. The Committee further recommended that the validated Indigenous Technical Knowledge (ITKs) be categorized into techniques that can be directly adopted in the field and those that require further refinement before field application. Technologies identified as requiring improvement should be fine-tuned and developed into formal technologies for wider dissemination and adoption.

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

4.4 CEM04021MNC: Evaluation of Technologies and Machines Developed in Tasar Post cocoon Technology (March 2024 to February 2026) [PI: Mr. Ashu Kumar, Scientist-B, CSB-CTRTI]

The Committee reviewed the progress of the project and observed the requirement for development of yarn suitable for warp (tana). The Committee recommended fine-tuning of Buniyad machines, replacement, or addition of machine components wherever necessary, and that suggestions arising from the work should be presented as team-based recommendations. The Committee further emphasized the need for greater focus on the Post-Cocoon Technology sector during Extension Communication Programmes (ECPs), along with awareness creation and skill development programmes to enhance adoption of technologies. The Committee also noted the low expenditure under the project and advised appropriate utilization of allocated funds in accordance with project requirements.

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

4.5 BPS04026SNC: Nutraceutical solutions for sustainable aquaculture: Extraction and utilization of tasar pupae oil and meal in feed formulation (Mar. 2024 to Feb. 2026) [PI: Dr. Karmabeer Jena, Scientist-D, CSB-CTRTI]

PI presented the progress and requested for extension of project period by one year, within the approved budget which was recommended by the committee.

[Action: Dr. Karmabeer Jena, Scientist-D]

Agenda No. 5: Concept Notes of New Research Projects for Recommendation

The Committee reviewed the concepts of new research proposals and made the following observations and recommendations:

5.1 Identification and Application of Semiochemicals for Population Monitoring in Tasar Silk Moth Ecoraces (Duration: 3 years) [PI: Dr. H. S. Gadad, Scientist-C, CSB-CTRTI, Ranchi]

The PI presented the concept of the project, which was discussed in detail by the Committee. The Chairman suggested that traps developed under the project should be used for non-destructive purposes. The House further recommended identification of major compounds and their testing on silk moths, adoption of a two-pronged approach involving the use of available synthetic products followed by back-testing, and exploration of alternative pheromone-based approaches instead of relying solely on ecorace-specific pheromones. The Committee considered the proposal as a new research area and approved the proposal.

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

5.2 Establishment of Artificial Insemination as an Assisted Reproductive Technique in Tropical Tasar Silkworm (*Antheraea mylitta*), Duration: 3 years [PI: Dr. Divya Rajawat, Scientist-B, CSB-CTRTI, Ranchi]

Dr. Divya Rajawat presented the proposal on Establishment of Artificial Insemination, which was discussed in detail by the Committee. The Chairman observed that artificial insemination may help to overcome mismatched emergence of male and female moths.

The Committee noted that both preservation and insemination are major challenges and suggested that the probability of improving genetic stock through artificial insemination should be explored. It was further recommended that a parallel stream of artificially inseminated population be maintained separately from the normal population.

The Committee also observed that preservation of semen varies across species, and in many cases, semen must be utilized within a short duration. Standardization of the semen collection process was emphasized, as forceful semen collection may result in non-fertile or non-viable semen.

The RCS emphasized that collection and preservation of semen are critical steps for the success of artificial insemination and noted that a large female population would be required to achieve successful insemination outcomes.

The Committee suggested that the objectives of the study should include standardization of semen collection and preservation methods, standardization of the insemination process, and successful fertilization of eggs.

The Committee recommended undertaking a one-year pilot study first and based on the outcomes, research project may be proposed in future.

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

AGENDANO.6: REVIEW OF THE PROGRESS OF ON-GOING PROJECTS: CTRTI, Ranchi (17 Nos.)

Host Plant:

6.1 PIB04009SI: Evaluation of identified hybrids of *Terminalia arjuna* × *T. tomentosa* and drought tolerant accessions of *T. arjuna* for their suitability in different tropical tasar silkworm rearing regions (Oct 2021 - Sep 2027) [PI: Dr. Aparna Kopparapu, Scientist-C, CSB-CTRTI, Ranchi]

Dr. Aparna K. presented the progress of the project. The Committee took note of the progress and recommended the inclusion of Dr. Siddu B. Chindi, Scientist-B (Plant Breeder), as a Co-Investigator (CI) to further strengthen the project.

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

6.2 PPS04031SIC: Exploration of C sequestration potential of *Terminalia* sp. and ways to increase the soil organic C stock (April 2025 to March 2028) [PI: Dr. Aparna Kopparapu, Scientist-C, CSB-CTRTI, Ranchi]

PI presented the progress of the project. The committee took note of the progress and suggested that Slides should be improved according to recommended presentation formats. Severity of disease should be expressed in terms of leaf area coverage. Committee also recommended the inclusion of Dr. Kamlesh Verma, Scientist-B (Forestry), as a Co-Investigator (CI) to further strengthen the project.

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

6.3 SIP04022SIC: Impact of weather parameter on tasar food plants and silkworm (Mar 2024 to Feb 2027) [PI: Dr. Deepika Kumar Umesh, Scientist-C, CSB-CTRTI, Ranchi]

Dr. Deepika Kumar Umesh presented the progress of the project. The committee took note of the progress and recommended the inclusion of Mr. Ankit Kumar Singh, Scientist-B (Agricultural Statistics), as a Co-Investigator (CI) to further strengthen the project.

[**Action:** Dr. Deepika Kumar Umesh, Scientist-C]

6.4 PPA04023SIC: Identification of suitable package of practices for establishment of *Lagerstroemia speciosa* (Jarul) for quality leaf production (March 2024 to February 2029) [PI: Ms. Susmita Das, Scientist-D (PI), CSB-CTRTI, Ranchi]

Ms. Susmita Das presented the progress made under the project. The Committee reviewed the progress of the project and suggested that Dr. Jeevan be included in the project as a Co-Investigator (CI) to strengthen the technical inputs. The Committee further recommended application of micronutrients to improve plant growth and enhance leaf quality under the project. Committee also recommended the inclusion of Dr. Jeevan N, Scientist-B (Agronomy), as a Co-Investigator (CI) to further strengthen the project.

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

6.5 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 (March 2024 to February 2027) [PI: Dr. Harendra Yadav, Scientist-D, CSB-CTRTI, Ranchi]

Mr. Haragopal Dutta, Scientist-B and CI presented the progress of the project before the Committee. The Committee reviewed the progress and suggested that Dr. Jeevan N, Scientist-B (Agronomy) be included as a Co-Investigator (CI) to strengthen the project implementation.

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

6.6 PIG04033MIC: Development of Standard Operating Procedure (SOP) for tasar host plant gene bank and maintenance of the gene bank using cultural package of practices (April 2025 to March 2028) [PI: Dr. Haragopal Dutta, Scientist-B, CSB-CTRTI]

Mr. Haragopal Dutta presented the progress of the project before the Committee. The Committee took note of the progress.

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

6.7 PRP04032SIC: Identification of pathogens associated with Tasar host plant diseases and their integrated management (April 2025 to March 2028) [PI: Dr. Shreenath Y. S., Scientist-B, CSB-CTRTI, Ranchi]

Dr. Aparna Kopparapu, Scientist-C & CI, presented the progress of the project. The RCS observed that the experiments were not being conducted strictly in accordance with the stated objectives and emphasized that the studies should clearly define whether single pathogen or multiple pathogens are involved in the disease complex.

The Committee further suggested that Dr. Sanjay Singh, Scientist-B (Agricultural Biotechnology) to be included as a Co-Investigator (CI), considering the requirements of Objective No. 2, to strengthen the experimental design and execution of the project.

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

Silkworm

6.8 ARP04016M1: Tasar Silkworm Disease Monitoring and Management in North and Central states of India (March 2023 to Feb. 2028) [PI: Dr. Nidhi Sukhija, Scientist-B, CSB-CTRTI, Ranchi]

Dr. Nidhi Sukhija presented the progress of the project, which was reviewed in detail by the Committee. The Committee suggested integration of the project database with IMD systems for prediction of disease occurrence. The RCS suggested generation of location-specific data, along with systematic collection of rearing data including temperature and humidity records. The Committee further recommended compilation of disease incidence data from previous years, which could be utilized for development of disease forecasting models. However, it was observed that Pebrine, being a transovarial disease, may not be well suited for predictive modelling approaches.

The Committee advised that quantified data should be presented wherever possible, continuous data generation should be ensured over time for strengthening datasets, and IMD weather data should be utilized effectively for forecasting-related studies.

Committee also recommended the inclusion of Dr. MM Baig, Scientist-D (In-Charge, Silkworm Pathology), as a Co-Investigator (CI) to further strengthen the project.

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

6.9 AIB04018MI: In situ Conservation of Modal Ecorace of Tasar Silkworm in Odisha (March 2023 – December 2027) [PI: Dr. Immanuel Gilwax Prabhu, Scientist-D, CSB-CTRTI, Ranchi]

Dr. I. G. Prabhu presented the progress of the project, which was reviewed by the Committee. The Chairman asked the PI to present population enhancement data achieved because of conservation activities undertaken under the project. The Committee further emphasized that quantified data should be presented to clearly demonstrate improvement achieved through conservation interventions. Committee also recommended the inclusion of Dr. Kamlesh Verma, Scientist-B (Forestry), as a Co-Investigator (CI) to further strengthen the project.

[**Action:** Dr. Immanuel Gilwax Prabhu, Scientist-D]

6.10 AIB04019MI: In situ Conservation of Raily Ecorace of Tasar Silkworm in Chhattisgarh (March 2023 to Dec. 2027) [PI: Dr. Hanamant Gadad, Scientist-C, CSB-CTRTI, Ranchi]

Dr. H. S. Gadad presented the progress of the project, which was reviewed by the Committee. The Chairman observed that pre- and post-conservation status should be presented in tabular form to clearly demonstrate the benefits of conservation measures. Committee also recommended the inclusion of Dr. Kamlesh Verma, Scientist-B (Forestry), as a Co-Investigator (CI) to further strengthen the project.

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

6.11 AIB 04020 MI: In situ Conservation of Sarihan Ecorace of Tasar Silkworm in Jharkhand (March 2023 to December 2027) [PI: Dr. Shantakar Giri, Scientist-D, CSB-CTRTI, Ranchi]

Dr. S. Giri presented the progress of the project, which was reviewed by the Committee. The Committee suggested that similar presentation formats as recommended for other conservation projects should be followed. Pre- and post-conservation performance should be clearly documented. Committee also recommended the inclusion of Dr. Kamlesh Verma, Scientist-B (Forestry), as a Co-Investigator (CI) to further strengthen the project.

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

6.12 SRP04030SIC: Evaluation of the efficacy of identified formulations for the management of Cytoplasmic Polyhedrosis Virus in *Antheraea mylitta* (March 2025 to Feb. 2028) [PI: Dr. Shreenath Y S, Scientist-B, CSB-CTRTI, Ranchi]

Dr. Divya Rajawat, Scientist-B and CI presented the progress of the project, which was reviewed in detail by the Committee. The Committee pointed out that presentation slides should be self-explanatory and took serious note on the use of only two replications in the experimental design.

The Committee further emphasized that disinfectants used under the study should be clearly indicated as treatments, and that internationally or nationally accepted methodologies should be followed. It was also advised that the methodology should be properly designed and statistically sound to ensure reliability of results. The execution of the project needs more seriousness as any technical lack can lead to spread of the disease.

The Committee recommended that the proposal be thoroughly revised by incorporating a clear-cut standard methodology, adoption of a standard statistical design, and inclusion of adequate replications to strengthen the experimental outcomes. Committee also recommended the inclusion of Dr. MM Baig, Scientist-D (In-Charge, Silkworm Pathology), as a Co-Investigator (CI) to further strengthen the project.

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

Extension and Socio Economics:

6.13 MTS04029MIC: Study on lab to land gaps in adoption & effectiveness of tasar technologies: Constraints and recommendations in major tasar growing areas (Mar. 2025 to Feb. 2028) [PI: Dr. Vishal Mittal, Scientist-D, CSB-CTRTI, Ranchi]

Dr. Vishal Mittal presented the progress of the project, which was reviewed by the Committee. The Chairman observed that the younger generation is gradually losing interest in sericulture, which is a matter of concern, and emphasized that new technologies should be introduced to attract youth participation in the sector. The Committee emphasized the need for systematic identification of lab-to-land gaps, identification of constraints affecting adoption of technologies, and refinement and improvement of existing technologies based on field feedback. The Committee further observed that research institutes should periodically evaluate whether technologies transferred to the field have sustained over time and emphasized that strong coordination should be maintained between CSB Institutes and State Sericulture Departments to ensure effective technology dissemination and long-term adoption. Committee also recommended the inclusion of Dr. Aniketa Horo, Scientist-B (Agricultural Economics) and Ms. K. Manasa, Scientist-B (Agricultural Extension), as Co-Investigators (CIs) to further strengthen the project.

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

Silkworm Seed and Rearing Technology:

6.14 PPA04031SIC: Development of High-Density Plantation of Tasar Host Plants and Exploration of Indoor Rearing for Tasar Silkworm Domestication (October, 2025 to September, 2030) [PI -Dr. Divya Rajawat, Scientist-B, CSB-CTRTI, Ranchi]

The PI presented the progress of the project, which was reviewed by the Committee. The House observed that the project title, objectives and methodology require thorough revision so that it appropriately reflects the achievable goals from the study and advised the PI to revise the project accordingly in line with the possible deliverables. Committee also recommended the inclusion of Dr. Kamlesh Verma, Scientist-B (Forestry), as a Co-Investigator (CI) to further strengthen the project.

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

By-Product Utilization:

6.15 BPC04025SNC: Management of type II diabetic (T2D) condition through tasar sericin (March 2024, to Sept. 2026) [PI- Dr. K. Jena, Scientist-D, CSB-CTRTI, Ranchi]

The PI presented the progress of the project, which was reviewed by the Committee. The Committee took note of the progress made under the project. Committee also recommended the inclusion of Dr. Sonali Namdeo, Scientist-B (Animal Nutrition), as a Co-Investigator (CI) to further strengthen the project.

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

External Funded Projects (DBT, New Delhi):

6.16 AIT04026SIE: Development of KASP Based SNP Barcoding System for the Molecular Identification of Tropical Tasar Silkworm Ecoraces (July 2024 to June 2026) [PI: Dr. Immanuel Gilwax Prabhu, Scientist-D, CSB-CTRTI, Ranchi]

Dr. I. G. Prabhu presented the project, the committee took note of the progress.

[Action: Dr. Immanuel Gilwax Prabhu, Scientist-D]

6.17 AIT04028SNE: Inflatable mucoadhesive vaginal tablet coin (VTC) for instant spermicidal action as local vaginal contraceptive and microbicide (August 2024 to July 2027) [PI: Dr. K. Jena, Scientist-D, CSB-CTRTI, Ranchi]

Dr. K. Jena presented the project, the committee took note of the progress made under the project.

[Action: Dr. Karmabeer Jena, Scientist-D]

Agenda No. 7: R&D Highlights of the Institute (17th August 2025 to Till Date):

The Director, CSB-CTRTI, presented an overview of the Institute's R&D highlights from August 2025 to date. The committee appreciated the achievements, noting that they reflect a strong commitment to scientific excellence, innovation, and field-oriented impact in tasar sericulture.

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

Dr. Shantakar Giri, Scientist-D and In-Charge, SEEM Division, presented the progress of three (03) technologies (one OST and two OFTs) during the RAC meeting. The Committee took note of the progress. The list of OSTs and OFTs is given below:

1. Validation of suitable pruning and brushing schedule: The OST trial was completed at CSB-CTRTI and six (06) nested units, achieving the targeted number of locations.
2. Validation of fertilizer packages for leaf nutrition and fecundity: The OFT trial was completed at three (03) locations, involving stakeholders as per the planned activities.
3. Evaluation of fertilizer recommendation chart in tasar food plants: The OFT trial was completed at three (03) locations, demonstrating the applicability of fertilizer recommendations under field conditions.

RCS suggested that number of technologies explained to the farmers, number of farmers attended, and feedback of the farmers shall be listed and quantified. Feedback on technology adoption shall be taken from the farmers and field visit for assessment of technology adoption level shall be done.

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

Agenda No. 9: Extension (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 (CBT) and other programmes

The progress of CBT programmes conducted at the Institute and its nested units was presented before the Committee, and the Committee took note of the progress. The Committee emphasized that extension and training personnel should be effectively linked with farmers to facilitate timely problem-solving. It was further suggested that pre-training assessment data be utilized after 4–5 years to assess technology adoption levels, and that a structured questionnaire be developed for socio-economic assessment of the impact of technologies.

[**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

The Chairman made general recommendations applicable to all projects and emphasized that the outcome of each research project should lead to one or more tangible outputs, such as a product, process, protocol, or package of practices. He stressed that projects should be outcome-oriented and field-focused, and technologies developed should be scalable and adoptable by farmers. He further emphasized that success stories should be documented systematically, generated data should be properly archived, standard reporting formats should be followed, and appropriate statistical analysis should be applied to ensure clarity and interpretability of results. The Chairman also emphasized the importance of capacity building of young scientists, strengthening interdisciplinary collaboration, and enhancing linkages with external agencies and universities. He further advised that for all ongoing projects, the last slide should include work planned for the next six months.

Shri Ramadhar Devangan, Weavers' Representative, emphasized that seed farmers and adopted farmers should be strengthened, and improvement in both quality and quantity of cocoons is essential to enhance productivity and livelihood of stakeholders.

Shri. I. K. Bagri, DDS (Ambikapur), Representative from DoS, Chhattisgarh observed that availability of good quality seed would significantly increase farmer participation in tasar culture. The need for development of disease-resistant and tolerant breeds was also emphasized.

Shri. Tripurari Chowdhury, Scientist-C, CSB-STSC, Bhagalpur highlighted that Jharkhand contributes nearly 75% of total tasar cocoon production, while post-cocoon technology (PCT) activities remain comparatively low. He suggested that greater emphasis should be given to strengthening PCT activities.

Dr. Prasanth Sangannavar, Scientist-D, RCS, CSB, Bengaluru suggested that new scientists should initially engage in ongoing projects before developing independent proposals. He recommended conducting extensive literature surveys, particularly reviewing Annual Reports, before preparing new project proposals. He also encouraged scientists to explore opportunities in the Vanya sector and advised cautious and responsible use of Artificial Intelligence, without relying solely on AI-generated outputs.

Dr. Kundu, Retd. Director (Extension), RPCAU, Bihar recommended documentation of technologies that have demonstrated field-level impact, along with showcasing entrepreneurship success stories. He emphasized strengthening entrepreneurship development initiatives and highlighted the importance of aligning technologies with industry needs to avoid failure of technologies. He further stated that research and extension are complementary, and suggested identification and training of progressive farmers in DFL production to address seed supply constraints.

Dr. M. K. Dhillon, Head & Principal Scientist, IARI, New Delhi observed that many projects have been reviewed during the past three years and emphasized the need for systematic evaluation of project outcomes. He suggested strengthening semiochemical research and involving more scientists to ensure continuity of research activities. He also recommended giving greater emphasis to artificial diet development, indoor rearing, insect breeding, and genetic improvement programmes.

Dr. C. M. Bajpai, Former Director, CSB-CTRTI, Ranchi, appreciated the quality of presentations across different project segments and acknowledged the outcomes of completed projects. He suggested that Principal Investigators should ensure effective transfer of technologies to field level and focus on achieving practical implementation goals. He also emphasized that OST and OFT presentations should provide meaningful insights beyond numerical data and encouraged scientists to develop innovative research ideas and review literature thoroughly.

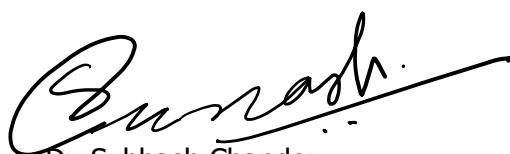
Dr. S. Balasaraswathi, Director, CSB-CTRTI, Ranchi suggested that greater emphasis be placed on disease monitoring activities, and strengthening of the Pathology Section was recommended. Adoption of the principle "One District – One Product" was suggested. It was further recommended that each scientist should aim to achieve at least one project, one high-impact publication, and one patent or commercialization outcome. New scientists were advised to conduct extensive literature surveys and seek guidance from senior scientists whenever required.

Dr. N. K. Bhatia, Director, CSB-BTSSO recommended that experimental protocols should be clearly defined, and statistical designs carefully selected. He further suggested that concluding project presentations should be limited to a maximum of four slides. He emphasized that technologies developed must reach farmers, with support from BTSSO, and suggested that State Governments

should deploy staff for testing the layings, wherever required. The Committee noted the requirement for maintenance of BDR-10 at CKP-Chakradharpur Centre.

Dr. Subhash Chander, Chairman, RAC emphasized improving exports, enhancing farmer income, reducing pesticide usage, promoting entrepreneurship, reducing cost of production, and developing climate-resilient technologies. He stressed that focus should be given to field applicability, farmer acceptance, and sustainability of technologies, and reiterated the importance of improving the socio-economic status of farmers. The Chairman appreciated the efforts made by the scientists and staff of the Institute. He emphasized that research activities should ultimately benefit- Farmers, the ultimate Stakeholders.

The Vote of Thanks was proposed to the Chairman and members of the Research Advisory Committee for their valuable suggestions and guidance. The meeting concluded with thanks to the Chair.

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

Dr. Subhash Chander
(Chairman, RAC)

List of participants: 57th RAC meeting of CSB-CTRTI, Ranchi held on 23rd March, 2026
CHAIRMAN:

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

MEMBERS:

1. Dr. Mukesh Kumar Dhillon, Head & Principal Scientist, ICAR-IARI New Delhi 2
2. Dr. C. M. Bajpeyi, Retd. Director, CSB-CTRTI, Ranchi
3. Dr. Kundu, Retd. Director (Extension), RPCAU, Bihar
4. Dr. N. K. Bhatia, Director, BTSSO, Bilaspur (online)
5. Shri I. K. Bagri, DDS (Ambikapur), Representative from DoS, Chhattisgarh
6. Dr. Prashanth Sangannavar, Sc-D, RCS, CO-CSB, Bengaluru
7. Shri Tripurari Chowdhury, Scientist-D, CSB-STSC, Bhagalpur (Representative, CSB-CSTRI, Bengaluru)
8. Mr. Ramadhar Devagan, Representative, Reeler, Champa, Chhattisgarh
9. Shri Manik Kujur, Representative, Rearer, Kharsawan, Jharkhand
10. Dr. S. Balasaraswathi, Director, CSB-CTRTI & Member Convenor

SCIENTISTS:

1. Dr. S. Giri, Scientist – D
2. Ms. Susmita Das, Scientist-D
3. Dr. K. Jena, Scientist-D
4. Dr. Vishal Mittal, Scientist-D
5. Dr. I.G. Prabhu, Scientist-D
6. Dr. M. M. Baig, Scientist-D
7. Dr. Harendra Yadav, Scientist-D
8. Dr. H. S. Gadad, Scientist-C
9. Dr. Aparna K., Scientist-C
10. Dr. Deepika K. U., Scientist-C
11. Mr. Ashu Kumar, Scientist-B
12. Mr. Haragopal Dutta, Scientist-B
13. Dr. Nidhi Sukhija, Scientist-B
14. Dr. Divya Rajawat, Scientist-B
15. Ms. K. Manasa, Scientist-B
16. Dr. Aniketa Horo, Scientist-B
17. Dr. Sonali Namdeo, Scientist-B
18. Dr. Kamlesh Verma, Scientist-B
19. Dr. Sanjay Singh, Scientist-B
20. Mr. Ankit Kumar Singh, Scientist-B
21. Dr. Siddu B. Chindi, Scientist-B
22. Dr. Jeevan N., Scientist-B