



## MINUTES OF 69<sup>th</sup> MEETING OF THE RESEARCH COUNCIL (RC) OF CSB-CTR TI, RANCHI HELD ON 30 MARCH, 2024

The 69<sup>th</sup> meeting of Research Council (RC) of Central Tasar Research and Training Institute was held on 30 March 2024 at the Institute under the Chairmanship of Dr. N.B. Chowdary, Director, CSB- CTRTI, Ranchi to evaluate the new project/pilot study proposals and to 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 by Dr. Jitendra Singh, Scientist - C, PMCE division.

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

The Minutes of 68th R.C. meeting was circulated to the Scientists *vide* Email dated 13.12.2023. 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 and test its efficacy in coming grainage.

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

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

Committee suggested PI to submit at least one popular article for Special issue in Plant archives: An International Journal to release on the occasion of Foundation Day of this Institute.

[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 submit at least one popular article for Special issue in Plant archives: An International Journal to release on the occasion of Foundation Day of this Institute.

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

D]

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

Committee suggested PI to submit at least one popular article for Special issue in Plant archives: An International Journal to release on the occasion of Foundation Day of this Institute.

[Dr. I. G. Prabhu, Scientist – CI]

### **Evaluation of New Research Proposals**

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

Committee suggested PI to submit the revised project proposal to DBT for funding.

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

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

Committee suggested PI to hold on proposal due to non-availability of Instruments facilities.

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

3. **Assessment of suitable microenvironment in grainage and rearing field for enhancement of tasar cocoon production under climate change and its scenario** [PI: Dr. Jitendra Singh, Scientist-C]

Committee suggested PI to include the Open-Top Chambers (OTC) and Free-Air CO<sub>2</sub> Enrichment (FACE) facilities for study the effect of climate change on tasar silkworm

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

4. **Maintenance of tasar food plant germplasm in Gene bank of CTRTI, Ranchi** [PI: Mr. Haragopal Dutta. Scientist-B]

Committee suggested PI to after receiving of revised project proposal from CSGRC Hosur, revised the collaborative project and submit final proposal to CO, CSB, Bengaluru for preliminary approval.

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

5. **Large scale multiplication and maintenance of tasar food plants disease free nursery** [PI: Dr. Harendra Yadav Scientist - C]

Chairman suggested PI to initiate work immediately for preparation and maintenance of disease free nursery.

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

## **6. Development of Tasar food plants plantation on National Highways on the sides of carriageways in Jharkhand**

Chairman suggested PI to fix a meeting between CTRTI, Ranchi and Regional In-charge of NHI, Ranchi for further necessary action to formulate a project.

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

## **Agenda No. 3: New concept notes for approval**

Total 11 Project proposals were evaluated and following decisions were made during the meeting:

### **1. Understanding Host-Pathogen Interaction by Genome-Wide Analysis of *Antheraea mylitta* Immune Genes in Response to *Nosema mylitta***

Dr. Divya Rajawat, Scientist-B presented the project proposal, committee suggested PI to revise the title of the project, specify the dose of isolated spores and define the time intervals for collecting samples during the study. Revised project proposal submit to the PMCE division in RMIS01 by 20.04.2024 for further action.

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

### **2. Recurrent selection for high fecundity line in Tropical Tasar silkworm**

Dr. Nidhi Sukhija, Scientist-B presented the project proposal, committee suggested PI to review the concluded project reports of AIB 4694 and AIB 4717 and use the findings of these project will utilized as baseline information for project proposal and revised the project according.

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

### **3. Characterization and evaluation of propagation traits, floral biology, morphological, biochemical and reproductive parameters in the identified improved accessions of *Terminalia arjuna*.**

Dr. Shreenath Y S, Scientist-B presented the project proposal, committee suggested PI to include distinctness, Uniformity and Stability (DUS) Test if possible for tasar food plants and proposal consider as pilot study.

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

### **4. 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 revised project proposal, committee suggested PI to make the title more concise and to explore collaboration partner and submit project for DBT fund in North-East Cota.

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

### **5. Evaluation of the efficacy of identified formulations for the management of Cytoplasmic Polyhedrosis Virus in *Antheraea mylitta***

Dr. Sruthy, K. S, Scientist-B presented the revised project proposal, committee suggested PI to drop the first objective and submit revised project proposal in RMIS01 to PMCE division by 20.04.2024 for further needful action.

[Action: PI: Dr. Sruthy, K. S, Scientist-B] (Revised)

## **6. Nutrient management in tasar culture through nano fertilizers**

Dr. Shantakar Giri, Scientist-D, RSRS, Dumka presented the revised project proposal, committee suggested PI to revised the objective viz., Identification of suitable dose of Nano fertilizers for improvement in yield and quality of leaves of tasar food plants and Impact assessment of Nano fertilizers on the larval growth and yield and quality of cocoons of *Antheraea mylitta* and submit the project proposal in RMIS01 to PMCE division by 20.04.2024.

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

## **7. Study on the Socio Economic Status of Raily Cocoon collectors of Machkote and Tiria Forest Area of Bastar district, Chhattisgarh**

Dr. Jitendra Singh, Scientist - C, PMCE division presented the project proposal, committee suggested PI to revised the objective, methodology, budget in project proposal and include Dr. Arnab Roy, Scientist-B as CI from CTRTI, Ranchi and submit the project proposal in RMIS01 to PMCE division by 20.04.2024.

[Action: PI: Sri Sunil Kumar Misro, Scientist-D, RSRS Jagadalpur]

## **8. Development of Oak Tasar rearing Technology for early spring crop**

Dr. Jitendra Singh, Scientist - C, PMCE division presented the project proposal, committee suggested PI to revise the objective, methodology, budget in project proposal and submit the project proposal in RMIS01 to PMCE division by 20.04.2024.

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

## **9. Preparation of novel bio-adhesive tablet coin for post-operative care**

Dr. Trishna Bal, Assistant Professor, BIT, Ranchi presented the project proposal, chairman suggested to include Modal and Raily ecorace in the proposal and recommended project proposal for for DBT funding. Committee appreciated PI for her contribution in tasar and collaborative project under pipeline for DBT funding.

[Action: PI: Dr. Trishna Bal, BIT, Ranchi] & [PI: Dr. K. Jena, CTRTI, Ranchi]

## **10. Isolation of bacteria from salivary glands of *Forcipomyia* spp. ectoparasitic on *Antheraea mylitta***

Dr. H.S. Gadad, scientist - C and CI of the project presented the project proposal, chairman suggested PI to check about the NGS sequencing cost and accordingly modify the budget and submit the proposal to PMCE for pilot study.

[Action: PI: Dr. S.M. Majumdar, Scientist - C, BSMTC, Kathikund]

## **11. An investigation on consumer behavior and Preferences towards Tasar apparel**

Dr. Dr. Arnab Roy, Scientist-B presented the project proposal, chairman suggested PI to remove the third objective from project and include one scientist from PCT section. Revised project proposal submit to PMCE division by 20.04.2024 for further needful action.

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

#### **Agenda No. 4: Review on concluded projects Concluded Project (04 as PI)**

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

Dr. Jitendra Singh, Scientist - C, PMCE, presented conclude project and chairman suggested PI to submit final report of concluded project in RMIS10 and also submit one research paper for Special issue in Plant archives: An International Journal to release on the occasion of Foundation Day of this Institute.

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

- 2. [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. K. Jena, Scientist -D presented the conclude project and chairman suggested PI to submit final report of concluded project in RMIS10 and also submit one research paper for Special issue in Plant archives: An International Journal to release on the occasion of Foundation Day of this Institute.

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

- 3. [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- March 2024) Collaborative Project with PRADAN

Dr. H. S. Gadad, Scientist - C presented the conclude project and chairman suggested PI to submit final report of concluded project in RMIS10 and also submit one research paper for Special issue in Plant archives: An International Journal to release on the occasion of Foundation Day of this Institute.

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

- 4. [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- March 2024]

Dr. H. S. Gadad, Scientist - C presented the conclude project and chairman suggested PI to submit final report of concluded project in RMIS10 and also submit two research papers for Special issue in Plant archives: An International Journal to release on the occasion of Foundation Day of this Institute.

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

## Agenda No. 5: Progress of Ongoing projects

1. [PIB 04009 SI] Evaluation of identified hybrids of *Terminalia arjuna* x *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 suggested PI to submit the revised budget of project for mid-term correction.

[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 committee took note the progress.

[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*. (Feb. 2022- Jan.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 review properly project progress as per mile stone set for CTRTI, Ranchi and NESAC.

[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)

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

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

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

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

**7. [ARP04016M1] Tasar Silkworm Disease Monitoring and Management**

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

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

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

**8. [A1B04017MI] 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. D.I.G. Prabhu, Scientist-C presented the progress of project and committee suggested PI to ensure project running as per milestone.

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

**9. [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. D.I.G. Prabhu, Scientist-C presented the progress of project and committee suggested PI to talk immediate action for signing of MOA with collaborative Institute/ organization and be ensure project running as per milestone.

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

**10. [AIB 04019 MI]: In situ Conservation of Raily Ecorace of Tasar Silkworm in Chhattisgarh** (March,2023-Dec,2027) [PI: Dr. H.S. Gadad, Scientist-C]

Dr. H.S. Gadad, Scientist-C presented the progress of project and committee suggested PI to talk immediate action for signing of MOA with collaborative Institute/ organization and be ensure project running as per milestone.

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

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

Dr. S. Giri, Scientist – D. RSRS, Dumka presented the progress of project and committee suggested PI to talk immediate action for signing of MOA with collaborative Institute/ organization and be ensure project running as per milestone.

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

**12. [CEM 04021 MNC]: Evaluation of technologies and machines developed in tasar post cocoon technology** (March 2024 – February, 2026). (PI: Shri Ashu Kumar, Scientist-B)

Dr. Jitendra Singh, Scientist -C presented the progress and committee took note of the progress.

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

13. [SIP 04022 SIC] Impact of weather change on tasar food plants and silkworm (March 2024 – February, 2027). (PI: Dr. Jitendra Singh, Scientist-C)

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

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

14. [PPA 04023 SIC] Identification of suitable package of practices for establishment of *Lagerstroemia speciosa* (Jarul) for quality leaf production (March 2024 – February, 2029). (PI: Smt. Susmita Das, Scientist-D)

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

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

15. [PPA 04024 SIC] 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 – February, 2027) (PI: Dr. Harendra Yadav, Scientist-C)

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

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

16. [BPC 04025 SNC] Management of type II diabetic (T2D) condition through tasar sericin (March 2024 – September, 2026). (PI: Dr. K.Jena, Scientist-D)

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

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

17. [BPS 04026 SNC] Studies on nutraceutical 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)

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

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

18. [SRP08012MNC] Development of a Rapid Antigen Test Kit for Diagnosis of Cytoplasmic Polyhedrosis in Vanay Silkworms (*Antheraea assamensis*, *A. mylitta* and *A. proylei*) (Collaboration with SBRL) (February 2024- January 2026)

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

[Action: Dr. H.S.Gadad, 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&TUSSRT/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]

### **B. Ongoing Pilot Studies (Nil)**

### **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. YadavScientist-C]
2. [CTR&TUSWPT/POW-09] Laboratory production and supply of LSM  
[PI: J. P. Pandey, Scientist-D]

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

Dr. Vishal Mittal, Head, SEEM Division 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& P1]

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

Chairman suggested to all the PIs of ongoing projects for maintained register for physical and financial progress of the ongoing projects as per mile stone mentioned in approved project.

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

Chairman suggested PMCE division to initiate the developmental project in collaboration HINDALCO, Ranchi for plantation of tasar food plants in mining areas in Jharkhand.

[Action: Dr. Jitendra Singh, Scientist-C & Ms. Anoma Basu, Head, Sustainability Mines & Minerals Division]

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



Dr. N. B. Chowdary

DIRECTOR

Place: Ranchi

Date: 8.4.2024

*Annexure-1*

**LIST OF PARTICIPANTS ATTENDED 69<sup>th</sup> MEETING OF THE RESEARCH COUNCIL (RC) OF CTR&TI RANCHI HELD ON 30<sup>th</sup> March 2024**

1. Dr. N. B. Chowdary, Director, CTR&TI, Ranchi
2. Dr. Shantakar Giri, Scientist-D, RSRS, Dumka
3. Ms. Susmita Das, 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. Trishna Bal, Assistant Professor, BIT, Ranchi
7. Dr. D.I.G. Prabhu, Scientist-C, CTR&TI, Ranchi
8. Dr. Jitendra Singh, Scientist - C, CTR&TI, Ranchi
9. Dr. Harendra Yadav, Scientist-C, CTR&TI, Ranchi
10. Dr. H.S. Gadad, Scientist-C, CTR&TI, Ranchi
11. Dr. Aparna K., Scientist-C, CTR&TI, Ranchi
12. Mr. Haragopal Dutta, Scientist-B, CTR&TI, Ranchi
13. Dr. Arnab Roy, Scientist-B, CTR&TI, Ranchi
14. Dr. Sruthy K S, Scientist-B, CTR&TI, Ranchi
15. Dr. Nidhi Sukhija, Scientist-B, CTR&TI, Ranchi
16. Mrs. Divya Rajawat, Scientist-B, CTR&TI, Ranchi
17. Dr. Shreenath Y S, Scientist-B, CTR&TI, Ranchi