

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

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**MINUTES OF THE 53<sup>rd</sup> MEETING OF RESEARCH ADVISORY  
COMMITTEE (RAC) OF CTRTI HELD ON 9<sup>th</sup> FEBRUARY, 2024 AT  
CTRТИ, RANCHI**

The 53<sup>rd</sup> meeting of Research Advisory Committee (RAC) of CTRTI, Ranchi was convened on 9<sup>th</sup> February, 2024. At the onset, Dr. N. B. Chowdary, Director & Member Convener of RAC extended a warm welcome to the new RAC Chairman, Dr. Subhash Chander, Director, ICAR- NCIPM, New Delhi, Dr. Sharad Tiwari, Scientist-G, IFP, Lalgunwa, Ranchi, Dr. J. Ghosh, Principal Scientist, ICAR-NISA, Ranchi, Dr. Selvakumar, Director, BTSSO, Bilaspur, Dr. C.M. Bajpeyi, Retd. Director, Central Silk Board, Bengaluru, Dr. K. Jhansi Lakshmi, Scientist-D, RCS, Bengaluru and other RAC members, representatives from DOSs, and Scientists of the Institute. The list of participants is appended as Annexure-1.

The meeting started with introduction of the members of the new committee. All the participants including the RAC members and the scientists of CTRTI introduced themselves. Opening remarks were given by the Director, CTRTI followed by the RAC members as follows

Dr. N.B. Chowdary, Director, CTRTI introduced salient points about the tasar sericulture and also emphasised the thrust areas and importance of exploiting tasar plantations at wastelands and mining reclamation sites.

Dr. C.M. Bajpeyi, Retd. Director, CTRTI and 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.

Dr. Jhansi Lakshmi, Scientist-D, RCS, Bengaluru expressed hope that the meeting would be a great learning experience for herself as well as the scientists presenting their research achievements, leading to further contributions towards development of tasar.

Dr. J. Ghosh, Principal Scientist, ICAR-NISA opined that tasar is similar to Lac in some aspects like involvement of an insect-plant system for commercial production of insect-based products and assured his best co-operation wherever possible.

Dr. Sharad Tiwari, Scientist-G, IFP expressed that tasar is a new area for research in the field of Geospatial technologies and hoped for good knowledge sharing.

Dr. Selvakumar, Director, BTSSO stated that the technologies developed by CTRTI are also relevant to tasar seed production and so any advancements taking place at CTRTI would be of use to BTSSO. He emphasized that both the Institutes are having very good coordination between them.

Dr. Subhash Chander, Director, ICAR-NCIPM and Chairman, RAC opined that Tasar can be viewed as an allied agricultural field and the allied sectors need to be made more competitive and strengthened to make benefits out of their advantages. Research should be taken up to increase sustainability and on the lines to double the farmers' income. Economy of the farmers should be improved by the technologies developed. Technology adoption by farmers should be promoted and technologies shall be updated or fine-tuned as and when required, to promote involvement of youth in tasar culture. Modern techniques need to be incorporated accordingly. RAC may make collective efforts to bring good recommendations to shape the research of this institute.

The Director, CTRTI, presented an overview of tasar sericulture along with the activities and achievements of the institute, details of tasar production and productivity of the country, constraints associated with it, and elaborated on the technologies developed by CTRTI and the current research areas.

The chairman gave the following general suggestions of potential research areas in tasar sericulture

- GDD requirement for tasar culture should be given instead of the number of days taken for completion of lifecycle.
- More work can be done for branding and advertising. OTCs should be established for studying the impacts of abiotic conditions and climate change.
- Effect of climate change on distribution of silkworm as well as the host plants needs to be studied.
- Impact of Climate change is needed to be quantified and the work in this direction should be initiated as early as possible.

Dr. Sharad Tiwari, Scientist-G, IFP mentioned that IFP has expertise for data science which can be useful to study the effect of climate change on tasar sericulture through collaboration.

#### **Agenda No. 1: Confirmation of minutes of 52<sup>nd</sup> meeting of RAC held on 20-21<sup>st</sup> June 2023.**

As no comments have been received from any of the members, minutes of 52<sup>nd</sup> meeting of RAC held on 20-21<sup>st</sup> June 2023 at CTRTI, Ranchi, were confirmed.

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

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

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

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

### **Agenda No.4: Review on Concluded Projects**

Total 06 research projects (including 2 collaborative) were discussed and RAC recommended/suggested as mentioned below:

#### **A. With PI from Main Institute**

**1. [APS04003SI] Studies on the reproductive potential of tasar silkworm, *Antheraea mylitta* D with special reference to nutritional and mechanical indices** (March 2020- February and Extended upto August 2023) [PI: Dr. K. Jena, Scientist- D, CTRTI, Ranchi]

The PI presented the results and inferences. The committee suggested that the economics should be worked out for the recommendations made from the project and the recommendations to be further evaluated.

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

**2. [ARE04006CN] Management of Important Pests of Tasar Silkworm *Antheraea mylitta* (D) Through Botanical Repellents** (April 2021- March 2024 Extended up to September, 2023) [PI: Dr. H. S. Gadad, Scientist-C, CTRTI, Ranchi]

The PI presented the outcome of the project. The committee recommended that the crop damage due to pest be expressed as economic Injury levels (EIL) from the data recorded during the studies. Literature pertaining to standard methodologies need to be cited in the report. Effect of repellents on tasar silkworm larvae need to be highlighted from the data. Data should be re-checked before taking the work further.

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

**3. [CYR 04013 MI] Studies on storage practices of tropical tasar cocoons for better cooking efficiency, reeling parameters and yarn quality** (February 2022- January 2024)[PI: Mr. Ashu Kumar, Scientist -B]

Mr. Ashu Kumar presented the findings of the project. He informed that the cocoons can be stored in cold storage up to six months without any deterioration in cocoons / sericin characteristics. The committee noted the outcome of the project.

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

**4. [MOE 0414 MI] Evaluation and popularization of improved technologies developed in the field of tasar sector for central and north India (On Station/Farm Trials of CTRTI)** (February 2022- January 2024) [PI: Dr. Jagadajyoti Binkadakatti, Scientist-C]

Dr. J. Binkdakatti, PI of the project, presented the findings of the project. Committee suggested that in case of pest control technologies, the period of application of the treatments and the safe period for the silkworm should be clearly mentioned and included with the technology details. Committee suggested PI to submit the concluded project in RMIS 10 within stipulated time.

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

## **B. With CI from Main Institute**

**1. [AIT 08006 EF] Development of lateral flow assay (LFA) kit for diagnosis of pebrine disease in silkworms** (March 2021- August 2022 extended up to December 2023)

The CI presented the outcome from the objectives pertaining to CTRTI. The committee took a note of it.

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

**2. [MOE9001MI] Test verification of seed preservation technology developed for Tasar silkworm (*Antheraea mylitta*, D)** (February-2022 to January-2024) [PI: Dr. J. P. Pandey, Scientist- D, CTRTI, Ranchi]

The CI presented the outcome from the objectives pertaining to CTRTI and committee took a note of it.

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

## **Agenda No. 5: Concept Notes of New Research Projects for approval (0)**

Nil

## **Agenda No. 6: Review of the Progress of the Progress of On-going Projects: CTRTI, Ranchi**

Total 13 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, CTRTI, Ranchi]

The PI presented the progress of the project. Chairman suggested that C: N ratio may be calculated for the test entries. Committee suggested that drought tolerance is to be scored based on meteorological data like mean rainfall at that particular place or soil moisture data along with the physiological parameters of the plant like stomatal distribution, size and proline content. The PI requested for a budget re-appropriation and the committee suggested that it is justifiable and approval may be obtained from RCS (CSB, Bangalore).

[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, CTRTI, Ranchi]

Dr. Aparna Kopparapu, PI, presented the progress of the project. The committee took note of the progress and suggested that the PI should keep herself updated regularly with the recent developments in the field and expert consultation may be obtained to ensure that the project is taken forward in the right direction.

[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- C, CTRTI, Ranchi]

Dr. Jitendra Singh, PI presented the progress. The PI was suggested to include statistical analysis while presenting the data. GDD for silkworm lifecycle need to be calculated based on the weather data and life table to be prepared. Historical weather data from different agro-climate zones to be collected to assess climate change.

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

- 4. [AIE 04004 CN] Study on existence of tropical tasar silkworm ecoraces 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- C, CTRTI, Ranchi]

Dr. I.G. Prabhu, PI, presented the progress. The committee suggested that precise calibration to be done before using imaging technologies for assessing host plant distribution. PI requested that the duration of manpower for the collaborating institute (NESSAC) in the project may be extended till the end of the project within the allotted budget. The committee recommended the same.

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

- 5. [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, CTRTI, Ranchi]

Dr. K. Jena, PI, presented the progress of the project. The committee suggested that the characters of tasar sericin *vis a vis* mulberry sericin to be presented for clarity. The PI should also present the expected scope of commercialization in future presentations.

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

- 6.[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, PI, presented the progress of the project and explained the mechanism of damage caused by the wasps in tasar sericulture. The committee took note of the progress.

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

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

Dr. J.P. Pandey, PI presented the progress of the project and the committee took a note of it.

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

**8. [AIB 04017 MI] Selection of Stable Thermo-tolerant line(s) of Tropical Tasar Silkworm *Antheraea mylitta*** (March,2023-Feb,2026) [PI:Dr.I.G.Prabhu, Scientist-C]

Dr. I.G. Prabhu, PI, presented the progress and the committee suggested that care should be taken to follow the standard and validated procedures for carrying out the experiments.

[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. I.G. Prabhu, PI, presented the project and the committee took note of the progress. The committee also suggested that the active participation of the collaborators needs to be ensured by the PI.

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

**10.[AIB04019MI] In situ Conservation of Raily Ecorace of Tasar Silkworm in Chhattisgarh** (March,2023-Dec,2027) [PI: Dr. H. S .Gadad, Scientist-C]

Dr. Hanumant Gadad, PI, presented the project and the committee took note of the progress. The committee also suggested that the active participation of the collaborators needs to be ensured by the PI.

[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. S. Giri, Scientist – D]

Dr. S. Giri, PI, presented the progress and the committee suggested the PI to meticulously follow the operating procedures.

In general, the PIs of the conservation projects were suggested to conduct studies on population dynamics *i.e.* population of the silkworm ecorace under study, population of other natural insects sharing the ecosystem, pests of the silkworm as well as the host plants and impact of abiotic factors like weather conditions.

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

**12. [APR04015CN] Documentation and Validation of Indigenous Technical Knowledge (ITKs) in Tropical tasar Zone** (December-2022 - November-2025)  
[PI: Dr. Jagadajyoti Binkadakatti, Scientist-C]

Dr. Jagadajyoti B. presented the progress of the project. The committee suggested that duplication in ITKs needs to be eliminated. Only truly indigenous ITKs should be included for the study and those available in the market may be excluded. If required, the PI may discuss with extension experts of NISA & BAU.

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

**13. [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 upto March, 2024) [PI: Dr. J. P. Pandey, Scientist- D, CTRTI, Ranchi]

The Dr. J.P. Pandey, Co-PI of the project presented the progress and the committee suggested that proper documentation of the project outcome shall be done.

In general, for all the projects, the committee opined that publications made by the scientists should also be included in their respective presentations.

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

**Agenda No.7: R&D Highlights of the Institute from the last RAC to till date**

- 1) During the period, 3 Research proposals were submitted to e-SubMIS portal of CSB, Bengaluru in RMIS-02 for administrative approval and coding and received administrative approval of two project from DBT, New Delhi
- 2) Development of fish feed 'RESHMEEN' from tasar spent pupae and applied for Trademark.
- 3) Commercialized Leaf surface Microbes (LSM) through NRDC, New Delhi.
- 4) Isolation and characterization of chitin and chitosan from tasar spent pupae besides exploring utility of chitosan in enhancement of shelf life of fruits (Banana)
- 5) Signing of MoA with Tata Steel Foundation Jamshedpur and MoU with SIDHCOFED, Ranchi for research, extension and training.
- 6) Three Technology Orientation Training programmes organized from 12-09-2023 to 16-09-2023, 09-10-2023 to 13-10-2023 and 31-10-2023 to 04-11-2023 for 61 Officers and Officials from different regions and organizations, such as DOSs from Punjab, Odisha, West Bengal, Bihar, Uttarakhand, Telangana, Andhra Pradesh, Maharashtra, representatives from the NGO Parvatiya Durgam

Shiksha Vikas & Bihar Agricultural University, Sabour and stakeholder from Hindalco, Tata steel, and Tasar Development Foundation.

- 7) Two batches of **85** Beneficiary Empowerment Programme under Capacity building for skill seeding & skill up-gradation-Training & Exposure visit to Farmers of West Bengal were conducted at Ranchi from 2-05-2023 to 02-06-2023 & 05-06-2023 to 09-05-2023..
- 8) Training cum Exposure visit to 20 PGDS (Mulberry) students from CSRTI, Brehampore.
- 9) Three days need based training programme for 117 forest guards in tasar sericulture technology sponsored by State Forest Training Institute, mahilong, Government of Jharkhand from 16.11.2023 to 18.11.2023.
- 10) **09** MBA (Agribusiness) students of the "Centre for Agribusiness Management of BAU Ranchi" underwent summer internship to observe the tasar value chain and entrepreneurship development.
- 11) Hands-on Training in Molecular Biology Techniques (4-8th December 2023) to **20** students from different colleges and universities.
- 12) Till date, 80 tasar farmers from Sidhkofed have received need-based training in four batches, with 20 farmers per batch. The training sessions were held from October 16-20, 2023, January 5-9, 2024, January 16-20, 2024, and January 28-February 1, 2024, at CTRTI in Ranchi. The training focused on field-level orientation, including vermicomposting preparation, nursery preparation, cocoon harvesting, and other related topics.
- 13) **50** women were imparted training on Post Cocoon technology organised at ABRTF, Miurpur, Renukoot Sonbhadra, Uttar Pradesh during 17-19th January 2024.
- 14) A total of 1338 students/trainees from schools/colleges have visited this institute to acquaint themselves about the activities of tasar culture and to delve into the world of tasar silk, gaining insights into its significance from soil to silk.
- 15) Total of 77 Extension Communication programmes (ECP's) organized by covering 4251 beneficiaries. including 7 Tasar Krishi melas and one Eco-race workshop.
- 16) 09 OST/OFT trials were conducted under the project MOE04014MI & one OST trial Fish feed "RESHMEN" is under progress under Annual Action Plan, 2023-24.
- 17) Eco-race conservation programme is under progress for major eco-races like Raily (RSRS, Jagdalpur), Modal (RSRS, Baripada), Sarihan (RSRS, Dumka), Baraf (REC, Seoni-Champa), Bhandara local (RSRS, Bhandara) & Andhra local (RSRS, Warangal)

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

Total 10 technologies (8 OSTs and 2 OFTs) were discussed during the RAC meeting. The committee took note of the progress. The list of OSTs and OFTs are given below.



## **On Station Trials**

- I. Evaluation of cocoonase variant for cocoon softening/ degumming and silk surface modification.
- II. Evaluation of PSB for qualitative and quantitative improvement in tasar food plant leaf.
- III. Validation of chemical trap for Ichneumon wasp.
- IV. Evaluation of IPM for control of gall fly.
- V. Evaluation of IPM for control of Stem borer in tasar food plants.
- VI. Establishment and popularization of New Improved accession nos. 102 and 123 of *Terminalia arjuna* and *Lagerstroemia speciosa*.
- VII. Evaluation of egg washing cum disinfection machine to produce quality tasar silkworm dfls.
- VIII. 'RESHMEEN: A tasar pupa based fish feed

During the discussion committee suggested the scientist to drop the two OST out of 08 viz., Evaluation of PSB for qualitative and quantitative improvement in tasar food plant leaf & Validation of chemical trap for Ichneumon wasp as both were not found effective.

## **On Farm Trials**

- IX. Validation and popularization of cooking package developed for three eco-races.
- X. Management of abiotic factors using light reflector paints to reduce erratic and delayed emergence.

## **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**

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

All the members appreciated the efforts made by the scientists of CTRTI. The comments and suggestions are as follows:

Mr. Manik Kujur, Rearer with an experience of 10-12 years stressed that the cocoon price should be increased and fixed to avoid fluctuation.

Dr. CM Bajpeyi observed that the quality of the presentation has improved substantially. He suggested that the slides should be self-explanatory and should

contain sufficient information for better understating. Standard protocols should be followed and cited properly while presenting. The research going on with respect to developing thermo-tolerant lines, ecorace mapping and tasar sericin are very promising. He stressed that Research should always be focused for upliftment of farmers.

Dr. Selvakumar appreciated the progress of the projects. He expressed that having MoUs /MoAs with multiple organizations, research on conservation of ecoraces and evaluation of ITKs will be of great importance. Disease monitoring project should be of continuous nature in order to improve the tasar productivity. Outcome of concluded projects should be used meaningfully for development of the industry.

Dr. D. Chattopadhyay, Scientist-D, RTRS, Malda apprised that modified cooking practices are now being practiced in West Bengal and CSTRI will extend all support and co-operation in raw silk testing.

Dr. Jhansi Lakshmi suggested that the Tasar Host plant Germplasm should be screened for secondary traits and root structure and intercropping patterns should be checked for differences in pest diversity. She also suggested that training based projects should be taken to improve adoption and training aids to be developed to increase the efficiency of training programmes. Best practices followed by farmers may be recorded and validated scientifically.

Dr. N.B. Chowdary, Director, CTRTI expressed that research is a continuous learning process. He assured the committee that the comments obtained from the members will be taken positively for the betterment of the research output.

Dr. Subhash Chander, Chairman, RAC congratulated the team for the efforts. He further observed that more focus should be given to problem solving research and that internationally accepted standard protocols need to be followed. Scientists should keep themselves updated with recent advancements in their area of research. Research should lead to development of products and technologies. Use of advanced technologies in the research should be considered. Publications should be made in good quality journals. List of Publications and awards should be included in the presentations. Hope robust research proposals for upliftment of farmers will come up in the next few years.

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

  
(Dr. Subhash Chander) 17/3/24

Chairman, RAC

**LIST OF PARTICIPANTS IN THE 53<sup>rd</sup> MEETING OF RAC OF CTRTI RANCHI  
HELD ON 09<sup>th</sup> FEBRUARY 2024**

**CHAIRMAN**

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

**MEMBERS**

2. Dr. C. M. Bajpeyi, Rtd. Director, CSB, Bengaluru Manik Kujur, Kharsawan, Representative, Rearer
3. Dr. Jyotirmay Ghosh, Principal Scientist, ICAR- National Institute of Secondary Agriculture (NISA) Namkum, Ranchi
4. Dr. Sarad Tiwary, Scientist-G, I.F.P, Lalgutwa, Ranchi – Jharkhand
5. Dr. Selvakumar T, Director, Basic Tasar Silkworm Seed Organization (BTSSO), BILASPUR
6. Dr. K. Jhansi Lakshmi, Scientist – D & Head, RCS, Central Silk Board, Bengaluru
7. Mr. Debashish Chattopadhyay, Scientist – D & Representative, Central Silk Technological Research Institute, Bengaluru-
8. Mr. Sanjeev Kumar Sinha, Assistant Director Sericulture, Ranchi and Representative, DOS, Jharkhand
9. Sri Ramadhar Devangan,. Representative, Reeler, Champa, Chhattisgarh ,
10. Sri Manik Kujur, Representative, Rearer, Kharsawan, Jharkhand ,
11. Sri Vindeshawari Sharma, Retd PPO, SIDHCOFED, Ranchi

**Scientists – BTSSO, Bilaspur**

1. Dr. H. Nadaf, Scientist – D, BTSSO, Bilaspur

**Scientists – CTRTI, Ranchi & Nested Units**

- 1) Mr. A. S. Verma, Scientist – D, RSRS, Bhimtal
- 2) Mr. Sunil Kumar Mishra, Scientist – D, RSRS, Jagdalpur
- 3) Dr. S. Giri, Scientist – D, RSRS, Dumka
- 4) Ms. Susmita Das, Scientist-D
- 5) Dr. J.P. Pandey, Scientist-D

- 6) Dr. K. Jena, Scientist-D
- 7) Dr. Vishal Mittal, Scientist-D
- 8) Dr. Harendra Yadav, Scientist-C
- 9) Dr. Jitendra Singh, Scientist-C
- 10)Dr. D.I.G. Prabhu, Scientist-C
- 11)Dr. J. Binkadakatti, Scientist-C
- 12)Dr. Hanmant Gadad, Scientist-C
- 13)Dr. Aparna, K, Scientist-C
- 14)Mr. Ashu Kumar, Scientist - B