Proceedings of the 59th meeting of Research Advisory Committee of CSB-CSRTI, Berhampore held on 21st October 2024

The 59th meeting of the Research Advisory Committee (RAC) of CSB-CSRTI, Berhampore was held on 21st October 2024 to review the progress of R&D projects/programmes under the Chairmanship of Dr. Swarup Kumar Chakrabarti, Former Vice-Chancellor, Uttar Banga Krishi Viswavidyalaya, West Bengal. At the outset, Dr. Rahul K, Scientist-D (PMCE), extended a warm welcome to the Chairman, members of the RAC, scientists from the institute and its affiliated units, representatives from the Department of Sericulture (DoS), Junior Research Fellows (JRFs), Project Assistants (PAs), and other participants to the 59th RAC meeting.

The Chairman in his opening statement extended a warm welcome to all the participants and expressed his pleasure on scale of follow-up actions being pursued since the last RAC meeting. He acknowledged that most of the suggestions and recommendations from the previous meeting have been addressed, and conveyed his appreciation for the diligent efforts of the Institute in this regard. He also commended the Central Office for effectively monitoring the progress of various initiatives, ensuring that the Institute is on track and making meaningful strides. The Chairman emphasized the importance of critically reviewing the concluded projects. He highlighted that it is essential to carefully assess their outcomes and discuss how these can be scaled and implemented at the field level. He pointed out that a framework for translating these outcomes into actionable strategies at the grassroots level must be discussed in detail during the meeting. The Chairman also reminded that while developing any new products, the potential impact on the ecosystem must be carefully considered. He encouraged the scientists to raise any concerns regarding ongoing projects, as this forum provides an opportunity for constructive discussion. Finally, the Chairman reiterated that the sericulture sector holds great potential, and with continued collaboration and effort, success is within reach.

Mr. Arun Kumar, IFS, Director, DHHS, Tripura emphasized that the RAC is a crucial platform, as the future of research is largely dependent on its discussions and decisions. He stressed that productive comments and constructive feedback are essential for course correction and necessary refinement of research programmes. He also highlighted the importance of ecosystem services and pointed out that the carbon footprint of any product plays a key role in determining its market viability, making it an important factor to consider in the development process. He concluded by wishing the meeting much success.

The Director (Technical), Central Silk Board, Dr. S. Manthira Moorthy, noted that representatives from the Department of Sericulture of West Bengal and Tripura, as well as rearer and reeler representatives, were present at the meeting. He suggested that it would be appropriate to first hear their comments on the challenges they are facing, as the ultimate goal of the research is to address the needs of the stakeholders. By understanding their issues, research efforts can be better directed to provide practical solutions.

Dr. Moorthy then requested the Chairman's permission to allow the stakeholders to share their concerns, to which the Chairman agreed.

Mr. Pradip Kumar Saha, Superintendent, DHHS, Tripura highlighted the need for strengthening the Research Extension Centre at Agartala, Tripura, by posting a Scientist. He mentioned that mulberry sericulture is developing well in Tripura, with five crops being taken up annually. While three crops are performing well, two are facing challenges, and among the various experimental silkworm hybrids reared in the year, 12Y x BFC1 hybrid has performed well. He noted that though high humidity during the period from June to September is a cause of concern, the hybrid PM x (SK6 x SK7) has been performing better even under such stressful condition. He requested the supply of these hybrids from Berhampore or NSSO, Bangalore, for distribution among the farmers during these seasons. Mr. Saha also suggested that a P2 station could be established in Tripura, as the necessary land and infrastructure are available, to meet the growing demand for seed. Dr. S. Manthira Moorthy, Director (Technical), Central Silk Board, acknowledged the request and suggested strengthening the RSPs, for which funding is available under the Silk Samagra scheme. He further encouraged submitting a proposal for the same. Also, he mentioned that provisions for Micro CRCs are available under the Silk Samagra scheme, which could be explored to support these initiatives. Dr. Moorthy assured that Mr. Harish Kumar, Scientist-B from SSPC, Berhampore who is also the nodal officer for seed supply, would look into the issue of supplying the required seed. Mr. Saha also raised concerns about issues with semi-automatic reeling machines and requested support from post-cocoon scientists. In response, Dr. Moorthy advised Dr. Debasish Chattopadhyay, Scientist-D, RSTRS, Malda to assist in addressing the problems being faced with the semi-automatic reeling machines and other machinery. Dr. Sailesh Chattopadhyay emphasized that the constraints from the farmers must be understood first before formulating any developmental plans and Director of DHHS, Tripura agreed to the same. He also underscored the lack of a research component to assess the feasibility of a mulberry-based agroforestry system in Tripura.

Md. Abdur Rashid, rearer representative, highlighted the shortage of seed supply, especially for favorable crops, which is causing significant problems for farmers. He mentioned that only 40% of the demand from farmers is being met. Mr. Maity, representative of DoS, West Bengal replied that natural disasters, along with the non-spinning issue, have contributed to the shortage of seed supply in the region. The Chairman suggested that DoS should have a contingency plan to address seed supply demands from farmers in the event of natural disasters, such as floods. Dr. Moorthy queried Mr. Maity regarding the lack of indents from DoS West Bengal. He advised that the basic stock of DoS should be replaced every year and also recommended exploring the potential for seed cocoon production in the North Bengal region. The house opined that DoS, West Bengal, must play a proactive role in expanding sericulture in the region. A joint meeting involving CSB, DoS, and farmer representatives may be convened to address the issue of seed supply. CSB may also consider setting up a portal for seed requisitions. Mr. Ansarul Sk. a reeler

representative, highlighted the shortage of cocoons for reeling. He suggested that cocoon production in the region must be improved, as procuring cocoons from other states involves high transportation costs.

Dr. Satadal Chakrabarty, Scientist D, presented the R&D highlights of the institute. The chairman opined that climate-resilient technologies, such as high-temperature and high-humidity tolerant silkworm hybrids with superior reeling traits, must be developed and popularized at the field level. Additionally, season-specific silkworm hybrids should be recommended to farmers, particularly in West Bengal and Tripura, during unfavorable seasons. The list of participants in the 59th RAC meeting is appended in Annexure-I. Subsequently, agenda-wise items were taken up for discussion.

AGENDA NO. 1: CONFIRMATION OF THE MINUTES OF 58th MEETING OF RAC HELD ON 27th – 28th March, 2024 AT CSRTI-BERHAMPORE: As no comments were received from the members of the RAC, the minutes of the 58th meeting of RAC were confirmed.

AGENDA NO. 2 & 3: FOLLOW-UP ACTION ON THE GENERAL & PROJECT SPECIFIC RECOMMENDATIONS/ DECISIONS OF THE 58th RAC MEETING

Action taken report on the general recommendations of the 58th meeting of RAC was presented by Dr. S. Chakrabarty, Scientist-D. Action taken report on the project specific recommendations were presented by the concerned Principal Investigators of the respective projects.

AGENDA NO. 4: REVIEW OF CONCLUDED PROJECTS

PIB02007SI: Improvement of mulberry leaf longevity in eastern & north-eastern states of India

Budget and expenditure (Rs. in lakhs): Budget – Rs. 18.00 L; Expenditure – Rs. 13.27 L

Dr. Deepika K U, Scientist C (PI) presented the project's final report outlining its utility and outcome.

Outcome: Application of Haryali improved leaf longevity in mulberry by delaying leaf senescence by 7-10 days. Plants sprayed with Haryali showed 19.5% higher chlorophyll retention 70 DAP. Application of Haryali contributed to reduced leaf fall, enhanced leaf quality, improved plant growth, and a notable increase in leaf yield by 17–22%. To validate the efficacy and scalability of Haryali, further evaluations are necessary on a larger plant population across diverse agro-climatic zones.

Suggestions of RAC: The project, conducted in two different ecological zones, should include a comparison of leaf yield data across these zones. Additionally, the weather data collected from both locations should be correlated with the project findings to provide insights into the impact of ecological differences on leaf yield. Silkworm bioassay studies must be conducted in all seasons to ensure comprehensive evaluation. Factors influencing senescence should be detailed, including their interactions with the treatment. The acronyms F1, F2, and F3 should be avoided for clarity, and the exact percentage increase in leaf longevity or the specific number of days by which senescence is delayed should be clearly specified. Additionally, a holistic approach should be adopted, recording data on diseases, pests, and

weather to understand their combined impact on leaf quality and yield. Statistical tools such as the 'Analytic Hierarchy Process' may be used to draw meaningful conclusions. Large-scale trials (OST/OFT) are recommended to evaluate the performance of Haryali under diverse climatic conditions, ensuring broader applicability. The plan for conducting these trials may be presented at the next RAC meeting.

RAC endorsed the conclusion report and advised compliance with the committee's recommendations

(Action: Dr. Deepika KU, Sci-C)

AIB02006MI: Improvement of Nistari lines for survival and silk productivity

Budget and expenditure (Rs. in lakhs): Budget – Rs. 22.50 L; Expenditure – Rs. 6.043 L

Dr. Thangjam Ranjita Devi, Scientist C (PI) presented the project's conclusion report outlining its utility and outcome

Outcome: The improved Nistari lines and their crossbreeds demonstrated enhanced survival, higher tolerance to BmNPV, and the presence of biomarkers for thermotolerance and high humidity resistance, along with improved economic traits and silk characteristics compared to the field Nistari lines. These characteristics make the improved Nistari lines highly valuable for use as parental breeds in new research concepts. The improved Nistari lines will be supplied to the DoS and NSSO units for the preparation of crossbreed DFLs, specifically for the N x SK6.7 and N x M12W crosses, thereby contributing to the sustainability of sericulture in West Bengal.

Suggestions of RAC: The study should continue until March by conducting two additional silkworm rearing, while monitoring the proportion of the population that reaches the target traits. The data from all the generations must be analyzed with appropriate statistical tools to study the heritability of the traits. Additionally, correlation analysis should also be performed. The assistance of Dr. Siddhartha Deb Mukhopadhyay, RAC Member, and Dr. Manjunatha G.R., Scientist-D, RCS, CO, Bangalore may be sought for the statistical analysis. While improvements in characters like filament length have been mentioned, it is equally important to study the characters that have shown a decline. Molecular analysis (NGS) should be conducted to substantiate the data and identify any allelic variations. The SOP and the modus operandi for the maintenance of the improved Nistari lines should be well defined. Low budget utilization does not align with the credibility of the institute. It is advised to ensure careful budget management when proposing projects. The help of co-investigators may be sought to perform the aforementioned analyses.

(Action: Dr. Thangjam Ranjita Devi, Sci-C)

AIT02008SI: Identification of high humidity tolerant silkworm breeds/hybrids for eastern & north-eastern India

Budget and expenditure (Rs. in lakhs): Budget – Rs. 38.00 L; Expenditure – Rs. 25.80 L

Dr. Raviraj VS, Scientist C (PI) presented the project's conclusion report outlining its utility and outcome.

Outcome: The project has successfully identified high-temperature and high-humidity-tolerant silkworm breeds (SK7HH, B.Con4HH, N5HH, HTH10HH, and WB1HH) based on pyrexia and painless gene expression, supported by marker-assisted selection (MAS). Two single hybrids (SK7HH X CSR2; WB1HH X CSR2) and two foundation crosses (SK7HH X CSR4; WB1HH X CSR4) have been developed,

demonstrating high survival rates (>68%) and enhanced shell percentages (20-22%) under extreme conditions (36±1°C and 85±5% RH). These accomplishments highlight significant progress in developing climate-resilient silkworm lines. The integration of genetic markers and insights into stress-related gene expression provides a robust framework for advancing breeding programs.

Suggestions of RAC: The PI has observed that with the increase in survival, the productivity of the breeds is reduced. The RAC advised that the stress limits (high temperature/high humidity) at which survival and economic traits are balanced must be determined. It is also suggested to optimize survival alongside productivity using appropriate statistical analysis. Gene inheritance and CSR2 as a female parent must be relooked. The data on experimental rearing performed at other centers of eastern and north-eastern India should be presented. Further breeding programs must be undertaken utilizing the parental lines, which may be briefed in the forthcoming RAC meeting. The parental stock must be registered in accordance with the established guidelines. The RAC suggested planning studies to determine whether the pyrexia and painless genes are solely responsible for tolerance to high humidity and high temperature. The possibility of multiple genes contributing to this tolerance should not be ruled out, as it may not be controlled by a single gene.

RAC accepted the conclusion report with a recommendation to implement the committee's suggestions.

(Action: Dr. Raviraj VS, Sci-C)

AIT02012CI: Characterization of mulberry silkworm, *Bombyx mori* L. mutants for tolerance to flacherie syndrome through genome editing tools (DST-JSPS project)

Budget and expenditure (Rs. in lakhs): Budget – Rs. 24.40 L; Expenditure – Rs. 21.99 L

Dr. Pooja Makwana, Scientist D (PI) presented the project's conclusion report outlining its utility and outcome.

Outcome: The successful implementation of CRISPR/Cas9 genome editing technology in the development of the Nistari mutant line, which exhibited 86% survival in response to BmBDV infection, holds significant promise. The future course of action will focus on further studies to assess the stability, efficacy, and broader applications of the mutant line, in compliance with RCGM/IBSC guidelines, to ensure safety and regulatory approval.

Suggestions of RAC: The committee appreciated the outcome of the project and advised maintaining the developed mutant lines in adherence to RCGM/IBSC guidelines. It is also recommended to communicate the bioassay results to IBSC and RCGM for regulatory approval mentioning the SDN level. Additionally, the sequencing data related to the SK7 breed must be included in the final project report.

RAC approved the conclusion report, providing the aforementioned advice to the PI.

(Action: Dr. Pooja Makwana, Sci-D)

AGENDA NO. 5: NEW PROJECT/ PROGRAM FOR APPROVAL- Nil

AGENDA NO. 6: REVIEW OF THE PROGRESS OF ONGOING PROJECTS

The projects requiring the interventions of RAC were discussed in the meeting.

PIB02010SI: Final yield trial of promising high yielding mulberry genotypes for eastern and north-eastern India

Disease or pest infestation should be specified in percentage. Avoid using terms such as "higher" or "lower." It is recommended to include an entomologist or pathologist (Crop Protection) in the project team for recording the pest/disease incidence.

PIE13001MI: All India Co-ordinated Experimental Trial for Mulberry Varieties (Phase –IV)

The RAC recommended using silkworm hybrid FC1 x FC2 in the bioassay studies at all centres in addition to B.Con1 x B.Con4. Apart from the yield parameters of the mulberry varieties, quality traits should also be focused upon.

(Action: Dr. Suresh, Sci-D)

Research on mutation breeding may be initiated with the assistance of BCKV, Mohanpur, Nadia.

(Action: Dr. Yallappa H, Sci-C)

APS02020MI: Improvement of seed crop productivity in West Bengal

The problem with the P1 Agrahayani crop is not being adequately addressed, and a comprehensive approach is required to resolve it. It is advised to first determine how many farmers in the North Bengal region are involved in the P1 Agrahayani crop through this project and are willing to continue further. A survey should be conducted in collaboration with DoS officials, visiting the farmers to gather information on the problems being faced during the P1 Agrahayani crop and the interventions the farmers need from the Institute to continue the P1 Agrahayani crop in the future. The PI should draw an action plan to address the seed shortage for the Agrahayani crop through this project. The Director of the Institute must give special attention to the project, visit the farmers in Kalimpong to discuss the challenges faced by the farmers, review progress including budget utilization on a monthly basis with the investigation team and DoS officials, and identify a suitable PI to take over the project upon the retirement of Dr. S. Chakraborty. It is recommended that the PI brief the project investigators on the progress made and the future work to be carried out before retirement. Additionally, it is advised to discuss the progress and shortfalls with subject experts like Dr. A.K. Saha, RAC member to address any gaps in the project and receive guidance on overcoming challenges.

(Action: Dr. Satadal Chakraborty, Sci-D)

AIE02018SI: Identification of superior bivoltine foundation cross as a male component to improve cross breed productivity in E & NE India

The PI is advised to present the statistically analyzed data, including any data pertaining to experimental rearing conducted at the farms.

(Action: Dr. Satadal Chakraborty, Sci-D)

MOE02025SIC: Identification of Seri-based IFS model for enhancing productivity and income at farmers level in West Bengal, Assam and Manipur

Include Tripura also as a study area in the project along with Manipur, West Bengal, and Assam. Discuss with DoS Tripura, obtain their inputs, and incorporate the same in the project. The revised project, along with a request for an extension of the duration, may be submitted to CO.

MOEQ2022MIC: Vulnerability of sericulture to climate change in India

The PI is advised to follow the methodology as suggested. A standard format involving different parameters for studying vulnerability should be drafted according to the study. The proposal must be sent to the judges (subject experts) for review. Using the relative weightage method, the judges will select or eliminate certain parameters, which will then form the statements of questions for the respondents to answer. An online meeting may be organized with the investigating team and subject experts from the RAC to discuss on the methodology.

(Action: Dr. P. Naik, Sci-C)

CFW02023MIC: Study the weaving and knitting performance of WB & NE mulberry silk yarn & Comfort value of its fabric

Dr. Debasish Chattopadhyay, Scientist – D, RSTRS, Malda, may be included in the project team as a co-investigator.

(Action: Mr. Arun Kumar, Sci-B)

MOE02014SI: Popularization of improved technologies developed in the field of mulberry sector for eastern & north-eastern India

C-II: Popularization of bio-control agents for the management of mulberry pests.

The details of potential buyers (enterprises) may be obtained with the help of Prof. Sailesh Chattopadhyay for possible collaboration and commercialization of the technology. The PI reported that the target for trials with *Scymnus* beetles could not be achieved due to unavoidable reasons. It is advised to conclude the project in January with the farmers who have already been covered. The biocontrol agents may be conserved by depositing at suitable centers like NBAIR.

(Action: Ms. Reshma R, Sci-B)

Component IV: Popularization of chawki, shoot/shelf rearing & plastic collapsible mountages

The PI is advised to take all necessary efforts to introduce chawki, shoot/shelf rearing, and plastic collapsible mountages in the eastern and north-eastern region.

(Action: Dr. P. Naik, Sci-C)

MOE02015MI: Evaluation of improved technologies developed in the field of mulberry sector for eastern & north-eastern India

Component III: Low-cost drip fertigation system for mulberry

It is brought to the notice of the committee that DoS Khosbag is not providing data due to water and labor issues. Dr. Yallappa requested that the unit be dropped as a test center from the study, and the committee agreed to the request.

(Action: Dr. Yallappa H, Sci-C)

Popularization of 12Y x BFC1

DoS Tripura indicated that the 12Y x BFC1 hybrid is performing very well in the region, with an annual requirement of 1 lakh dfls. DoS Tripura is advised to provide the season-wise requirements, and the institute may work out a plan with SSPC for the supply. It is also advised to popularize the hybrid in West Bengal. The PI may discuss on this issue with the NSSO Bangalore, involving scientists from SSPC, Berhampore. The Director (Tech./NSSO) extended full support, ensuring involvement of BSF at Ambari Falakata. Parents of this hybrid may be handed to SBRL for molecular barcoding to avoid IPR issues in future. Mr. Harish Kumar J., Scientist B, SSPC Berhampore is advised to report any problems being encountered in the preparation of hybrids to CSRTI-Berhampore for necessary action at their end.

[Dr. Satadal Chakraborty, Sci-D/Dr. Th. Ranjita Devi, Sci-C]

The senior scientists are advised to include the newly joined scientists, depending on their specialization, as co-investigators/facilitators in the ongoing projects upon discussion in the internal meetings, so that they can become acquainted with the ongoing research.

[PMCE]

Concluding Remarks

Mr. Abdur Rashid: New mulberry varieties are exhibiting increased susceptibility to pests and diseases. In this regard, the institute needs to give more attention and develop precautionary measures.

Mr. Pradip Kumar Saha: Severe leaf fall during November leads to crop failure in Tripura, and efforts to address this issue may help the farmers. After the release of one mulberry variety, attention may be given to training and extension activities for popularization of the same. The strategies to enhance productivity of cocoon yield should be prioritized. It is crucial to rethink the motive behind the research to align it with practical challenges. More frequent virtual conferences may be arranged to discuss the issues with relevant stakeholders and develop potential solutions.

Mr. Swapan Kumar Maity: In his remarks, he expressed his willingness to extend cooperation on behalf of the Department of Sericulture, West Bengal.

Dr. Debasish Chattopadhyay

In his concluding statement, it was suggested that the scientists prioritize performing thorough statistical analyses of their experimental data by employing suitable statistical techniques to ensure the accuracy and reliability of their results and derive significant conclusions.

Dr. Atul Kumar Saha

There is a significant potential to develop seed crops in hilly areas, which should be explored in future. The silkworm breeding initiatives and extension efforts need to be strengthened. The absence of new research projects or innovative concepts is concerning and not expected. All scientists should make concerted efforts to propose new ideas and initiatives that address the challenges faced by farmers.

Dr. Sukhen Roy Chowdhary

It was emphasized that new projects should be initiated, including climate resilience studies, and the requirements for seed crops must be adequately addressed.

Dr. Prabir Kumar Bhattacharyya

The scarcity of DFLs at the farmers' level needs to be addressed as a priority, and the findings of concluded projects must be popularized. Under ATMA, sericulture is a major focus, and the available manpower can thus be effectively utilized to popularize the developed technologies at the farmers' level. New concepts should be proposed in due course.

Dr. Sailesh Chattopadhyay

The issues mentioned by the rearers and reelers' representatives must be addressed as a priority, and all efforts to strengthen sericulture in West Bengal must be undertaken by the Institute in collaboration with the DoS. The new concepts addressing the challenges of farmers must be proposed with clear objectives. Pre-RAC meetings should be conducted.

Dr. Siddhartha Deb Mukhopadhyay

The extension activities should be strengthened, and fund utilization in projects must be properly and efficiently monitored. Research gaps need to be identified, and project milestones should be reviewed every six months, along with proper budget utilization. Prioritizing statistical analysis is essential, and it is suggested that the scientists undergo a crash course on research methodology. Whenever assistance is required, whether for statistical analysis or any other support, the Research Advisory Committee is ready to provide all necessary guidance. Additionally, publications should be included in presentations.

Mr. R. Arun Kumar: All institutes should encourage inter-institute training and collaborations, as this will lead to the emergence of many ideas and opportunities. The lack of new proposals should be addressed in the future. The Research Extension Centre (Agartala) requires scientific personnel for expansion of sericulture activities. Agroforestry and seri-economics based studies must be taken up in Tripura. He opined that if officials from other state departments had attended, it could have led to better discussion and collaboration.

Dr. M. Maheswari: The list of publications will be included from next time. The extension and training activities of the sub-units attached to the main institute will be monitored periodically, and pre-RAC meetings will be conducted regularly.

Dr. T. Selvakumar: The scientists are advised to undertake studies on priority research areas and submit new concepts aligned with the issues stated by the reelers and rearers' representatives.

Dr. S. Manthira Moorthy: In the concluding remarks, it was emphasized that research should be prioritized to address the needs of farmers, and extension activities should focus on popularizing the developed technologies. External funding for projects should be pursued, and the CO is ready to provide support in undertaking thrust area-oriented research.

Dr. Swarup Kumar Chakrabarti, Chairman

The Chairman of the committee thanked all the members, especially the Director of DHHS, Tripura, for attending the meeting, which facilitated discussions on research and policy-related issues. He also encouraged other officers from the Department of Sericulture in different states to attend future RAC meetings. All projects have been initiated based on the needs and problems of farmers, but more attention should be given to the popularization aspect. Tripura and Assam are making encouraging progress in mulberry sericulture. New concepts may be proposed in thematic areas such as the reclamation of degrading lands, GHG emissions, and carbon budgeting.

The meeting ended with vote of thanks

Minutes approved

Dr. M. Maheswari	**Dr. T. Selvakumar**	**Dr. Swarup Kumar Chakrabarti**
Director	**Director & Member Convenor**	**Chairman**

Annexure - I

List of participants in the 59th meeting of Research Advisory Committee (RAC) held on 21st October 2024

#	Participants	Designation
1	Dr. Swarup Kumar Chakrabarti	Former Vice-Chancellor, Uttar Banga Krishi Viswavidyalaya & Chairperson, RAC
2	Mr. R. Arun Kumar, IFS	Director, DHHS, Tripura, Member
3	Dr. Sailesh Chattopadhyay	Professor, Birsa Agricultural University, Ranchi, Member
4	Dr. Siddhartha Deb Mukhopadhyay	Professor, Visva-Bharati University, Member
5	Dr. Prabir Kumar Bhattacharyya	Associate Professor, BCKV, Member
6	Dr. Sukhen Roy Chowdhary	Former Director, CSB, Member
7	Dr. Atul Kumar Saha	Former Scientist-D, CSB, Member
8	Dr. S. Manthira Moorthy	Director (Tech), CO & Director, NSSO, Bangalore, Member
9	Mr. Swapan Kumar Maity	Deputy Director of Sericulture, Murshidabad, Govt. of West Bengal (Representative of Commissioner, Textiles & Sericulture, WB), Member
10	Mr. Pradip Kumar Saha	Superintendent, DHHS, Tripura
11	Md. Abdur Rashid	Rearer Representative, Member
12	Mr. Ansarul Sk.	Reeler Representative, Member
13	Dr. Debasish Chattopadhyay	Scientist – D, RSTRS, Malda [Permanent Invitee]
14	Dr. T. Selvakumar	Director, CSRTI, Berhampore, Member Convenor
15	Dr. M. Maheswari	Director, CSRTI, Berhampore
16	Dr. Satadal Chakraborty	Scientist - D, CSRTI, Berhampore
17	Dr. Suresh K.	Scientist - D, CSRTI, Berhampore
18	Dr. Pooja Makwana	Scientist - D, CSRTI, Berhampore
19	Dr. K. Rahul	Scientist - D, CSRTI, Berhampore
20	Dr. Parameshwara Naik J.	Scientist - C, CSRTI, Berhampore
21	Dr. Deepika Kumar Umesh	Scientist - C, CSRTI, Berhampore
22	Dr. Yallappa Harijan	Scientist - C, CSRTI, Berhampore
23	Dr. Th. Ranjita Devi	Scientist - C, CSRTI, Berhampore
24	Dr. Khasru Alam	Scientist - C, CSRTI, Berhampore
25	Dr. Raviraj V.S.	Scientist - C, CSRTI, Berhampore
26	Dr. Mihir Rabha	Scientist - C, CSRTI, Berhampore
27	Dr. Y. Nagaraju	Scientist - B, CSRTI, Berhampore
28	Ms. Harshitha B.S.	Scientist - B, CSRTI, Berhampore
29	Ms. Sanghmitra Aditya	Scientist - B, CSRTI, Berhampore
30	Dr. Javid Ur Rahman	Scientist - B, CSRTI, Berhampore
31	Ms. Reshma R.	Scientist - B, CSRTI, Berhampore
32	Mr. Harish Kumar J.	Scientist - B, SSPC, Berhampore
33	Smt. Mahua Chattopadhyay	Sr. Tech. Asst., CSRTI, Berhampore
34	Mr. Subrata Sarkar	Sr. Tech. Asst., CSRTI, Berhampore
35	Smt. Subhra Karmakar Mustafi	Sr. Tech. Asst., CSRTI, Berhampore
36	Md. Shahin Hossain	JRF, CSRTI, Berhampore
37	Ms. Neha Sarkar	JRF, CSRTI, Berhampore
38	Ms. Sabina Khatun	JRF, CSRTI, Berhampore
39	Ms. Y. Surjalata Devi	PA, CSRTI, Berhampore
40	Ms. Babita Sonowal	PA, CSRTI, Berhampore
41	Ms. Aishwarya KR	PA, CSRTI, Berhampore
42	Ms. Tamalika Mondal	PA, CSRTI, Berhampore

43	Ms. Nikita Mandal	PA, CSRTI, Berhampore
44	Ms. Sugantichik Barik	PA, CSRTI, Berhampore
45	Md. Masiul Islam	PA, CSR&TI, Berhampore
46	Mr. Shuvam Kumar Mandal	PA, CSRTI, Berhampore
47	Mr. Ranadip Das	PA, CSRTI, Berhampore
Absentee:		
1	Director, DoS-Manipur	Member
2	Director, DoS-Assam	Member
3	Representative (SMOI)	Member