

**Minutes of 49<sup>th</sup> Meeting of Research Advisory Committee  
(15<sup>th</sup> January 2019 at CSR&TI, Berhampore, West Bengal)**

49<sup>th</sup> Research Advisory Committee meeting of CSR&TI, Berhampore was held on 15<sup>th</sup> Jan., 2019 under the Chairmanship of Dr. Chirantan Chattopadhyay, Vice Chancellor, Uttar Banga Krishi Viswavidyalaya, Coochbehar, West Bengal.

Dr. D. Pandit, Scientist-D (PMCE) welcomed Dr. Chirantan Chattopadhyay (RAC-Chairman), Dr. V. Sivaprasad (Director), distinguished RAC members, invitees, scientists and other participants. At the outset, Dr. V. Sivaprasad in his introductory remarks, expressed sincere thanks to the Chairman, members of RAC, invitees and others for their participation in the meeting. He requested all for their active interaction and valuable suggestions for the benefit of sericulture industry. The Director presented the highlights of R & D during the period (Jun. – Dec 2018). Dr. Chirantan Chattopadhyay, Chairman, RAC in his opening remarks extended greetings of New Year and thanks for participating. He also welcomed all young scientists who joined recently and suggested them to focus their research on priority areas of sericulture industry. Further, he advised the scientists to take necessary action on the suggestions made by the RAC.

List of participants is appended in **Annexure – I**. On the occasion, a pamphlet entitled “Cost and Returns of mulberry cocoon in West Bengal” (Bengali) was released. Thereafter, items were taken up for discussion agenda-wise.

**ITEM NO.1: Confirmation of the minutes of 48<sup>th</sup> meeting of Research Advisory Committee (RAC) held on 24<sup>th</sup> July, 2018 at CSR&TI, Berhampore.**

As, no comments were received from any of the members of the committee, the minutes were confirmed. Further, it was suggested that in any of the agenda explanatory note of the meeting should be appended with minutes of immediate previous meeting.

**ITEM NO. 2: Review of follow-up action taken on the recommendations/ decisions of 48<sup>th</sup> meeting of Research Advisory Committee (RAC) held on 24<sup>th</sup> July, 2018.**

With regard to the technologies namely Pushti, Nemotonasha, Pollusri and Ghar Nirbijan, RAC suggested the concerned scientists to discontinue the evaluation of these products as similar kind of products were developed and commercialized by other CSB institutions and the same could be popularized with the farmers in the field.

**[Action: K. Rahul & Anil Pappachan, Sci-B]**

With regard to the development of Souroneer and Suvama (motorized Charka & solar power water supply system), RAC advised the scientists to work out the economics before recommending to the field and initiating popularization programmes.

**[Action: Shri G. Maitra, Sci.D, R&S]**

#### ITEM NO. 4: APPROVAL OF NEW RESEARCH PROJECTS

The following new research proposals were presented by the concerned investigators and RAC critically reviewed the proposals. The decisions are as follows:

**Title: Evaluation of the performance of mulberry genotype C-9 under red and laterite soils**

**Duration:** 4 years

**Observation/Suggestion:** Suggested to incorporate S-1 as additional check along with S-1635.

**Decision:** Project approved for 4 years and the PI was advised to modify the project as suggested for submission to the CSB for approval.

[Action: Shri Debashish Chakravarty, Scientist-D, MBG Section]

**Title: Validation of management of mulberry root rot caused by *Fusarium solani***

**Duration:** 2 years

**Observation/Suggestion:** RAC suggested modifying title as "Studies on management of mulberry root rot disease in Eastern and North Eastern India" and to exclude the survey from the proposal. Instead, all extension personnel should be advised to record incidence of root rot in respective areas for follow-up. Further, it was suggested to incorporate 'Carbendazim' along with other treatments in the proposed study. PI was advised to modify the proposal and collaborate with CSRTI-Mysore. Moreover, PI was advised to assess techno-economics of identified disease control measures before recommending the product.

**Decision:** Approved for 2 years. PI was advised to incorporate all the above suggestions and submit the modified proposal for submission to the CSB for approval.

[Action: Dr. Anil Pappachan, Scientist-B, Mulberry Pathology Section]

**Title: On-farm evaluation of foliar application of seaweed extract for improvement of quality and yield of mulberry**

**Duration:** 2 years

**Observation/Suggestion:** The techno-economic analysis of seaweed extract application seems less promising as compared to the existing technology commercialized by the Institute and RAC opined that the next phase of project proposal is not essential.

**Decision:** Not approved.

[Action: Dr. Anil Pappachan, Scientist-B, Mulberry Pathology Section]

**Title: Development of organic based package for mulberry cultivation in hills of Sikkim**

**Duration:** 3 years

**Observation/Suggestion:** Since the organic based package of practices for mulberry cultivation has been developed by CSRTI-Mysore, the PI was advised to adopt participatory approach for organic certification in Sikkim.

**Decision:** Not approved the project in present form. As Sikkim is declared as organic state, the PI may formulate a participatory project with 10 farmers for introducing organic farming steps developed by CSRTI-Mysore and obtain statutory certification.

[Action: Shri S. T. Lepcha, Scientist-D, REC, Mamring, Sikkim]

## ITEM NO. 5: REVIEW OF CONCLUDED PROJECTS

Four research projects which have concluded during the period as per the time schedule were presented by the concerned investigators. Project-wise suggestions made by RAC are as follows for further course of work.

### PIC 3554: Candidate gene based molecular marker(s) for screening promising recombinants in mulberry

**Observation/Suggestion:** The project was concluded as per the reframed milestones approved by CSB. However, the following suggestions were made before undertaking future plan of work:

- Basis for selection of parental lines should be reflected in the conclusion report.
- To incorporate the development of CAPs marker-chalcone synthase as a component in the collaborative project with SBRL.
- Assess nitrogen reductase activity in popular mulberry varieties.
- Proposal to be made on eight superior progenies identified for Primary Yield Trial (PYT).

[Action: Shri K. Suresh, Sci-B, RSRS, MBG Section]

### PPF 3585: Application of Growing Degree Days as a model driver for developing mulberry yield weather model

**Observation/Suggestion:** The project was concluded as per the time schedule and the following suggestions were made before undertaking future course of work:

- Explore the possibilities of incorporating the outcome through mobile app for decision support system to the stakeholders. However, suggested to validate the developed models with field data.

[Action: Dr. R. Mahesh, Sci.-B, Agronomy & Soil Science]

### PIB 3548: Evaluation of bacterial leaf spot resistant improved progenies of mulberry for field utilization

**Observation/ Suggestion:** The project was concluded as per the time schedule, however, the following suggestions were made before undertaking future course of work:

- More number of SSRs need to be utilized for confirming the linkage with BLS resistance
- Identified SSRs need to be validated using larger random F2 population with robust phenotyping
- Seek the expertise of Dr. Somnath Bhattacharya (RAC Member)

[Action: Dr. S. Chattopadhyay, Scientist-D, Biotechnology Division]

### MOE 3604: Yield gap analysis in mulberry leaf and cocoon production-A study in Eastern Ghat Highland zones of Odisha.

**Observation/ Suggestion:** The project was concluded as per the time schedule, however, the following suggestions were made before undertaking future plan of work:

- Sort out the factors responsible for yield-gap and point out the strategies to be adopted to minimize such gaps.

[Action: S.K. Misro, Scientist-C, RSRS, Koraput, Odisha]

**ITEM NO. 5a: RE-REVIEW OF CONCLUDED/ NEW PROJECTS AS SUGGESTED BY 61<sup>st</sup> RCC**

Elaborate discussions were held on the four concluded projects and a new project as per the RCC suggestion following the presentations by the respective investigators.

**MOT 3601: Skill Gap Analysis and Capacity Building of Sericulture Extension Workers and Farmers in Traditional and Non-Traditional States**

**Observation:** RAC suggested to utilize the information generated for future skill development programmes

**MTS 3599: Study on mulberry sericulture production in West Bengal: A statistical approach**

**Observation:** RAC suggested sharing the information generated on sericulture in West Bengal with the DoS for future planning and policy implementations **[Action: Dr. Manjunatha, G. R, Scientist-B, PMCE Division]**

**ARP-3522: Isolation, cloning and characterization of antibacterial protein (s) from silkworm [Coll. with SBRL, Bangalore]**

**Observation:** RAC opined that the next phase of work proposed cannot be implemented as the antibacterial protein production using yeast expression system is in very low quantities and suggested exploring better expression/production systems. **[Action: Dr. Rahul. K, Scientist-B, SW Pathology Section]**

**PPF 3598: Arsenic contamination in mulberry sericulture of Bengal Plain and its alleviation through application of zinc in soil**

**Observation:** The arsenic concentration in the field was not found to be lethal, further studies were not undertaken and project was concluded premature.

Further, RAC advised the concerned PIs to prepare brief and quantified report (contains title, budget, objectives, methodology followed, outcome and its utilization) for the next RCC presentation.

**[Action: Concerned PI(s) of the Project(s)]**

Besides, a collaborative project proposal conceived two years back was also re-discussed as per the suggestion of RCC.

**Title: Molecular characterization and assessment of the efficacy of low molecular weight peptides isolated from mulberry leaf against flacherie disease of silkworm. [Coll. with NBU, Shiliguri]**

**Observation/Suggestion:**

- Effectiveness of low molecular weight peptides against flacherie causative agents should be ascertained in terms of LD50 values
- Approved for 3 years as collaborative project with NBU

**Decision:** Approved and suggested to submit the proposal for CSB approval.

**[Action: Ms. Pooja Makwana, Sci-B, Biotechnology Division]**

## ITEM NO. 6: REVIEW OF PROGRESS OF ON-GOING PROJECTS

The progress of following on-going research projects (21 nos.) at main institute and nested units were reviewed by the RAC and suggestions made are as follows:

### **PIB 3505: Development of drought tolerant mulberry variety for rainfed sericulture.**

The project progress was found to be satisfactory and suggested discussing the detailed methodology to be followed with Dr. K. Vijayan, Sci-D, CSB (CO)

### **PIB 3610: Preliminary evaluation of newly evolved mulberry genotypes for mulberry improvement.**

The project progress was found to be satisfactory.

### **PIB 3576: Evaluation of new mulberry genotypes for improvement in productivity and quality.**

The project progress was found to be satisfactory and suggested recording the biomass yield data during winter season.

### **PIB 3627: Development of superior mulberry (*Morus spp.*) genotypes through Polyclonal Seed Orchard.**

The project progress was found to be satisfactory.

[Action: Shri K. Suresh, Scientist-B and Shri D. Chakravarty, Scientist-D MBG Section]

### **PPA 3588: Evaluation of low cost drip fertigation systems on yield and quality of mulberry leaves.**

PI was advised to apply suitable statistical analysis as the reported leaf yield variation was enormous and also to minimize soil heterogeneity effect. [Action: Dr. R. Mahesh, Scientist-B, Agronomy & Soil Science Section]

### **PPS 3600: Soil health card preparation for mulberry growing soils in Eastern and North-eastern India.**

PI was advised to correlate the results of soil analysis with NBSS & LUP and ensure to cover beneficiaries in all the E & NE states. [Action: Dr. V. Vijay, Scientist-B, Agronomy & Soil Science Section]

### **AIB-3602: Development of thermo-tolerant Bivoltine Breeds/Hybrids of Silkworm through Marker Assisted Selection.**

PI was advised to assess the performance of breeding lines in all seasons at ambient conditions

[Action: Dr. N. Chandrakanth, Sci-B, SBG Section]

### **AIB 3617: Identification of region specific bivoltine hybrids suitable for highly fluctuating and seasonally variable climatic conditions of eastern and North-Eastern India (Phase-II).**

PI was advised to select foundation crosses with minimum heterosis and the number of larvae should be increased to 1000 during hybrid evaluation studies. PI was also advised to keep in mind on race authorization benchmarks for economic traits while developing new hybrids. [Action: Dr. V. Lakshmanan, Sci-D, SBG Section]

### **AIB 3616: On farm trial of the multivoltine silkworm breeds/ hybrids developed for high shell percentage and neatness of silk filament.**

The data recorded on hybrid evaluation was found to be encouraging.

**AIB 3619: Development of silkworm congenic breeds from a gene pool with higher genetic plasticity.**

PI was advised to perform segregation analysis in the broods. [Action: Dr. A.K. Verma, Sci-D, SBG Section]

**ARP3605: Validation of the DNA markers in silkworm breed developed by introgression of DNA markers associated with NPV resistance using Marker Assisted Selection breeding and large scale field trial of the breed. [DBT funded Coll. with SBRL, Bangalore; CSR&TI, Mysore & CSR&TI, Pampore]**

The data recorded on hybrid evaluation was found to be encouraging.

**AIB-3577: Evaluation of multivoltine germplasm to identify potential parents for developing cross breeds suitable for Southern and Eastern India. [Coll. with CSGRC, Hosur]**

The data recorded on hybrid evaluation was found to be encouraging.

**AIB-3578: Evaluation of exotic bivoltine silkworm breeds to identify promising parental genetic resources. [Coll. with CSGRC, Hosur]**

The data recorded on hybrid evaluation was found to be encouraging.

**PRE-3589: Assessment of designed antimicrobial peptides for mulberry protection against brown leaf spot and root rot: a biotechnological approach.**

PI was advised to include Plant Pathologist to assess the *ex-vivo* efficacy of designed peptides on root rot suppression. [Action: Dr. Soumen Chattopadhyay, Scientist-D, Biotechnology Division]

**ARP 3590: Studies on the efficacy of phototrophic bacterial extracts as feed supplement for management of diseases in silkworm, *Bombyx mori* L**

The progress achieved was satisfactory.

**ARP 3630: Evaluation of new room and silkworm bed disinfectants**

The progress achieved was satisfactory.

**PPA 3622: Popularization of high bush mulberry plantation technology in Majuli, river island of the Brahmaputra, Assam.**

**PRE02001SI: Management of Pink Mealy Bug *Maconellicoccus hirsutus* of Mulberry with barrier system.**

The progress of both the projects (PPA 3622 & PRE02001SI) at RSRS-Jorhat was found to be slow and not as per the milestones and RAC advised Director, CSRTI-Berhampore for thorough review of the projects and may even consider midterm closure. [Action: Shri. P. Kumaresan, Sci-C, RSRS, Jorhat, Assam]

**PPA 3560: Studies on High Bush mulberry plantation under rainfed condition of Odisha.**

**PPA 3613: Studies on drum-kit drip irrigation with hydrogel on yield and water use efficiency of mulberry.**

**AIB 3614: Studies Evaluation and Identification of Suitable Bivoltine Hybrid for Odisha.**

The progress of these projects (PPA 3560, PPA 3613 & AIB 3614) at RSRS-Koraput was found to be slow and not as per the milestones and RAC advised the Director, CSRTI-Berhampore for thorough review and give suitable suggestions for achieving the milestones within the scheduled time frame.

[Action: Shri S.K. Misro, Scientist-C, RSRS Koraput]

### General Comments of RAC Members & Chairperson:

**Dr. D.C. Ghosh** complimented the scientists for their deliberations and suggested that agronomy projects should incorporate economics part and homogeneity tests should be conducted before conducting field experiments.

**Dr. Nirmal Kumar** expressed his happiness to see dynamic leader with young scientists and encouraged to bring forth research proposal with innovative content(s). He suggested to focus on areas of climate resilience, productivity improvement in collaboration with other R&D institutes.

**Dr. R. K. Mishra** complimented the scientists for outstanding research activities with suggestions including necessity for of taking up region specific and adoptive research, fine tuning of existing technologies and more translational projects along with basic research

**Dr. K. Vijayan** suggested the young scientists to identify yield gaps in sericulture before proposing new projects and also encouraged the scientists to propose both intra-/inter-institutional research projects

**Shri A.N. Mandal** welcomed the new Director, CSRTI-Berhampore and assured the continuous support and cooperation of DoS in all the developmental activities of institute.

**Shri Sourav Majumder** drew the attention of the problem of higher proportion of double cocoons at farmers' field, which needs to be minimized. He also stressed that traditional reeling machinery have to be replaced with modern ones for quality silk production.

**Md. Samsul Haque** expressed happiness on gradual improvement of leaf yield and cocoon due to the intervention of high yielding varieties/breeds/hybrids. He emphasized for the supply of disease free saplings to prevent especially root knot nematode. He also requested for developing effective disinfectants for the management of silkworm diseases, especially grasserie.

**Md. Ebarat Ali** stressed on the problems of cocoon & silk yarn marketing and lack of suitable machines for improving reelability. He opined that 'Souroneer' is performing well in the field and requested for the early popularization.

**Shri S. Nonhare** thanked to be part of discussion on research and requested for technical guidance to organise long- term effective training programmes for development of Sericulture in Chattisgarh.

**Shri Anil Kumar** requested to focus research on Impact analysis of projects outcome and marketing issues

**Dr. V. Sivaprasad**, expressed his pleasure in convening the RAC meeting and thanked one and all to be part of the meeting. He assured that the requirement of states will be met out on priority basis for the development of sericulture in the East and North Eastern zone.

### General Suggestions:

- Biological materials should not be exchanged without proper material transfer agreement. For any collaborative study, investigators should invariably include Director's endorsement.
- Negotiation with KVKs for discharging extension activities and submission of progress in the next meeting
- Submission of project conclusion reports should invariably contain along with RAC and Director's comments.


**Dr. Chirantan Chattopadhyay, RAC-Chairman** expressed his happiness for improved and focused presentation with following advise:

- Highlighted the team work for focused research and also stressed for need-based research proposals
- Utilizing *DD-Kisan* like platform(s) to spread the research outcome to field

**[Action: Concerned scientists]**

The meeting was ended with the vote of thanks.

**Approved**

  
(Dr. Chirantan Chattopadhyay)  
Chairperson, RAC  
CSRTI-Berhampore

Date:



## ANNEXURE -I

### LIST OF PARTICIPANTS IN THE 49<sup>TH</sup> MEETING OF RESEARCH ADVISORY COMMITTEE (RAC) HELD ON 15.01.2019 AT CSR&TI, BERHAMPORE, WEST BENGAL

#	Name	Designation
1.	Dr. Chirantan Chattopadhyay, Chairman, Vice Chancellor, Uttar Banga Krishi Viswavidyalaya, Pundbari, Coochbehar, West Bengal.	<b>Chairman</b>
2.	Dr. V. Sivaprasad, Director, CSR&TI, Berhampore	Convenor
3.	Dr. S. Nirmal Kumar, Former Director, CSR&TI, Berhampore	Member
4.	Dr. R. K. Mishra, Director (Tech), Central Silk Board, Bangalore	Member
5.	Dr. Dulal Chandra Ghosh, Former Prof. of Agronomy, Viswa Bharati University, WB	Member
6.	Dr. Somnath Bhattacharya, Professor, B.C.K.V. Mohanpur, Nadia	Member
7.	Shri C.S. Nonhare, Joint Director, Rep. DoS, Govt. Of Chattishgarh	Member
8.	Shri Anil Kumar, Asst. Director ( HQ), Rep. DoS, Govt. Of Jharkhand.	Member
9.	Shri Biswajit Modak, WBCS (Exe), Officer of the Special Duty Agri. & Seri., GoWB	Member
10.	Shri Sourav Majumder, Sc-D, SCTH, Malda.	Member
11.	Md. Samsul Haque, Rearing Representative Nabagram, Murshidabad, West Bengal	Member
12.	Md. Ebarat Ali, Rearing Representative, Kajigram, Malda, West Bengal	Member
13.	Shri Anath Nath Mondal, Joint Director, DOS, West Bengal	Invitee
14.	Dr. K. Vijayan, Sc-D, RCS, Central Office, Bangalore	Invitee

<b>Absentee:</b>		
1.	Dr. S. Mukhopadhyay, Principal Scientist, ICAR-NBSS&LUP, West Bengal.	Member
2.	Director, DOHS, Bihar	Member
3.	Director, DOS, Odisha	Member
4.	Director, DOS, Assam	Member
5.	Director, Directorate of Sericulture, DoS, Mizoram	Member
6.	Director, Directorate of Sericulture, DoS, Manipur, Imphal	Member
7.	Director, DoS, Gangtok, Sikkim	Member
8.	Director of Sericulture & Weaving, Government of Meghalaya, Shillong	Member
9.	Director of Handloom, Handicrafts & Sericulture, Govt. of Tripura, Agartala, Tripura	Member
10.	Director of Textiles and Handicrafts, Government of Arunachal Pradesh, Itanagar	Member
11.	Director of Sericulture, Government of Nagaland, Kohima	Member
12.	Director of Sericulture, BTC Assam	Member

**LIST OF SCIENTISTS/ PARTICIPANTS ATTENDED THE MEETING**

#	Name	Designation	Address
1.	Smt. Chandna Maji	Scientist-D, Training Division	CSR&TI, Berhampore
2.	Shri N. B. Kar	Scientist-D, R & S Division	CSR&TI, Berhampore
3.	Shri B.C.Roy	Scientist-D, Silkworm Pathology.	CSR&TI, Berhampore
4.	Dr. T. Dutta (Biswas)	Scientist-D, Extension & Pub. Division	CSR&TI, Berhampore
5.	Dr. V. Lakshmanan	Scientist-D, SBG Section	CSR&TI, Berhampore
6.	Dr. S. Chattopadhyay	Scientist-D, Biotechnology Division	CSR&TI, Berhampore
7.	Dr. A. K. Verma	Scientist-D, SBG Section	CSR&TI, Berhampore
8.	Dr. Dipesh Pandit	Scientist-D, PMCE Division	CSR&TI, Berhampore
9.	Shri D.Chakravarty	Scientist-D, Moriculture Division	CSR&TI, Berhampore
10.	Shri Gopal Ch. Das	Scientist-D, SWPhy & RTI and BV- Cell	CSR&TI, Berhampore
11.	Shri Goutam Mitra	Scientist-D, R & S	CSR&TI, Berhampore
12.	Mr. Zakir Hossain	Scientist-D, RSRS	Kalimpong, WB
13.	Dr. Satadal Chakraborty	Scientist-D, REC	Mothabari, Malda, WB
14.	Shri N.B. Chowdhury	Scientist-D, REC	Dhenkikote, Odisha
15.	Shri S.T. Lepcha	Scientist-D, REC	Mamring, Sikkim
16.	Shri P.Kumaresan	Scientist-C, RSRS	Jorhat, Assam
17.	Shri S.K.Misro	Scientist-C, RSRS	Koraput, Odisha
18.	Dr. Sukhabrata Sarkar	Scientist-C, Training Division	CSR&TI, Berhampore
19.	Dr. V. Vijay	Scientist-B, Agronomy and Soil sci. Section	CSR&TI, Berhampore
20.	Dr. Manjunatha, G. R	Scientist-B, PMCE Division	CSR&TI, Berhampore
21.	Dr. R. Mahesh	Scientist-B, Agronomy and Soil sci. Section	CSR&TI, Berhampore
22.	Dr. Anil Pappachan	Scientist-B, Mulberry Pathology Section	CSR&TI, Berhampore
23.	Dr. N. Chandrakanth	Scientist-B, SBG Section	CSR&TI, Berhampore
24.	Shri Suresh K.	Scientist-B, MBG Section	CSR&TI, Berhampore
25.	Dr. K. Rahul	Scientist-B, Silkworm Pathology Section	CSR&TI, Berhampore
26.	Ms. Pooja Makwana	Scientist-B, Biotechnology Division	CSR&TI, Berhampore
27.	Dr. Raviraj V.S.	Scientist-B, SBG Section	CSR&TI, Berhampore
28.	Dr. Mihir Rabha	Scientist-B, Silkworm Pathology Section	CSR&TI, Berhampore
29.	Dr. Aparna Kapparapu	Scientist-B, Biotechnology Division	CSR&TI, Berhampore
30.	Dr. Gangadhar Nanda	Scientist-B, Agronomy and Soil sci. Section	CSR&TI, Berhampore
31.	Mr. Yallappa Harijan	Scientist-B, MBG Section	CSR&TI, Berhampore
32.	Dr. Parameswara Naik.J.	Scientist-B, Extension Division	CSR&TI, Berhampore
33.	Ms.Immanuel Chongboi Haokip	Scientist-B, Agronomy and Soil sci. Section	CSR&TI, Berhampore
34.	Dr. Thangjam Ranjita Devi	Scientist-B, SBG Section	CSR&TI, Berhampore
35.	Mr. Radha, M. B.	Scientist-B, Entomology Section	CSR&TI, Berhampore
36.	Dr. Deepika Kumar Umesh	Scientist-B, MBG Section	CSR&TI, Berhampore
37.	Dr. Harish Babu	Scientist-B, RSRS	Kalimpong, WB
38.	Shri P.K.Prasad	Asst. Director (Comp.)	CSR&TI, Berhampore
39.	Shri Subrata Sarkar	Technical Assistant, PMCE Division	CSR&TI, Berhampore
40.	Smt. S. Karmakar	Technical Assistant, PMCE Division	CSR&TI, Berhampore
41.	Shri Pradeep Banerjee	Technical Assistant, PMCE Division	CSR&TI, Berhampore
42.	Smt. M. Chattopadhyay	Technical Assistant, PMCE Division	CSR&TI, Berhampore
43.	Shri Sabyasachi Gangopadhyay	Tech. Asstt., REC	Agartala, Tripura
44.	Shri Imtinokchung	Tech. Asstt. REC,	Dimapur, Nagaland