



**CSB-CENTRAL TASAR RESEARCH AND TRAINING INSTITUTE
RANCHI - 835 303, JHARKHAND**

**MINUTES OF THE 54th MEETING OF RESEARCH ADVISORY
COMMITTEE (RAC) OF CTR&TI HELD ON 31st AUGUST, 2024 AT
CSB-CTR&TI, RANCHI**

The 54th meeting of Research Advisory Committee (RAC) of CSB-CTR&TI, Ranchi was convened on 31st August, 2024. At the outset, Dr. N. B. Chowdary, Director & Member Convener of RAC extended a warm welcome to the RAC Chairman, Dr. Subhash Chander, Director, ICAR- NCIPM, New Delhi; Dr. C. Meenakshi, I.F.S., Director [Finance], Central Silk Board; Dr. Mukesh Kumar Dhillon, Head & Principal Scientist, ICAR-IARI New Delhi; Dr. S. Manthira Moorthy, Director [Tech.], Central Silk Board, Bengaluru; Dr. Selvakumar, Director, BTSSO, Bilaspur; Dr. C.M. Bajpeyi, Ex-Director (Retd.), Central Silk Board, Bengaluru; Dr. S.N Patnaik, Additional Director of Sericulture, Government of Odisha and other RAC members, representatives from DOSs, and Scientists of the Institute. The list of participants is appended as *Annexure-1*.

Dr. Subhash Chander, Director, ICAR-NCIPM and Chairman, RAC opined that improvement in farmers' economic status should be the priority of the future research project proposals and advised scientists to think in-depth about the following issues-

Scientific Effort: To guide the research in the line of enhancement of farmers' income through promotion of complementary enterprises like Agriculture + Horticulture + Sericulture + Silviculture etc., development of eco-friendly and socially accepted technology i.e., the technology must decrease the cost of the production and increase the income of the farmers and reduction in the use of chemicals gradually in all future research proposals.

Promotion of tasar: Good research proposal may be proposed based on demand and need of the stakeholders to generate economically and socially acceptable and climate resilience technologies. In view of Prime Minister Vision @ 2047 improvement of rural population which comprises approximately 65 % of Indian population, we have to contribute by means of increasing the tasar production to ensure economic sustainability of the tasar farmers.

Future research proposal: He suggested promote good quality & eco-friendly research in tasar culture as follows.

1) Problem solving research based on field problems



- 2) Innovative approaches such as Artificial Intelligent (AI), ICT, Geospatial techniques etc.
- 3) Livelihood security & Participatory approach
- 4) Drone technology for survey & spray
- 5) Climate resilience
- 6) Video based courseware in tasar sector

Dr. N.B. Chowdary, Director, CTRTI, Ranchi highlighted salient points about the tasar sericulture and also emphasised the thrust areas. He informed that with the effort of CSB-CTR&TI, Ranchi and CSB-BTSSO, Bilaspur, 23% increase in tasar production was recorded Jharkhand state during 2023-24 as compared to 2022-23, which comprises 70 % of total tasar production. This RAC recommendation would bring positive outcome and we will together make efforts towards development of demand based technology for improving the socio-economic status of poorest of the poor tasar farmers.

Dr. C.M. Bajpeyi, Ex-Director (Retd.) CSB-CTR&TI and RAC member expressed that the suggestions regarding the research projects would be made after respective presentations and he further stressed upon importance of discussion amongst Scientists and the Members for better results in terms of expected Project outcome.

Agenda No. 1: Confirmation of minutes of 53rd meeting of RAC held on 9th February, 2024

As no comments had been received from any of the members, the minutes of 53rd meeting of RAC held on 9th February 2024 at CSB-CTR&TI, 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. However, chairman suggested the following-

- Combine both OTC and FACE experiment under climate change project
- OTCs should be established through full research proposal instead of pilot study for studying the impacts of abiotic conditions and climate change. Besides, efforts need to be made to establish FACE facility facilitate growing seedlings within big structure for climate change study.



- Scientist may include all the tasar states in the new project proposal wherever needed
- Scientists should analyse the research proposals in respect of financial implications and practical applicability.

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

The follow-up actions on the recommendations/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 on Concluded projects

Total 02 research projects (including collaborative) were discussed and RAC recommended/suggested as mentioned below:

A. With PI from Main Institute

1. [BPC 04008EF] Mass level extraction of Sericin from tasar cocoon cooking waste water for its prospective utilization (March 2021 - Feb 2024) [PI: Dr. K. Jena, Scientist-D, CSB-CTRТИ, Ranchi]

Committee members appreciated the effort of the scientists and gave following suggestions

- Whether prototype of the machine patented or process patented, it needs to be clarified and mentioned in the final report
- Technical Know-how of the technology to be included in the final report
- Explore at least one private party for production of the prototype
- Undertake survey to find out the competitiveness of the Sericin extracted and availability of the raw material
- Work out the economics of the technology in the value chain and mention in final report
- Future course of action should be mentioned clearly in the final report

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

2. [MOE 04007EF] Establishment of Biotech-KISAN Hub at Professional Assistance for Development Action (PRADAN), Deoghar, Jharkhand for three Aspirational Districts of Jharkhand (Godda, Dumka and Pakur) (April,2021 – March 2023 extended up to March, 2024) [PI: Sh. Rajendra Khandai, & Co-PI: Dr. J. P. Pandey, Scientist- D, CTRТИ, Ranchi]



The concluded project report was presented by Sh. Rajendra Khandai, PI. After detailed discussion held, the members gave the following suggestions.

- PRADAN may promote community and continue the technical support to the needy farmers
- Include technology know how in the final report
- Submit the final report in RMIS-10 within the stipulated time

[Action: Dr. J. P. Pandey, Scientist- D & Co-PI]

Agenda No. 5: Concept Notes of New Research Projects for approval (02 no's)

1) Export Competitiveness of Major Tasar Products with Reference to Tribal economy and International Scenario [PI: Dr. C. Meenakshi, IFS, Director (Finance), CSB, Bengaluru]

The new concept note was presented by Dr. Arnab Roy, Scientist-B & Co-PI and the committee suggested the following-

- Dr. C.M. Bajpeyi , Rtd. Director, CSB suggested to include the tribal economy in objectives and Sh. S.N. Patnaik, Additional Director, DoS, Odisha opined to increase the budget so as to achieve the objectives appropriately
- The additional quality like Unique Selling Proposition (USP) to be captured in the project and USP may be included in the revised project proposal for creating brand image
- Major interventions in the project need to be specified and included in revised proposal
- Qualitative and quantitative barriers need to be included in revised proposal
- Exclusive nature of tropical tasar shall be highlighted in the proposal
- Include Bureau of Indian Standards (BIS) for tropical tasar

[Action: Dr. C. Meenakshi, IFS, Director (Finance) & PI]

2) Implementation of Tasar Based Agroforestry Model in Mining Area for Sustainable Livelihood and Environment [PI: Ms. Anoma Basu, General Manager and Head, Sustainable Mining, Hindalco Industry Limited, Ranchi & Co-PI: Dr. J.P. Pandey, Scientist-D, CSB-CTRITI, Ranchi]

Dr. J.P. Pandey, Scientist-D & Co-PI, presented the progress of the project. The committee suggested the following-

- Already well-established Agro-forestry model may be included in the proposal

- The commercial horticulture crop grown in that area needs to be included under Tasar based Agro-forestry Model
- Mention specific location and include in the revised proposal
- Beneficiaries of the project outcome need to be mentioned clearly in the work plan
- Livelihood and socio-economic factors need to be included in the proposal
- The committee approved the project proposal.

[Action: Dr. J.P. Pandey, Scientist–D & Co-PI]

Agenda No.6: REVIEW OF THE PROGRESS OF ON-GOING PROJECTS: (19 no's)

Total 19 research projects were discussed and RAC recommended /suggested as mentioned below:

1. [PIB 04009 SI] 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 – Sept. 2027) [PI: Dr. Aparna K, Scientist-C, CSB-CTR, Ranchi]

Dr. Aparna Kopparapu, Scientist-C & PI, presented the progress of the project. The committee took note of the progress and suggested the following-

- Biomass and nutrient quality may be recorded and it will be the end product of this project
- Clarify the characteristics of the Hybrid with proper documentary support and include in the project
- Include both Arjun and Asan as control and update the project data
- Compare the present data of hybrids & accessions with the previous data available
- Update the project proposal as per the suggestions of the RCS
- Include established standard protocol in the study based on the review of literature

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

2. [ARP04012SI] Developing ectomycorrhizal bio-inoculants for improving survival and leaf yield of *Terminalia arjuna* and *Terminalia tomentosa* (Feb 2022 – January 2025) [PI: Dr. Aparna Kopparapu, Scientist-C, CSB-CTR&TI, Ranchi]

Dr. Aparna Kopparapu, Scientist-C & PI, presented the progress of the project. The committee took note of the progress and suggested the following.

- Explore the mass production technology available in India and abroad
- Expert consultation may be obtained to ensure the development of mass production technology
- House observed that Jamun Khukri is a promising ectomycorrhiza and suggested for its validation /mass multiplication

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



3. [PPA04010CN] Region and season specific selection of pruning and brushing schedule for tasar food plants and silkworm protection (Feb2022 – January 2025) [PI: Dr. Jitendra Singh, Scientist- D, CSB-CTR&TI, Ranchi]

Dr. Jitendra Singh, Scientist-D & PI, presented the progress and committee suggested the following-

- Major pests in the study area may be recorded.
- Record the susceptible/vulnerable stage of pest and impact of pruning on it.
- Record Region and season-wise suitable pruning date and impact on pest infestation.
- Earlier GDD and pruning date need to be compared with present project data.
- Observation on Pruning schedule needs to be synchronised with climate data.
- Discuss with DOSs of Tasar growing states and other stakeholders and develop the technology as per demand.

[Action: Dr. Jitendra Singh, Scientist- D & PI]

4. [SIP 04022 SIC] Impact of weather change on tasar food plants and silkworm (February 2022 –January 2025) [PI: Dr. Jitendra Singh, Scientist- D, CSB-CTR&TI, Ranchi]

Dr. Jitendra Singh, Scientist-D & PI, presented the progress and committee suggested/recommended the following-

- Project title may be modified as “Impact of weather parameter on tasar food plant and silkworm”
- The first objective needs to be modified as “Region wise assessment of weather parameters on Silkworm and Host plants”.
- Compare the silkworm rearing data with change in climatic condition over the last 10 years.

[Action: Dr. Jitendra Singh, Scientist- D & PI]

5. [PPA 04023 SIC] 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, CSB-CTR&TI, Ranchi]

Ms. Susmita Das, Scientist-D & PI, presented the progress and the committee suggested/recommended the following-

- Update the project proposal with treatment plan
- Record the economics of the package of practices for Jarul and compare with Arjuna & Asan host plants package

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

6. [PPA 04024 SIC] **Effect of different plant spacing and pruning heights on chawky leaf productivity of tasar host plants (*Terminalia arjuna*, *Terminalia tomentosa* and *Lagerstroemia speciosa*) and chawky silkworm rearing** (March 2024 to February 2029) [PI: Dr. Harendra Yadav Scientist - C, CSB-CTR&TI, Ranchi]

Dr. Harendra Yadav Scientist - C & PI, presented the progress of on-going project and Dr. S.N. Patnaik, Director of Sericulture, Government of Odisha has advise to PI to include rearing part also in said project.

[Action: PI: Dr. Harendra Yadav Scientist - C & PI]

7. [AIE 04004 CN] **Study on existence of tropical tasar silkworm eco-races and their subsist places with the help of geospatial technology** (March 2020- February 2023 Extended up to February 2025) [PI: Dr. I. G. Prabhu, Scientist- D, CSB-CTR&TI, Ranchi]

Dr. I. G. Prabhu, Scientist-D & PI, presented the progress. The committee suggested/recommended the following-

- Advised to Geotag the multiple locations within forested areas for each identified eco-race
- Technical know-how (Function) of the developed mobile app needs to be presented in next RAC
- Suggested to conduct comprehensive phenotypic characterization for each eco-race to enhance the understanding of their distinct traits.
- Explore the use of Artificial Intelligence (AI) for future study to record existence of tropical tasar silkworm eco-races

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

8. [ARE 04011 MI] **Species diversity, assessment of potential loss and management of predatory wasps in tasar ecosystem** (February 2022- January 2025) [PI: Dr. Hanamant Gadad, Scientist-C & PI]

Dr. H. Gadad, Scientist-C & PI, presented the progress of the project and committee suggested following points-

- The distance travelled by the wasp needs to be recorded and included under the project
- Situation of alternative host plant availability in the study area needs to be recorded for logical end of the project.
- Formulate Integrated management approach of the wasp and update the project data.
- Physical, chemical and biological barriers need to be explored and mentioned in the project for future study.
- Consult the honey bee expert and wasp expert and incorporate the expert suggestions.

- Dr. Vishal Mittal, Scientist-D and his specialization in entomology needs to be taken advantage of in the additional project available with Dr. H. S. Gadad, Scientist-C.

[Action: Dr. Hanamant Gadad, Scientist-C & PI]

9. [ARP04016MI] Tasar Silkworm Disease Monitoring and Management in North & Central states of India (March, 2023-Feb, 2028) [PI: Dr. J.P. Pandey Scientist- D, CSB-CTR&TI, Ranchi]

Dr. J. P. Pandey, Scientist-D & PI presented the progress of the project and the committee suggested following-

- The data to be presented in percentage in the form of different categories like DOSs, BTSSO and TDF separately and compare-the Pebrin intensity between the locations.
- Larval testing report of different locations to be presented along with pupal testing report.

[Action: Dr. J.P. Pandey Scientist-D & PI]

10. [AIB 04017 MI] Selection of Stable Thermo-tolerant line(s) of Tropical Tasar Silkworm *Antheraea mylitta* (March 2023-February 2026) [PI: Dr. I. G. Prabhu, Scientist- D, CSB-CTR&TI, Ranchi]

Dr. I.G. Prabhu, Scientist-D & PI, presented the progress and the committee suggested that-

- The fecundity and hatching percentage of G11 selected thermo-tolerant line without heat treatment is not showing any significant variation in comparison with the control line.
- The results to be presented in a statistically simplified format for clarity
- Record the insect survivability at lethal temperature and compare it with normal temperature survivability
- Recommended to examine and document the microclimatic conditions of the hotter zones where the thermo-tolerant line is being reared
- Optimum selection to be performed
- Instead of S1, S2, S3... use G1, G2, G3.... (generation)

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

11. [AIB 04018 MI] In situ Conservation of Modal eco-race of Tasar Silkworm in Odisha (March,2023-Dec,2027) [PI: Dr. I. G. Prabhu, Scientist-D, CSB-CTR&TI, Ranchi]

Dr. I.G. Prabhu, Scientist-D & PI, presented the project and the committee took note of the progress. The PI was exhorted to expedite the completion of the tripartite agreement between the Central Silk Board - Central Tasar Research and Training Institute (CSB-



CTRRTI), Directorate of Textiles and Handlooms (Sericulture Sector), and the Forest, Environment & Climate Change Department (Odisha Wildlife Organization).

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

12. [AIB04019MI] In situ Conservation of Raily eco-race of Tasar Silkworm in Chhattisgarh (March 2023 - December 2027) [PI: Dr. Hanamant Gadad, Scientist-C, CSB-CTR&TI, Ranchi]

Dr. H. S .Gadad, Scientist-C, presented the project progress and the committee suggested that within one month MOA/MOU may be signed as per the guidelines with the concerned state department for effective implementation of the project.

[Action: Dr. Hanamant Gadad, Scientist-C & PI]

13. [AIB 04020 MI] In-situ Conservation of Sarihan Eco-race of Tasar Silkworm in Jharkhand (March 2023 - December 2027) [PI: Dr. Shantakar Giri, Scientist-D, RSRS, Dumka]

Dr. Shantakar Giri, Scientist-D presented the progress and the committee suggested to the PI to meticulously follow the operating procedures. The committee also emphasised that within one month MOA/MOU may be signed as per the guidelines with the concerned state department for effective implementation of the project.

[Action: Dr. Shantakar Giri, Scientist-D & PI, RSRS, Dumka]

14. [APR04015CN] Documentation and Validation of Indigenous Technical Knowledge (ITKs) in Tropical tasar Zone (December 2022 – November 2025) [PI: Dr. Jagadajyoti B., Scientist-D, CSB-CTR&TI, Ranchi]

Dr. Jagadajyoti B., Scientist-D & PI, presented the progress of the project. The committee suggested/recommended the following-

- Three to four validated and integrated ITKs to be recommended to the field at the end of the project i.e., 1) Tasar silkworms predator repellent- Seed oil of *Semecarpus anacardium* (Bhilawa tree) 2) RANU & Turmeric - Tasar Silkworm egg surface disinfectant 3) Silkworm hatching BRUSH- Brushing of tasar silkworms with grass and 4) LEAF CUP- For hatching of tasar silkworms
- Record the cost of the ITK Ranu & Turmeric (ITK) – Tasar silkworm seed surface dis-infection and compare it with Depuratex solution (Existing seed surface dis-infection technology)

[Action: Dr. Jagadajyoti B., Scientist-D & PI]

15. [CEM 04021 MNC] Evaluation of Technologies and Machines Developed in Tasar Post cocoon Technology (March 2024 - February 2026) [PI: Ashu Kumar, Scientist-B, CSB-CTR&TI, Ranchi]



Sh. Ashu Kumar, Scientist-B & PI, presented the progress of the project and the committee took a note of it and suggested the following-

- Evaluate all the developed technologies in the field after proper survey of tasar post cocoon related area in all five states proposed under the project.
- Complete the trials within time frame and compare these technologies and machines for three major eco-races for promotion of Tasar culture.

[Action: Sh. Ashu Kumar, Scientist-B & PI]

16. [BPC 04025SNC] Management of type II diabetic (T2D) condition through tasar Sericin (March 2024 - February 2026) [PI: Dr. K. Jena, Scientist-D, CSB-CTR TI, Ranchi]

Dr. K. Jena, Scientist-D & PI presented the progress of the project and the committee took a note of it.

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

17. [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 (March 2024 - February 2026) [PI: Dr. K. Jena, Scientist-D, CSB-CTR TI, Ranchi]

Dr. K. Jena, Scientist-D & PI presented the progress of the project and the committee suggested to PI to develop a technology in the line of “Demand Driven Technology” and to explore likely producer commercial fish feed.

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

EXTERNAL FUNDED PROJECT (DBT, New Delhi):

18. Development of KASP Based SNP Barcoding System for the Molecular Identification of Tropical Tasar Silkworm Eco-races (August 2024 - July 2026) [PI: Dr. I. G. Prabhu, Scientist-D, CSB-CTR&TI, Ranchi]

Dr. I.G. Prabhu, Scientist-D & PI, presented the project and the committee suggested that type of bar code to be used needs to be mentioned clearly and included in the project. The PI is advised to review the previous studies on the efficiency of KASP-based SNP barcoding systems in other species.

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

19. Inflatable mucoadhesive vaginal tablet coin (VTC) for instant spermicidal action as local vaginal Contraceptive and microbicide (August 2024 –July 2027) [PI: Dr. K. Jena, Scientist-D, CSB-CTR TI, Ranchi]

Dr. K. Jena, Scientist-D & PI, presented the project and the committee took note of the progress.

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



As CIs:

20. [SRP08012MNC] Development of a Rapid Antigen Test Kit for Diagnosis of Cytoplasmic Polyhedrosis in Vanay Silkworms (*Antheraea assamensis*, *A. mylitta* and *A. proylei*) (February 2024 to January 2026) [CI: Dr. Hanamant Gadad, Scientist-C, CSB-CTR&TI, Ranchi]

Dr. H. S .Gadad, Scientist-C & CI, presented the project and the committee suggested to continue the monitoring & recording of virosis incidence during second crop also.

[**Action:** Dr. Hanamant Gadad, Scientist - C & PI]

At the end of the on-going project presentation, Chairman advised all the scientists to include details of number of publications, award, seminar attended, training undergone, book & book chapters etc., in the power point presentation.

[**Action:** PMCE. Division]

Agenda No.7: R&D highlights of the Institute (March 2024 - July 2024):

The Director, CSB-CTR&TI, presented an overview of tasar sericulture and explained in details from Farm to Fabric. Further he focused on achievements of the institute, details of tasar production and productivity of the country and constraints associated with it. He opined that egg washing cum dis-infection machine has performed well in the field but there is a need to modify the Jhar i.e., 500 dfls & 1000 dfls capacity Jhars (Bucket) for effective implementation in the field. He also informed that, CSB-CTR&TI, Ranchi has taken up 03 major eco-race conservation projects which need more support from concerned DOSs and forest department. Following achievements of the Institute from last RAC were presented.

1. During the period, 11 Concept notes were submitted on e-SubMIS portal of CSB, Bengaluru in RMIS-01 for preliminary approval.
2. DBT, New Delhi released funds for implementation of two projects and one project is under active consideration.
3. Motorized tasar reeling charkha (Indian Patent No. 523461, Patent granted on 11.03.2024) from NRDC, New Delhi.
4. A Silkworm Eggs Cleaning and Disinfecting Machine (Indian Patent No. 531845, Patent granted on 05.04.2024) from NRDC, New Delhi.
5. Received Trademark (Trade Mark No. 6232063) for 'RESHMEEN' fish feed from tasar spent pupae.
6. Release Special Issue of "Plant Archive: An International Journal" & "Technology Descriptor" on the occasion of Foundation Day.
7. Signing of MoU with University of Delhi, New Delhi and MoA with BIT, Mesra
8. Received two awards during Hindi Technique Seminar organized by CSB-SBRL, Bengaluru.



9. Jointly organized the 6th International Conference on “Cutting-Edge Solutions in Science- Agriculture, Technology, Engineering and Humanities (CSATEH-2024)”
10. Training programme for the 29 newly inducted CSB Administration and Technical Officials was successfully conducted from 10.06.2024 to 19.06.2024 at this institute.
11. A need based Post Cocoon training (5 days) for SHG sponsored by CCDS was conducted from 29.04.2024 to 03.05.2024 at this institute.
12. 03 batches of Need based training programme for 75 farmers of CAMPA were conducted from 22.04.2024 to 26.04.2024 & 03.06.2024 to 07.06.2024 at this institute.
13. 03 batches of Capacity building for skill seeding & skill up-gradation-training & exposure visit were conducted from 25.06.2024 to 29.06.2024, 04.07.2024 to 08.07.2024 and 12.07.2024 to 16.07.2024 at CTRTI, Ranchi for the farmers of West Bengal under Beneficiary Empowerment Programme.
14. An online Training Program on “Entrepreneurial Opportunities in Sericulture” was conducted during 22nd – 24th July 2024 in Collaboration with MANAGE, Rajendra nagar, Hyderabad and CSB-CTR TI, Ranchi. In the programme, a total of 38 participants including Scientists from CSB- CTR TI, Ranchi and its subordinate units, CSB-CSRTI, Berhampore, West Bengal and Officers and staff from DOS, Telangana, Maharashtra, and Andhra Pradesh participated.
15. A total of 179 students/trainees from schools/colleges have visited this institute to know about the activities of tasar culture and to delve into the world of tasar silk, gaining insights into its significance from soil to silk.
16. Total of 17 Extension Communication programmes (ECP’s) organized by covering 911 beneficiaries.
17. Total of 08 OST/OFT are under progress as per Annual Action Plan 2024-25. i.e., 03 On Station Trials (OST) and 05 On Farm Trials (OFT).
18. Eco-race conservation programme is under progress for tasar eco-races like Baraf (REC, Seoni-Champa), Bhandara local (RSRS, Bhandara) & Andhra local (RSRS, Warangal).
19. Organized National level eco-race conservation workshop and the 60th Foundation day on 19th June 2024.

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

Total 08 technologies (3 OSTs and 5 OFTs) were discussed during the RAC meeting. The committee took note of the progress. The list of OSTs and OFTs are given below.

A) On Station Trials (OSTs):

1. Validation of fertilizer packages for leaf nutrition and fecundity.
2. Evaluation of Fertilizers recommendation chart in tasar food plants.
3. Field evaluation of Botanical based repellents against silkworm pests.

B) On Farm Trials (OFTs):

1. Evaluation of cocoonase variant for cocoon softening/degumming and silk surface modification.
2. Evaluation of IPM for control of gall fly.
3. Evaluation of IPM for control of stem borer in tasar food plants.
4. Establishment and popularization of improved accession 102 & 123 of *Terminalia arjuna* and *Lagerstroemia speciosa*
5. Evaluation of egg washing cum dis- infection machine for quality Dfl's production.

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.

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

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

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-CTR&TI and its nested units. The comments and suggestions are as follows:

Mr. Manik Kujur, RAC member & Rearer representative with an experience of more than 10 years, stressed that availability of good quality dfl's during rearing season is very much needed. He requested to supply Arjuna and Asan seedlings for gap filling.

Mr. Ramadhar Devagan, RAC Members & Reeler representative stressed that, as per the demand cocoons are not available and cocoon availability is much more important to check the migration of the farmers especially youths.

Dr. Prashanth Sangannavar, Scientist-D, RCS, CO-CSB, Bengaluru opined that, the CSB-CTR&TI, Ranchi has made remarkable achievement in all the field. Institute has published good number of research papers but more efforts are needed to publish the research output in good impact factor journals. He also informed the house that CSB- CTRTI, Ranchi is having more number of projects and Scientists are having more number of projects as PIs and CIs (01 project as PI and two project as CI) as per earlier circular circulated by CO, CSB, Bengaluru. Regarding commercialization of technology, scientists/ PIs/PMCE should follow the guidelines mentioned in RMTD book and CSB has a committee for commercialization to screen out the product/machine thoroughly with proper formula before commercialization .



Dr. D. Chattopadhyay, Scientist-D, RTRS, Malda and representative, CSB-CSRTI, Bengaluru apprised that modified cooking practices are now being practiced in West Bengal and CSB-CSTRI will extend all support and co-operation in raw silk testing. He also informed that, new cooking method technology is being accepted by the stake holders due to low cost of chemicals and user friendly.

Dr. S.N. Patnaik, Director of Sericulture, Government of Odisha informed that, we have to complement each other while doing research. R & D is definitely required for all of us. Wherever, initial idea taken up by Sericulture sector Govt. of Odisha for research may be acknowledged by the CSB-CTRITI, Ranchi. We are ready to make eco-race project MOU/MOA as per the guidelines received by the Govt. of Odisha. We should be complementary to each other for development of livelihood status of the farmers. The extinction eco-races in India must be taken care of on priority.

DR. C. M. Bajpeyi, Ex-Director, CSB-CTRITI, Ranchi & RAC member observed that the quality of the presentation has improved substantially except one or two projects. He opined that, working in tasar sector is not easy and it is very challenging task. He suggested that, the presentation must be short, simple, easy to understand by the audience and include treatment plan. He advised to improve the quality of the research papers. He stressed on by-product utilization for additional income i.e., Cordyceps, fish feed etc.,

Dr. Selvakumar appreciated the progress of the projects. Outcome of concluded projects should be used meaningfully for development of the industry. He also stressed to develop need and demand based technologies. He assured to help CSB-CTR&TI, Ranchi for taking up of 'On Station Trials (OSTs) and On Farm Trials (OFTs) in collaboration with BTSSO, Scientist especially young scientist; as they are very much enthusiastic to take the project. He appreciated the technology developed by CSB-CTR&TI, Ranchi i.e., Pebrin Visualization Solution (PVS) which is highly accepted and adopted by the field staff and private stakeholders.

Dr. Mukesh Kumar Dhillon, Head & Principal Scientist, ICAR-IARI New Delhi, appreciated the scientist of the Tasar institute and advised to continue the effort upliftment of tribal farmers economically and socially.

Dr. S. Manthira Moorthy, Director (Tech.) CSB, CO, Bengaluru, opined that the CSB-Central Tasar Research and Training Institute, Ranchi is one of the best institute working under Central Silk Board. He pointed out that the Concept note of DBT project of Dr. K. Jena, Scientist - D was not submitted to RCS and it has been approved by the DBT. He stressed that such practice should be avoided and since DBT projects are most important we should screen them properly at all the levels. He suggested to stick on to 7 point programmes/themes for the institute for benefit of the industries especially automation and mechanization. He advised to develop cocoon cutting/harvesting machine to reduce the drudgery involved in it. He stressed on collaboration with other institute for effective utilization of the scientific manpower. He suggested to maintain proper scientist: project ratio. We are worried about commercialization of the products; they are taking much more time



even after getting trade mark, this matter needs to be addressed on priority basis. There is a need to concentrate on health related issue in tasar culture and submit the project proposals. Integration of work is needed to be promoted within the institute. He suggested to maintain scientist: project ratio (01 project as PI and 02 projects as CI) and also advised that Dr. H.S. Gadad, Scientist- C and Dr. K. Jena , Scientist - D having more number of projects, Director, CSB-CTRTRI, Ranchi will take decision at the institute level.

Dr. N.B. Chowdary, Director, CSB-CTRTRI, Ranchi expressed that I am proud of my team of scientists; they worked hard and contributed a lot in achievement of this institute. We need to focus more on development of need based and demand driven technologies to support poor tribal farmers to improve their livelihood economically and socially.

Dr. C. Meenakshi, IFS, Director (Finance), CSB, CO Bengaluru expressed her happiness to participate in the scientific forum. CSB-CTRTRI Scientists have done a good work and need to continue the same. She observed that, eco-races are in extinction stage which is needed to be addressed by collaborating with forest department.

Dr. Subhash Chander, Chairman, RAC congratulated the team for the efforts. He opined that, 54th RAC was a long brain storming session. He expressed happiness for following of all the previous suggestions by the scientists. He suggested to focus on methodology and end product of the project. Environment friendly, low cost, socially acceptable, climate resilience etc., technology needs to be developed. He stressed on more and more utilization of organic fertilizers instead of chemical fertilizers. He suggested to propose new concept notes based on field problems and better machines need to be developed and popularized among the stakeholders. Specialized scientific activities need to be carried out to focus on quality work. He stressed on linkage between the scientific institutions by taking up MOA/MOU. There is a need to ponder upon improvement of poor farmers livelihood and formulate the research proposals with this perspective. As per the Prime Minister Vision @ 2047- we have to work in line with an aim of upliftment of the villages for better progress of the country. Use of advanced technologies in the research should be adopted. Publications should be made in good quality journals and list of publications and awards should be included in the presentations.

The meeting ended with a vote of thanks to the chair.


[Dr. Subhash Chander] 05/10/24

(Chairman, RAC)



Annexure-1

LIST OF PARTICIPANTS IN THE 54th MEETING OF RAC OF CSB-CTR&TI RANCHI HELD ON 31st AUGUST, 2024

CHAIRMAN:

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

INVITEE:

Dr. C. Meenakshi, IFS, Director (Finance), Central Silk Board, Bengaluru.

MEMBERS:

1. Dr. S. Manthira Moorthy, Director (Tech.) Central Silk Board.
2. Dr. Mukesh Kumar Dhillon, Head & Principal Scientist, ICAR-IARI New Delhi
3. DR. C. M. Bajpeyi, Ex Director, CSB-CTR&TI, Ranchi
4. Dr. T. Selvakumar, Director, BTSSO, Bilaspur
5. Dr. S.N Patnaik, Additional Director of Sericulture, Government of Odisha
6. Dr. Debasis Chattopathyay, Sci-D, RSTRS-Malda and representative, CSB-CSTRI, Bengaluru
7. Dr.Prashanth Sangannavar., Sc-D, RCS, CO-CSB, Bengaluru
8. Mr. Ramadhar Devagan, Representative, Reeler, Champa, Chhattisgarh ,
9. Shri Manik Kujur, Representative, Rearer, Kharsawan, Jharkhand ,
10. Mr. Sushil Kumar Bariyar, Assistant Director Industries (Sericulture), Govt. of Jharkhand and representative, DoS, Jharkhand
11. Dr. N.B. Chowdary, Director, CSB-CTR&TI & Member Convenor

SCIENTISTS – CSB-CTR&TI, Ranchi & Nested Units

1. Dr. S. Giri, Scientist – D, RSRS, Dumka
2. Ms. Susmita Das, Scientist-D
3. Dr. J.P. Pandey, Scientist-D
4. Dr. Karmabeer Jena, Scientist-D
5. Dr. Vishal Mittal, Scientist-D
6. Dr. Jitendra Singh, Scientist-D
7. Dr. D.I.G. Prabhu, Scientist-D



8. Dr. J. Binkadakatti, Scientist-D
9. Dr. Harendra Yadav, Scientist-C
10. Dr. Hanmant Gadad, Scientist-C
11. Dr. Aparna, K, Scientist-C
12. Mr. Ashu Kumar, Scientist-B
13. Shri Haragopal Dutta, Scientist-B
14. Dr. Arnab Roy, Scientist-B
15. Dr. Sruthy K.S., Scientist-B
16. Dr. Nidhi Sukhija, Scientist-B
17. Dr. Shreenath Y.S., Scientist-B
18. Dr. Divya Rajawat, Scientist-B

OFFICERS / OFFICIALS FROM OTHER ORGANIZATIONS

1. Md. Shamshad Alam, Integrator (Tasar Theme), PRADAN
2. Mr. Rajendra Kumar Khandai, Team coordinator, PRADAN, Deoghar
3. Ms. Mohshina Khatoun, Pilot Project Officer, Govt. of Jharkhand