

**MINUTES OF 68th MEETING OF THE RESEARCH COUNCIL (RC) OF CTR&TI RANCHI
HELD ON 11 & 12 December, 2023**

The 68th meeting of Research Council (RC) of Central Tasar Research and Training Institute was held on 11 & 12 December, 2023 at the institute under the Chairmanship of Dr. N.B. Chowdary, Director CTR&TI, Ranchi to evaluate the new project/pilot study proposals and review the ongoing & concluded projects, TOTs, CBT and ECP programmes. List of the participants is appended as Annexure-1.

At the onset the Chairman, RC welcomed all the scientists and requested them to be crisp and to the point in their presentations. Later the meeting proceeded as per the agenda.

Agenda No.1: Confirmation of the previous RC Meeting Minutes

The Minutes of 67th R.C. meeting was circulated to the Scientists *vide* Email dated 26.08.2023. Since no comments / suggestions have been received so far, the Minutes may be confirmed.

Agenda No. 2: Review of action taken of the recommendation / decisions of the previous RC meeting

Follow up action taken on the decisions made during the previous RC & RAC meetings were reviewed by the Director and following observations were made.

Concluded Pilot Studies

1. [CTR&TI/SP/PS-19] Design & Development of Tasar Silkworm Pebrine Identification System using Image processing Technique (January - June 2022)

Chairman suggested to PI for early development of conveyer belt.

[PI: Ms. Susmita Das, Scientist-D] (In Collaboration with BIT, Mesra, Ranchi)

2. [CTR&TI/HI/PS-21] Carbon dynamics and Carbon sequestration potential of tasar sericulture systems (January - June 2022)

Committee suggested PI to publish at least one popular article from the concluded pilot study.

[Dr. Aparna Kopparapu, Scientist-C]

3. [CTR&TI/SP/BT-25] Intuitive gene annotation of *Antheraea mylitta de novo* whole genome using functional bioinformatics tools (July - December 2022)

Committee suggested PI to publish at least one popular article from the concluded pilot study.

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

4. [CTR&TI/SI/BT-26] Reveal Insights into the Biology, Genetics and Evaluation of *Antheraea mylitta* through its Whole Genome Sequence (June –Nov 2022)

Committee suggested PI to publish at least one popular article from the concluded pilot study.

[Dr. I. G. Prabhu, Scientist – C]

Evaluation of New Research Proposals

1. Socio-economic impact assessment of tasar sericulture technologies and skill development in major tasar growing areas [PI: Dr. Vishal Mittal, Scientist-D]

PI requested to drop the project due non availability of experts in socio-economic / statistics areas. Committee agree to kept proposal on hold and suggested to submit new proposal within a month.

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

2. Development of a low-cost combination of Vanya and mulberry pupae waste-based feed for carp Broodstock, and cultivable aquatic species [PI: Dr. K. Jena, Scientist-D]

Dr. K. Jena, Scientist – D presented the collaborative project proposal with CIFRI, Barrackpore and committee suggested to revise the title of project and delete the third objective from project proposal. After incorporation of these suggestions, project proposal is approved for submission to RCS in RMIS01 for preliminary clearance.

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

3. Efficacy of Poshan- A multi-nutrient formulation to mitigate the nutrient deficiency in tasar host plant [PI: Ms. Susmita Das, Scientist-D]

Ms. Susmita Das, Scientist-D presented the proposal committee suggested to revise the title "Field Testing of Poshan: A multi-nutrient formation for qualitative and quantitative leaf production" and try other nutrient formulations also along with the multi-nutrient formulation 'Poshan'. Project proposed is approved for pilot study.

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

4. Efficacy of Vijetha and Ankush for body disinfection of tasar silkworm [PI: Dr. K. Jena, Scientist-D]

Dr. K. Jena, Scientist – D presented the proposal and committee suggested to revise the title "Field Testing of of Vijetha and Ankush for management of silkworm diseases" and included four treatment combination for field experiment along with appropriate replications. Project proposed is approved for pilot study.

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

5. Elucidating effects of Tasar silkworm feeding on Phyllosphere microbiome and biochemical profile of foliage of *Terminalia sp.* [PI: Dr. Aparna K., Scientist-C]

Dr. Aparna Kopparapu, Scientist-C presented the proposal and Dr. I.G. Prabhu, Scientist – C suggested to include the transcriptome analysis work in project proposal. Committee suggested PI to submit the project proposal to DBT for funding.

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

6. Study on utilizing scanner technique for identification of uzifly / yellow fly infested seed cocoon [PI: Dr. H.S.Gadad, Scientist-C]

Dr. H S Gadad, Scientist-C proposed the pilot study. Committee suggested to explore the availability of thermal imaging facility at NISA, Namkum and BIT, Mesra. Based on the availability of the facility further pilot study may be take-up

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

Agenda No. 3: New concept notes for approval

Total 15 Project proposals were evaluated and following decisions were made during the meeting:

1. Exploring the application of tasar silk sericin for type II diabetic (T2D) condition

Dr. K. Jena, Scientist – D and PI presented the proposal, committee suggested to revise the title of the project, initiate collaborate with CSIR-Central Drug Research Institute (CDRI), Lucknow, fixed the role and responsibility of PIs and CIs in both organization and submit the proposal in RMIS01 by 14.12.2023for submission to CO, CSB, Bengaluru for primary clearance concept note.

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

2. Study of gaps in adoption of tasar silkworm (*Antheraea mylitta* D) rearing technologies in major tasar growing areas

Dr. Dr. Vishal Mittal, Scientist-D &PI presented the proposal, chairman suggested to revise the title, objectives and methodology of the proposed project. Experimental centre should be selected from RSRSs and RECs only. Committee also suggested to include the discriminant function analysis for level of adaption. Fixed the role and responsibility of PI and CIs and also rationalized the budget. Committee advised scientists to submit revised proposal in RMIS 01 by 14.12.2023for further action.

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

3. Nutrient management in tasar culture through Nano-technological intervention

Dr. Jitendra Singh, Scientist – C and CI presented the proposal, committee suggested to revise the title, objectives and methodology of proposed project. Committee advised scientists to submit revised proposal in RMIS 01 by 14.12.2023 for further action.

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

4. Effect of climate change in Oak Tasar and adaptation strategies for management

Dr. Jitendra Singh, Scientist – C and CI of the project presented the project proposal, chairman suggested to revise the title, objectives and methology of the proposed project.. Committee advised scientists to submit revised proposal in RMIS 01 by 14.12.2023for further action.

[Action: Mr. A.S. Verma, Scientist-D, RSRS, Bhimtal &PI]

5. Assessment of suitable microenvironment in grainage and rearing field for enhancement of tasar cocoon production under climate change and its scenario

Dr. Jitendra Singh, Scientist – C presented the project proposal, committee suggested to revised the methodology and focus on low cost technique to minimise the harmful effect of climate change in grainage and rearing field and advise to submit revised proposal in RMIS 01 by 14.12.2023for further action.

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

6. Maintenance of tasar food plants germplant in Gene bank of CTRTI, Ranchi

Dr. Harendra Yadav, Scientist – C presented the project proposal, chairman suggested to PI include Integrated Nutrient Management (INM) and Integrated Pest Management (IPM) packages in proposed budget. Committee considered proposal in continuous nature and advised scientist to submit revised proposal in RMIS 01 by 14.12.2023for further action.

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

7. Large scale multiplication and maintenance of tasar food plants disease free nursery

Dr. Harendra Yadav, Scientist – C presented the project proposal, chairman suggested to PI to use pest and disease resistant plant for nursery and multiply it at large scale. Committee considered proposal as developmental project and advised scientist to submit revised proposal in RMIS 01 by 14.12.2023for further action.

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

8. Exploration of above ground and below ground C sequestration potential of arjun and asan and ways to increase the soil C stocks through organic cultivation practices

Dr. Aparna K, Scientist-C presented the project proposal, chairman suggested to PI to collect literature and take opinion of expert and used standard methodology for measurement of carbon sequestration in tasar food plants and soil C stocks. Committee advised scientist to submit revised proposal in RMIS 01 by 14.12.2023for further action.

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

9. Development of Tasar food plans plantation on National Highways on the sides of carriageways in Jharkhand

Dr. Jitendra Singh, Scientist-C and CI of the project presented the project proposal, chairman suggested to PI to collect literature from CSRTI, Pompore as ready reference and include standard methodology for plantation and also focus on adaptation strategies to protect tasar silkworm rearing on road side. Committee advised scientist to submit revised proposal in RMIS 01 by 14.12.2023 for further action.

[Action: Dr. Haragopal Dutta, Scientist-B &PI]

10. Socio-economic impact assessment of tasar sericulture technologies and skill development in major tasar growing areas

Dr. Arnab Roy, Scientist-B presented the project proposal, committee observed that concept note is already approved by 67th RC and hold on due unavailability of expert in this area. Chairman suggested to remove the skill development from title and third objective from project proposal and advised scientist to submit revised proposal in RMIS 01 by 14.12.2023 for further action.

[Action: Dr. Arnab Roy, Scientist-B &PI]

11. Efficacy of identified formulations for the Management of Cytoplasmic Polyhedrosis Virus in *Antheraea mylitta*

Dr. Sruthy, K. S, Scientist-B presented the project proposal, committee to suggested PI to revise the methodology and workout the budget with justification. Concept note is approved and advise scientist to submit revised proposal in RMIS 01 by 14.12.2023 for further action.

[Action: Dr. Sruthy, K. S, Scientist-B &PI]

12. "Enhancement of Asexual and Sexual Reproduction in Asan (*Terminalia tomentosa*)"

Dr. Harendra Yadav, Scientist-C and CI of the project presented the project proposal, committee approved the proposal for pilot study and advised to submit revised proposal in RMIS 01 by 14.12.2023 for further action.

[Action: Dr. Haragopal Dutta, Scientist-B &PI]

13. Systematic identification of food plant metabolites controlling expression of gene involved in silk synthesis in *Antheraea mylitta* D

Dr. Nidhi Sukhija, Scientist-B presented the project proposal, committee approved project proposal for submission to DBT for funding. Chairman, advised to submit revised proposal in RMIS 01 by 14.12.2023 for further action.

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

14. Development of alternative ways of producing Thai Reeled Tasar yarn using silicone rubber sheet

Mr. Ashu Kumar, Scientist-B presented the project proposal, committee suggested to revise the title of project and proposal is consider for pilot study and advised to submit revised proposal in RMIS 01 by 14.12.2023 for further action.

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

15. Production and characterization of Balkal yarn developed using different softening technique

Mr. Ashu Kumar, Scientist-B presented the project proposal, committee approved the proposal for pilot study and advised to submit revised proposal in RMIS 01 by 14.12.2023 for further action.

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

Agenda No. 4: Review on concluded projects

Concluded Project (02 as PI and 01 as CI)

1. [APS 04003 SI] Studies on the reproductive potential of Tasar silkworm *Antheraea mylitta* D with special reference to nutritional and mechanical indices. (March, 2020- February 2023 Extended upto August 2023) [PI: Dr. K. Jena, Scientist-D]

PI presented concluded project, chairman appreciate PI for output of the project and utilization of budget. Committee suggested to PI to include outcome of the project in OST for the year 2024-25 and submit concluded report in RMIS 10 by 30.12.2023.

2. [ARE 04006 CN] Management of important pests of tasar silkworm *Antheraea mylitta* (D) through botanical repellents. (April, 2020- March 2023 Extended upto September 2023)

PI presented concluded project, chairman appreciate PI for output of the project and utilization of budget. Committee suggested to PI to include outcome of the project in OST for the year 2024-25 and submit concluded report in RMIS 10 by 30.12.2023.

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

- [AIT 08006 EF] Development of lateral flow assay (LFA) kit for diagnosis of pebrine disease in silkworms. (August 2021 to Oct. 2023)

PI presented concluded project, chairman suggested to PI to submit concluded report in RMIS 10 by 30.12.2023.

[Co-PI: Dr. H. S. Gadad, Scientist-C] [DBT Funded project SBRL, Bangalore]

Agenda No. 5: Progress of Ongoing projects

1. [PIB 04009 SI] Evaluation of identified hybrids of *Terminalia arjuna* × *T. tomentosa* and drought tolerant *T. arjuna* for their suitability in different tropical tasar silkworm rearing regions. (October 2021 - September 2026)

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

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

2. [PPA 04010 CN] Region and season specific selection of pruning and brushing schedule for tasar food plants and silkworm protection. (February 2022- January 2025)

Dr. Jitendra Singh, Scientist-C presented the progress and committee took note the progress and suggested to release of fund under approved project.

[Action: Dr. Jitendra Singh, Scientist – C & PI]

3. [ARP 04012 SI] Developing ectomycorrhizal bio-inoculants for improving survival and leaf yield of *Terminalia arjuna* and *T. tomentosa*. (February 2022- January 2026)

P.I. presented the progress and committee took note of the progress.

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

4. [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)

Dr. D.I.G. Prabhu, Scientist-C presented the progress. The Chairman suggested the PI to fix a review meeting in physical mode at CTRTI, Ranchi with collaborative Institute (NESAC) in last week of December to review the progress of project.

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

5. [ARE 04011 MI] Diversity, yield loss and management of predatory wasps attacking *Antheraea mylitta* Drury [February 2022- January 2025]

PI present the progress and request to evaluate the attractant and replants again during peak wasp incident in field level.

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

6. [CYR 04013 MI] Studies on storage practices of tropical tasar cocoons for better cooking efficiency, reeling parameters and yarn quality. (February 2022- January 2024)

Mr. Ashu Kumar, Scientist-B presented the progress and chairman suggested to PI for timely completion of the project without extension request.

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

7. [BPC 04008 EF] Mass level extraction of sericin from tasar cocoon cooking waste water for its prospective utilization [PI: Dr. K. Jena] (March 2021- February 2024) (DBT Funded)

Dr Jena presented the progress, and the house noted progress. As PI informed, grant has been received for second year and sent request letter to DBT for six month extension.

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

8. [MOE 04007 EF] Establishment of Biotech-KISAN Hub at Professional Assistance for Development Action (PRADAN), Deoghar, Jharkhand for three Aspirational Districts of Jharkhand (Godda, Dumka and Pakur) (March 2021- February 2023 extended upto Feb 202) Collaborative Project with PRADAN [Co-PI from CTR&TI, Ranchi:]. (DBT Funded)

Dr. J.P. Pandey Scientist-D presented the progress of project and. Committee suggested PI to organize a Krishi Mela after receiving the fund from DBT.

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

9. [MOE 04014 MI] Evaluation and popularization of improved technologies developed in the field of tasar sector for central and north India (On Station/Farmer Trials of CTRTI) [February 2022- January 2024)

PI of the project presented the progress of project and committee suggested to PI for timely completion of project without any extension.

[Action: Dr. Jagadajyoti Binkadakatti, Scientist-C & PI]

10. [APR 04015CN] Documentation and Validation of Indigenous Technical Knowledge (ITKs) in Tropical tasar Zone (December-2022 to November-2025)

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

11. [ARP04016MI] **Tasar Silkworm Disease Monitoring and Management**

(March,2023-Feb,2028) [PI: Dr. J.P. Pandey Scientist-D]

Dr. J.P. Pandey Scientist-D presented the progress of project and Chairman suggested PI to involve the CRPs for disease monitoring as per approved project.

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

12. [AIB04017MI] **Recurrent Selection and Multiplication of Thermo-Tolerant Line(s) of Tropical Tasar Silkworm** (March,2023-Feb,2026)[PI: Dr. I. G. Prabhu, Scientist-C]

Dr. H.S. Gadad, Scientist-C presented the progress of project and committee took note the progress.

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

13. [AIB 04018 MI]: **In situ Conservation of Modal Ecorace of Tasar Silkworm in Odisha** (March,2023-Dec,2027) [PI: Dr. I. G. Prabhu, Scientist-C]

Dr. H.S. Gadad, Scientist-C presented the progress and Chairman suggested to initiate the tri-party MOU between CSB, DoS, Odisha and Forest Dept. of Odisha at the earliest for timely and effective implementation of the project.

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

14. [AIB 04019 MI]: **In situ Conservation of Raily Ecorace of Tasar Silkworm in Chhattisgarh** (March,2023-Dec,2027) [PI: Dr. I. G. Prabhu, Scientist-C]

Dr. H.S. Gadad, Scientist-C presented the progress and Chairman suggested to initiate the tri-party MOU between CSB, DoS, Chhattisgarh and Forest Dept. of Chhattisgarh at the earliest for timely and effective implementation of the project.

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

15. [AIB 04020 MI]: In situ Conservation of Sarihan Ecorace of Tasar Silkworm in Jharkhand (March,2023-Dec,2027) [PI: Dr. I. G. Prabhu, Scientist-C]

Dr. H.S. Gadad, Scientist-C presented the progress and Chairman suggested to initiate the tri-party MOU between CSB, DoS, Jharkhand and Forest Dept. of Jharkhand at the earliest for timely and effective implementation of the project.

[Action: Dr. S. Giri, Scientist – D, RSRS, Dumka & PI]

16. [AIT 08006 EF] Development of lateral flow assay (LFA) kit for diagnosis of pebrine disease in silkworms. (March 2021- August 2022 extended up to June 02023) [Co-PI: Dr. H. S. Gadad, Scientist-C] [DBT Funded SBRL, Bangalore project]

Dr. H. S. Gadad, Scientist-C, presented the progress of project and house took note the project progress.

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

17. MOE9001MI: Test verification of seed preservation technology developed for Tasar silkworm (*Antheraea mylitta*, D (June 2022-December 2023)

Dr. J.P. Pandey Scientist-D presented the progress of project and committee took note the progress.

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

AGENDA NO. 6: PROGRESS OF PILOT STUDIES/ PROGRAMME OF WORK

Respective PIs presented the progress of pilot study and Program of work. Committee took note of the progress.

A. Ongoing Pilot Studies

1. [CTR&TI/SSRT/BP/30]:Preparation and characterization of Chitosan sheet/nano fiber mat

The committee took note of the progress.

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

2. [CTR&TI/HPI/PS/31] Efficacy of Poshan- A multi-nutrient formulation to mitigate the nutrient deficiency in tasar host plant

The committee took note of the progress.

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

3. [CTR&TI/SSRT/BP/32] Efficacy of Vijetha and Ankush for body disinfection of tasar silkworm

The committee took note of the progress.

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

C. On-going Programme of Work (of continuous nature)

Respective PIs presented the progress of Programme of Work.

1. [CTR&TI/HPP/POW-02] Farm Management & Developmental works [PI: Dr. H. Yadav Scientist-C]
2. [CTR&TI/SWPT/POW-09] Laboratory production and supply of LSM [PI: J. P. Pandey, Scientist-D]

AGENDA NO. 7: TRIAL OF TECHNOLOGIES (OSTs/ OFTs)

Dr. Jagadajyoti Binkadakatti, Scientist-C presented the progress of TOTs. Committee took note of the progress.

[Action: Dr. Jagadajyoti Binkadakatti, Scientist-C]

AGENDA NO. 8: EXTENSION (ECP) AND OTHER PROGRAMMES

Dr. Vishal Mittal, Scientist-D presented the progress of ECPs. The council took note of the progress.

[Action: Dr. Jagadajyoti Binkadakatti, Scientist-C]

AGENDA NO. 9: TRAINING (CBT) AND OTHER PROGRAMMES

Dr. Vishal Mittal, Scientist-D presented the progress of CBT. The council took note of the progress.

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

AGENDA NO. 10: DISCUSSION ON GENERAL COMMENTS / SUGGESTIONS OF RC/ RAC

AGENDA NO. 11: ANY OTHER POINT WITH PERMISSION OF THE CHAIR

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

Place: Ranchi
Date: 13.12.2023



Dr. N. B. Chowdary
DIRECTOR

Annexure-I

**LIST OF PARTICIPANTS ATTENDED 68th MEETING OF THE RESEARCH COUNCIL (RC)
OF CTR&TI RANCHI HELD ON 11th December 2023**

1. Dr. N. B. Chowdary, Director, CTR&TI, Ranchi
2. Ms. Susmita Das, Scientist-D, CTR&TI, Ranchi
3. Dr. J. P. Pandey, Scientist-D, CTR&TI, Ranchi
4. Dr. K. Jena, Scientist-D, CTR&TI, Ranchi
5. Dr. Vishal Mittal, Scientist-D, CTR&TI, Ranchi
6. Dr. Jitendra Singh, Scientist - C, CTR&TI, Ranchi
7. J. Binkadakatti, Scientist - C, CTR&TI, Ranchi
8. Dr. Harendra Yadav, Scientist-C, CTR&TI, Ranchi
9. .Dr. H.S. Gadad, Scientist-C, CTR&TI, Ranchi
10. Dr. Aparna K., Scientist-C, CTR&TI, Ranchi
11. Mr. Ashu Kumar, Scientist – B, CTRTI, Ranchi
12. Dr. Haragopal Dutta, Scientist-B, CTRTI, Ranchi
13. Dr. Arnab Roy, Scientist-B, CTRTI, Ranchi
14. Dr. Sruthy, K. S, Scientist-B, CTRTI, Ranchi
15. Dr. Nidhi Sukhija, Scientist-B, CTRTI, Ranchi