MINUTES OF THE 47thRESEARCH ADVISORY COMMITTEE (RAC) MEETING OF CSR&TI, PAMPORE HELD ON 3rd June, 2024 THROUGH HYBRID MODE

The newly constituted RAC committee met on 3rd June 2024 to carry on the 47th Research Advisory Committee (RAC) meeting of CSR&TI under the Chairmanship of Prof. (Dr.) Nazeer Ahmed, the former Vice Chancellor of SKUAST-K. At the outset of the meeting, Dr Irfan Illahi, Scientist-D & In-charge of the PMCE Division, CSR&TI, Pampore, extended a warm welcome to Prof. (Dr) Nazeer Ahmed, Chairman Dr N.K. Bhatia, Director, CSR&TI, Pampore to the Honourable members of newly constituted RAC. He also welcomed the Directors and representatives of the Directors of various State Department of Sericulture and Sericulture Development Department, Scientist-D and In-charge of various nested units of CSB-CSR&TI, Pampore and other participants. After the welcome address, the RAC Chairman, in his opening remarks, briefed the house about its potential and significance of sericulture & its requirements and future approaches in North West India. He appreciated the sincere efforts of the Institute in bringing new single and double silkworm hybrids and three prospective somatic mulberry hybrids being developed for the first time in the history of the Institute, he also expressed the serious concern about decreasing trend of mulberry sericulture output in almost all the North-western Indian states despite of satisfactory budgetary support under SS-02.

Thereafter, Dr. N. K. Bhatia, Director, CSR&TI, Pampore, presented the highlights of the various Research & Developmental activities carried out by CSR&TI, Pampore and its nested units. The Chairman appreciated the R&D, ECP/CB&T and other activities initiated by the institute. After that, the 47th RAC meeting was initiated with agenda-wise discussions.

AGENDA No. 1: Confirmation of last RAC meeting minutes

As no comments were received, the house confirmed the minutes of the 46th RAC.

AGENDA No. 2: Follow up action on the general recommendations/ decisions of the last RAC meeting:

Dr. Irfan Illahi, Scientist-D, PMCE Division, presented the follow-up actions on the general recommendations/decisions of the Last RAC Meeting. House expressed satisfaction over the follow-up made by the Institute on the general recommendations made by RAC members.

AGENDA No. 3: Follow-up action taken on the project-specific recommendations/ decisions of the last RAC meeting

Dr Irfan Illahi, Scientist-D, PMCE Division, presented the follow-up action taken on the project-specific recommendations/decisions of the Last RAC Meeting & house expressed satisfaction over the follow-up made by the Institute and advised to present in Power-Point mode in the next RAC.

AGENDA No. 4: Review of Concluded Research Projects:

1. **AIB03007SI: Development of autumn-specific Bivoltine silkworm (Bombyx mori L.) hybrids suitable for the temperate regions of Jammu and Kashmir.**

Suggestion/Decision(s):

- House expressed satisfaction with the project's overall outcome and approved the concluded project.
- PI should take utmost care in selection of the farmers, and only those farmers should be selected who are having all the prerequisite rearing facilities in collaboration with DOS/SDD, because selecting farmers having suboptimal facilities results into sub-optimal achievement that badly affects the performance of the newly developed hybrids.
- Revalidate OFT by choosing few progressive farmers from district Udhampur area by taking the support of Deputy Director, SDD, Udhampur and also from the Scientist-C and In-charge of SSPC, Udhampur.
- Evaluation may be done with increased number of Sericulture farmers covering all the ago-climatic zones of Northwest India covering all the states under jurisdiction of this Institute.
- The data of the farmers of REC, Lamberi, was not up to the mark because of the suboptimal rearing conditions.
- The PI was suggested to repeat the OFT trails again in spring 2025 by increasing the number of locations under units of RSRS and also the DoS/SDD farms and their prospective farmers.

(Action: Shri. Bharath Kumar N.)

2. **AIB03008SI: "Development of Nutrigenetic Hybrids of Bivoltine silkworm, Bombyx mori L. under Subtropical condition of North West India."**

Suggestion/Decision(s):

- House expressed satisfaction and approved the concluded project.
- Advised to identify the farmers for OFT in consultation with DOSs.
- PI should take utmost care in selection of the farmers, and only those farmers should be selected who are having all the prerequisite rearing facilities in collaboration with DOS/SDD.
- Evaluation may be done with increased number of Sericulture farmers covering all the ago-climatic zones of Northwest India covering all the states under jurisdiction of this Institute.

(Action: Dr. Kiran R., PI of AIB-03004SI)

3. **MOE03010SI: Evaluation of improved mulberry silkworm hybrids and technologies for North & North West India.**

Component-I: "Large scale famer trial of summer crop and its impact on the autumn crop in selected areas of North West India (outcome of MOE-03001SI)."

Suggestion/Decision(s):

- House expressed satisfaction and approved the concluded project
- The PI was suggested to prepare a comprehensive report based on the outcomes of the experimental studies across the Northwest India, so that his findings could be adopted by the DoSs and SDDs of Northwest India to add one more crop in rearing schedule to improve the livelihood of the mulberry sericulture farmers.
- The PI should ensure the timely submission of the concluded report in time for its presentation in RCC.

(Action: Sardar Singh-PI)

Component-II: "Cocoon production improvement during autumn rearing through fortification of the mulberry leaf (outcome of PIN-3608)."

Suggestion/Decision(s): the House expressed satisfaction and approved the findings of the concluded project. The Co-PI should ensure the submission of the concluded report in time and in coordination with the PI to present it in RCC.

(Action: Bharath Kumar Neelaboina, Co-PI)

Component-III: "Revalidation of induction of water stress tolerance in mulberry under rainfed condition by application of triazole compound (Paclobutrazol) outcome of PIP-3543."

Suggestion/Decision(s): House expressed the satisfaction and approved the concluded project. The Co-PI should ensure the submission of the concluded report in time and in coordination with the PI to present it in RCC.

(Action: Santosh Kumar Magadum (Co-PI), Gulab Khan Rohela (CI)

Component-IV: "Evaluation of identified Bivoltine Silkworm Hybrids for Temperate Region of North West India (outcome of AIB-3626)."

- Suggestion/Decision(s): House expressed the satisfaction and approved the concluded project. The Co-PI should ensure the submission of the concluded report in time and in coordination with the PI to present it in RCC.

(Action: Bharath Kumar Neelaboina (Co-PI), Rajesh Kumar (CI)

Component-V: "Soil health fertilizer recommendation for DoS farms in North India (outcome of PPA-3603)"

- Suggestion/Decision(s): House expressed the satisfaction and approved the concluded project. The Co-PI should ensure the submission of the concluded report in time and in coordination with the PI to present it in RCC.

(Action: Santosh Kumar Magadum (Co-PI), Gulab Khan Rohela (CI), Chattar Pal (CI), Ram Lakhan (CI)

Component-VI: "Popularization of CRC concepts & strengthening at selected DoS, CRC locations in North India".

Suggestion/Decision(s):

- The Chairman appreciated the eye-opening findings of the experimental outcomes of the study, which confirms that.
  - The state of CRCs in the entire NW India is very disappointing.
  - Data indicates that none of the CRC centres in the entire NW India has sufficient CRC facilities, i.e. Technical Human Resource, space, number of trays, Number of stands, the health of Chawki gardens, etc.
  - In J&K, only 10-15% of the total silkworm's seed intake (21 Lakh) is subjected to Chawki rearing, which is also under sub-optimal conditions. The rest of the seeds are supplied just after hatching after giving one or two feeds wrapped in newspaper, whereas in south India, 100% Chawki has been ensured.
  - Data also indicated that the conditions of CRCs in other states are equally under suboptimal conditions.
- Chairman advised communicating the findings of the said CRC experiment to all the stakeholders, and accordingly, the PI of the project was suggested to prepare a comprehensive report based on the outcome of the experimental studies across Northwest India so that the Directors of the DoS and SDD could be informed about the deteriorating conditions of CRC facilities that too after implementation of SS-1 and SS-02, which is very unfortunate and worrying.
- The matter of depleted CRC condition may be brought to the notice of Joint Secretary (Technical), CSB for taking needful action, so that the objectives of the Silk Samagra 2 could be realized at farmer's level in term of improving the livelihood delivery of the mulberry sericulture to their dependents in NW India.
- The PI should ensure the submission of the concluded report in time to present in RCC.

(Action: Sardar Singh -PI)

Component-VII: "On-farm trial of BmNPV tolerant silkworm hybrids in North & North West India (outcome ofAIB-3569)."

Suggestion/Decision(s): House expressed the satisfaction and approved the concluded project. The Co-PI should ensure the submission of the concluded report in time and in coordination with the PI to present it in RCC.

(Action: P Kumaresan (Co-PI), ChattarPal(CI), Bharath Kumar Neelaboina (CI), Ram Lakhan Ram (CI)

Note: All the CIs of the project code MOE03010SI are advised to submit the concluded report to Dr Sardar Singh, PI of the project, for compilation of the final concluded report and its submission well before the organization of RCC.

4. **MOT03011MI: Popularization of mulberry sericulture in Kargil (Ladakh U.T) (In collaboration with COTS, SKUAST-K)**

- House expressed satisfaction and approved the outcome of the concluded project.
- The PI should formulate a Follow up project and should be submitted to the Director, CSRTI, Pampore on or before 15th July 2024.
- PI should make a provision in the follow-up project to take the help of SKUAST-K, SDD (Ladakh) and existing University unit in the Kargil for promoting mulberry plantation in Kargil.
- Chairman advised Director CSR&TI, Pampore to promote Mulberry sericulture in district Kargil in view of encouraging results and immense potential.
- Dr Basana Gauda, Scientist B, from the plant side and Dr Shivam Bhardwaj, Scientist-B, from the mulberry side are associated with CO-I

(Action: P. Kumaresan, PI, Dr Basanagouda, Scientist B, Co-I & Dr Shivam Bhardwaj Scientist-B, Co-I)

AGENDA No. 5: New projects proposals for approval: NIL

AGENDA No. 6: Review of the progress of on-going projects

Institute as PI:

#	Project Code and Title	Decision / suggestion of RAC
1	**AIB03006CI:** Indo-Uzbekistan Collaborative Research Project on Improvement of Mulberry and Silkworm Breeding in Temperate Regions of India and Uzbekistan.	➢ Creation of PIQ facility, both for Mulberry and Silkworm seed, signing of mutual affidavit between CSRTI, Pampore and Uzbekistan, taking revised permit from Faridabad and partial approval from NBI, Chennai was appreciated. ➢ All the formalities as suggested by ICAR-NBPGR after visiting the institute by the COI should be materialized at the earliest so as to exchange the genetic material between two Nations. **Action: Dr. N.K. Bhatia, PI**
2	**PIE03009SI:** Evaluation of mulberry genotypes for improvement in productivity and	➢ Expressed satisfaction on the progress so far. ➢ Progress found as per milestones.

	quality under sub-tropical conditions of Jammu.	➢ PI was suggested to speed up the work of the project. **Action: Dr. Santosh Kumar Magadum, PI**
3	**PIE03012SI:** Evaluation of mulberry somatic hybrids.	House expressed satisfaction with the progress and approved the extension of the project up to June 2025 for three months. For this, PI should put a formal request to the Director, CSTRI, for its onward forwarding to CO.**Action: Dr. Gulab Khan Rohela, PI**
4	**PIB03013SI:** Development of high yielding quality mulberry (*Morus* spp.) genotypes under sub-tropical conditions of Northern India.	➢ Expressed satisfaction on the progress so far. ➢ Progress found as per milestones. ➢ PI was suggested to speed up the work of the project. **Action: Dr. Santosh Kumar Magadum, PI**
5	**PIC03014SI:** Evolving superior mulberry varieties for temperate region through *in vitro* mutagenesis.	➢ Expressed satisfaction on the progress so far. ➢ Progress found as per milestones. ➢ PI was suggested to speed up the work of the project. **Action: Dr. Gulab Khan Rohela, PI**
6	**PIE030016SIC:** Primary Yield Trial (PYT) of newly evolved mulberry hybrids under temperate conditions of Kashmir Valley.	➢ Expressed satisfaction on the progress so far. ➢ Progress found as per milestones. ➢ PI was suggested to speed up the work of the project. **Action: Dr. Pawan Saini, PI**
7	**PIE03015SIC:** Evaluation of drought tolerant mulberry genotypes through preliminary yield trial for rain fed sericulture in Jammu region.	➢ Expressed satisfaction on the progress so far. ➢ Progress found as per milestones. ➢ PI was suggested to speed up the work of the project. **Action: Dr. Santosh Kumar Magadum, PI**
Projects as CI with other Institute		
8	**PIE03001MI:** All India Coordinated Experimental Trials for Mulberry (AICEM) –Phase-IV	➢ Expressed satisfaction on the progress so far. ➢ Progress found as per milestones. ➢ Dr Pawan Saini, CO-PI, was advised to make frequent visits to all the test sites across NW India and expedite the implementation of the project in the most effective way. ➢ COPI and CIs should ensure the procurement of all the essentials with regard to the project. **Action: Zonal Coordinator, Co-PI & all CI's**
9	**MTL01025MI:** Life cycle assessment of Mulberry silk	➢ Project assistant may be recruited as per guidelines. ➢ Progress may be ensured as per milestones

		➢ The CI should ensure the procurement of all the items required for the effective implementation of the project. He should contact the I/C scientific procurement committee, Dr P. Saini and his team for the same. ➢ CI was suggested to speed up the work of the project. **Action: Dr. Kiran R, CI**
10	**ARE01028MI:** Recommendations of novel fungicidal and insecticidal applications for mulberry	➢ Progress may be ensured as per milestones. ➢ CI may Check and fix the safe-period of new insecticide/fungicide that may be kept 21-25 days as per the suggestion of the house. ➢ CI was suggested to speed up the work of the project. **Action: Dr. Pawan Saini, CI / Sh. Chattarpal, CI**
11	**AIB02019MI:** Development of Bivoltine hybrids with higher productivity and high temperature & humidity tolerance through Marker assisted selection.	➢ Expressed satisfaction on the progress so far. ➢ Progress found as per milestones. ➢ CI was suggested to speed up the work of the project. **Action: Dr. Kiran R, CI Dr. Rita Singh, CI**
12	**MTS13002MI:** Impact assessment of mulberry sericulture technologies in India	➢ Expressed satisfaction on the progress so far. ➢ Progress found as per milestones. ➢ CI was suggested to speed up the work of the project. **Action: Dr. Shivam Bhadrdwaj, CI**
13	**SIB01038MGC:** Utilization of Japanese Silkworm genetic resources for the development of productive Bivoltine hybrids.	➢ Expressed satisfaction on the progress so far. ➢ Progress found as per milestones. ➢ CI was suggested to speed up the work of the project. **Action: Sh. P. Kumaresan, CI**
14	**MOE02022MIC:** Vulnerability of Sericulture to Climate Change in India	➢ Project is yet to be implemented. ➢ CI was suggested to speed up the work of the project. **Action: Dr. Plabani. Roy, CI**
15	**MOE02015MI:** Evaluation of promising mulberry varieties, Bed disinfectant and low cost drip fertigation system for Eastern & North Eastern India *[Component II: Evaluation of high yielding and low stress tolerant mulberry varieties C-01 & C-11]*	➢ Expressed satisfaction on the progress so far. ➢ Progress found as per milestones. ➢ CI was suggested to speed up the work of the project. **Action: Dr. Santosh Kumar Magadum, CI** (for RSRS, Jammu site & **Sh. Chattarpal, CI** (for RSRS, Sahaspur)

AGENDA NO. 7: R&D HIGHLIGHTS OF THE INSTITUTE UPTO JUNE 2024

Dr. N. K. Bhatia, Director, CSR&TI, Pampore, presented the highlights of various Research & Developmental activities carried out by CSR&TI, Pampore and its nested unit up to June 2024. The Chairman appreciated the R&D activities initiated by the institute and innovative steps taken to develop Sericulture in North West India. Also, he appraised the R&D and Extension assistance being provided to state sericulture departments of North India to improve the livelihood delivery of mulberry sericulture to their dependents by CSB-CSR&TI Pampore.

AGENDA No. 8: Trial of Technologies (OSTs/ OFTs)

The suggestions/recommendations related to OSTs/OFTs have been mentioned under concluded research project entitled "Evaluation of improved mulberry silkworm hybrids and technologies for North & North West India (**MOE03010SI**)" Agenda No.4. Item No. 3.

AGENDA No. 9: EXTENSION (ECP) AND OTHER PROGRAMMES

The Chairman appreciated the achievements for the FY of 2023-24 and stressed upon to achieve the set targets for the year 2024-25.

(Action: In-charge, SEEM Division and RSRS Jammu/Sahaspur)

AGENDA No. 10: TRAINING (CBT) AND OTHER PROGRAMMES:

The Chairman appreciated the achievements for the FY of 2023-24 and stressed upon to achieve the set targets for the year 2024-25.

(Action: In-charge, Training Division and RSRS Jammu/Sahaspur)

AGENDA No. 12: CONCLUDING REMARKS FROM RAC MEMBERS

1. **Sh. Mohd Abdullah Bhat, Development Officer, Representative, SDD J& K.**
   - SDD, J&K is facing issues related to CRCs and insufficient infrastructure facilities. He acknowledged the outcomes of the CRC-related study conducted by the Institute.
   - Appreciated the efforts and of CSR&TI Pampore for helping SDD, J&K in all the sericulture development related activities.
   - The Representative, SDD J& K Sh. Mohd Abdullah Bhat, Development Officer, raised a serious issue on the supply of silkworm parent seed, especially P2/P1 of SH6 and NB4D, including parental seed of double hybrid from the seed sources outside of Kashmir. He informed the house that before the 2015 P4 — BSF, Manasbal was supplying the entire requirements of the P2/P1 of SH6 and NB4D, including parental seed of double hybrid that was more superior and productive than the present supply of the same from outside of the Kashmir valley. He urged the Chairman of RAC and the Director, CSRTI, Pampore to re-start the production of P2/P1 of SH6 and NB4D including

parental seed of double hybrid for its immediate benefit to the sericulture industry of J&K. Director, CSRTI, Pampore informed the house that since the demand of P3 seed from P4 BSF Manasbal is very-very meagre, say 50-100 DFLs in last 5 years, so it is imperative to move on a proposal to Competant Authority to initiate production of P2 and P1 seed of SH6 and NB4D including parental seed of double hybrid as per the demand. Representatives of the Director Technical, Bengaluru, Sri Nazeer Ahmad, Scientist-D also agreed to take up the issue on the submitted proposal of the Director, Pampore.

2. Dr. Abu Manzar

- The institute should provide facilities for MSc. PhD students of SKUAST-K and for initiating collaborative projects with the University.
- Focus should be emphasised on improvement of Post-cocoon and cocoon marketing facilities in North-Western states.
- In view of the injudicious use of insecticide for management of leaf minor and other insects on the apple crop has created havoc to the silkworm rearers of Kashmir valley, especially in the Shopian district. He advised for initiation of Research Projects on insecticides/ fungicides in collaboration with CITH and SKUAST-K to reduce the growing challenge of insects pests of apple without affecting the sericulture farming.

3. Sh. S. Nazeer Ahmad Saheb, Scientist-D, RCS-CSB, Bengaluru

- Post cocoon sector should be improved in terms of research projects.
- Research projects can be taken in collaboration with local institutes /Universities.
- Reasons for yield gap in North-west India should be analysed by taking a pilot study.
- Data of the projects presented should be updated as of date.
- For every concluded project, Research paper/article must be published in Indian silk/ Seicologia /Indian Journal of Sericulture.

4. DoS Himachal Pradesh

- Emphasised for improving the cocoon production in autumn and summer crops.
- For strengthening of autumn crop, autumn specific hybrid may be released.
- Planting material of Goshoerami and PPR1 may be provided to DoS HP.

5. DoS Punjab

- Cocoon production in the state was increased to 5.5 MT in 2024-25.
- An alternate mulberry hybrid may be provided to evaluate the production in Punjab.

6. **DoS Uttarakhand**
   - Dos requested for technical guidance on Chawki rearing.
   - Requested for training and extension programme for farmers and staff.
7. **DoS Uttar Pradesh**
   - Requested for new multivoltine hybrids.
   - Re-scheduling of brushing may be explored through RSRS Sahaspur and its nested extension mechanism.
8. **Prof. (Dr.) Nazeer Ahmed, Chairman, RAC**
   - A WhatsApp group for RAC meeting may be created for better communication, action taken report should be presented in PowerPoint mode and director's presentation must include the impo rtant project outcomes in 4-5 slides.
   - Next RAC meeting may be held at Dehradun under managerial support of RSRS, Sahaspur.
   - Package of practices should be compiled at an earliest for release during the next RCC meeting along with pamphlets/booklets.
   - Chairman advised DoS, Uttarakhand, to nominate their Staff and farmers to have exhaustive training on all the aspects of sericulture.
   - Advised newly joined scientists to look into the national silk policies and advancements in sericulture elsewhere and develop innovative and industry driven research projects in mulberry sector to combat the upcoming challenges (Climate Change/New stable hybrids/ rescheduling practices/ Post-cocoon-related challenges etc).
   - Diversity in the sericulture sector should be explored from North to south Improve collaborative research and market channelization.
   - Dr. Ashok Kasukurthi, Scientist –D, should immediately formulate a concept note based on his experiences and expertise for improving sericulture in N-W states for the benefit of young researchers.
   - The chairman appreciated the 12 concept notes submitted by the Newly recruited scientists. He requested the representative of the Director, Technical, to take the necessary action so that new projects are initiated soon.

Meeting ended with vote of thanks to the chair and all the distinguished RAC members.

Date: 06.06.2024

(Prof. (Dr.) Nazeer Ahmed)
Chairman, RAC

CSR&TI, Pampore

Annexure-I

List of participants attended 47th RAC meeting of CSR&TI, Pampore

1. Prof. (Dr.) Nazeer Ahmed, Chairman & Former VC, SKUAST-Kashmir.
2. Dr. Abu Manzar, Prof. SKUAST-K.
3. Dr. N.K. Bhatia, Director & Member Convener, CSB-CSR&TI Pampore.
4. Sh. S. Nazeer Saheb RCS, CSB, Bangalore.
5. Shri. Mohd Abdullah Bhat, Representative, SDD, J&K.
6. Dr. Ashok Kumar Kasukurthi, Scientist-D, CSB-CSR&TI, Pampore
7. Dr. Irfan Illahi Scientist-D, CSB-CSR&TI, Pampore
8. Sh. P Kumaresan, Scientist-D, CSB-CSR&TI, Pampore
9. Dr. Gulab Khan Rohela, Scientist-D, CSB-CSR&TI, Pampore
10. Dr.Pawan Saini, Scientist-C, CSB-CSR&TI, Pampore
11. Sh.N. Bharath Kumar-C, CSB-CSR&TI, Pampore
12. Sh. S. Syam-B, CSB-CSR&TI, Pampore
13. Dr. Basangouda Gonal-B, CSB-CSR&TI, Pampore
14. Dr. Shivam Bhardwaj-B,-B, CSB-CSR&TI, Pampore
15. Dr. Plabani Roy, Scientist-B, CSB-CSR&TI, Pampore
16. Sh. Jagdish Verma, Scientist-B, CSB-CSR&TI, Pampore
17. Sh. Saadat Hamid Khan D.D InspectionCSB-CSR&TI, Pampore
18. Sh. Ashok Kumar SainiA. D Computer,CSB-CSR&TI, Pampore
19. Smt. Jameela Akhther, Field Assistant, CSB-CSR&TI, Pampore
20. Smt. Nida Mushtaq, Field Assistant, CSB-CSR&TI, Pampore
21. Dr. Rajesh Kumar, Scientist-D, CSB-P4,BSF-Manasbal.(Online)
22. Sh. Chatterpal, Scientist-C, CSB-RSRS Sahaspur.(Online)
23. Dr.SakshiVaishnav,Scientist-B, CSB-RSRS Sahaspur.(Online)
24. Dr.Arasakumar K,Scientist-B, CSB-RSRS Sahaspur.(Online)
25. Dr. Santosh Kumar Magadum, Scientist-D, CSB-RSRS, Jammu
26. (Online)
27. Dr. Kamlesh Bali, Member RAC (Online)
28. Director, DoS, Uttarakhand. (Online)
29. Director, DoS, UttarPradesh.(Online)
30. Director, DoI, Himachal Pradesh. (Online)
31. Director, DoH, Punjab. (Online)