

CENTRAL SERICULTURAL RESEARCH & TRAINING INSTITUTE (CSR&TI), BERHAMPORE, WEST BENGAL**1. Organizational set up**

Unit	No	Place
RSRSs	03	1. RSRS, Kalimpong, West Bengal 2. RSRS, Koraput, Odisha 3. RSRS, Jorhat, Assam
RECs	09	4. REC, Mothabari, Malda, West Bengal 5. REC, Mamring, Sikkim 6. REC, Bhandra, Jharkhand 7. REC, Agartala, Tripura 8. REC, Aizawl, Mizoram 9. REC, Shillong, Meghalaya 10. REC, Dimapur, Nagaland 11. REC, Mangaldoi, Assam 12. REC, Sille, Arunachal Pradesh*

* The administrative and technical control handed over to CMERTI, Lahdoigarh w.e.f. 1st February, 2023

2. R&D Projects, TOT, ECP, CBT etc:

Item	Target	Remarks
1. CSB coded Research projects		
1.1. With PI from the Institute		
1.1.1. On-going projects during the year 2023-2024	10	Annex 2.I.1
1.1.2. Projects to be concluded during the year 2023-2024	6	Annex 2.I.2
1.1.3. New Projects to be initiated year 2023-2024	8	Annex 2.I.3
1.2. With CI from the Institute (Collaborative)		
1.2.1. On-going projects during the year 2023-2024	4	Annex 2.I.4
1.2.2. Projects to be concluded during the year 2023-2024	2	Annex 2.I.5
1.2.3. New Projects to be initiated year 2023-2024	--	Annex 2.I.6
2. Transfer of Technology		
2.1 On Station Trials (OST)		Annex 2.II.1
2.1.1. No. of technologies to be validated	3	
2.1.2. No. of trials/locations to be covered	19	
2.2 On Farm Trials (OFT)		Annex 2.II.2
2.2.1. No. of technologies to be demonstrated	5	
2.2.2. No. of locations to be covered	55	
2.2.3. No. of stakeholders to be covered	2750	
3. Capacity Building & Training (CBT)		Annex 2.III A
3.1. a. No. of programmes to be conducted	100	
3.2. a. No. of stakeholders to be trained	2190	
3.1.b. No. of programmes to be conducted by /for KVKs	2+2	Annex 2.III B
3.2. b. No. of stakeholders to be trained by /for KVKs	20+100	
4. Extension Communication Programs (No.)		Annex 2.IV A
4.1. a. Number of programmes to be conducted	116	
4.2.a. No of stakeholders to be covered	4100	
4.1.b. Number of programmes to be conducted by /for KVKs	84	Annex 2.IV B
4.2.b. No of stakeholders to be covered by /for KVKs	3920	

5. Soil analysis service to be provided		
5.1. No. of states to be covered	Nil	Annex 2.V
5.2. No. of samples to be analyzed		
6. Information, Education & Communication		Annex 2.VI
6.1. Periodicals	2	
6.2. Publications	36	
6.3. Extension literature	12	
6.4. Films / Videos	2	
6.5.Social media	20	
7. Patents to be filed/ granted, technologies to be commercialized, Software/ mobile/android app to be developed etc.	2	Annex 2.VII
8.Procurement of equipment's and other accessories proposed	162.44 lakh	Annex 2.VIII
9. Other activities(pl specify)-Cluster activities		Annex 2.IX
10. Revenue to be generated (Rs. in Lakhs)	20.00	Annex 2.X

1. CSB coded Research projects**1.1. With PI from the Institute****Annex- 2.I.1****1.1.1. Projects of earlier year continued through the year 2023-2024**

(Rs. Lakh)

Sl. No.	Code	Title	Start	End	Milestone to be crossed	Progress to be achieved	Budget Requirement
At Main Institute							
1	PIB 02007 SI	Improvement of mulberry leaf longevity in Eastern and North Eastern states of India	June 2020	May 2024	Pot-culture studies: Evaluation of developed formulations Gene expression studies for SAGs Plant hormone estimation Field Trial: Initiation of field trial from Nov-22.	Completion of pot evaluation Completion of gene expression studies Completion of plant hormone analysis Completion of 5 crop data in field	5.00
2	PIB 02010 SI	Final yield trial of promising high yielding mulberry genotypes for Eastern and North-Eastern India	Feb 2021	Jan 2025	Evaluation of test genotypes and checks for growth traits & leaf productivity over seasons under irrigated and rainfed conditions. Assessment of leaf quality by biochemical assay and pest-disease severity in different seasons.	Identification of genotypes with higher Leaf productivity over check under both the conditions. Understanding the leaf quality of test genotypes and checks	2.7
3	PIE 02013 SI	Final yield trial (FYT) of newly identified mulberry genotypes for leaf productivity and quality	Dec 2021	Nov 2025	Studies on growth & yield parameters Incidence of pest and diseases	Seven test genotypes will be evaluated for growth leaf yield & quality traits along with the incidence of pest & diseases.	1.75
4	AIT 02008 SI	Identification of high humidity tolerant silkworm breeds/ hybrids for E & NE India	June 2020	May 2024	Gene expression studies under simulated conditions	Expression pattern of candidate genes will be evaluated	5.00
5	AIE 02018 SI	Identification of superior bivoltine foundation cross as a male component to improve cross-breed	May 2022	Oct 2024	Maintenance of promising lines Preparation/multiplication of promising FCs Preparation of new Cross breeds	Short listing of male bivoltine combinations OST of the selected male bivoltine and cross breed in the E & NE centres as proposed.	3.00

Sl. No.	Code	Title	Start	End	Milestone to be crossed	Progress to be achieved	Budget Requirement	
		productivity in E & NE India.			On station trials (Small Scale) of new promising male components and their cross breeds @ E & NE			
6	AIB 02019 MI	Development of bivoltine double hybrids suitable for different regions of India. (In collab. with CSRTI- Mysore, CSRTI-Pampore and RSRS Imphal).	June 2022	May 2025	Rearing and Evaluation of selected lines in institutes and nested units.	Segregated breeding lines will be shortlisted and dfls will be reared in different institutes and nested units	10.00	
7	APS 2020 MI	Improvement of seed crop productivity in West Bengal.	Nov 2022	Oct 2025	Selection & training of ASR. Generation of good quality seed cocoons, preparation of multi x bi dfls, supply of dfls, crop supervision of rearing.	Stabilization of seed cocoon (bivoltine and multivoltine) generation in W.B. Sustainable development of bivoltine seed cocoons and production of good quality dfls for commercial crops in WB.	44.88	
8	AIB 02006 MI	Improvement of Nistari lines for survival and silk productivity.	June 2020	May 2024	Maintenance and supply of improved lines. Evaluation of hybrids in lab and OFT.	Supply of improved Nistari lines for basic seed maintenance and crossbreed production. Identification of improved Nistari hybrids and crossbreed vigour.	3.00	
9	MOE 02014 SI	Popularization of improved technologies developed in the field of mulberry sector for Eastern & North-Eastern India.						
		C I: Popularization of new mulberry varieties (C-2038, Tr-23/ BC259 & C-2028).	Feb 2022	Jan 2025	Popularization of new mulberry varieties in E & NE India and assessment of the impact on cocoon productivity.	Establishment of new mulberry varieties, among the farmers in E & NE India along with popularization.	7.20	
		C-II: Popularization of Bio-control Agents for the management of mulberry pests.	Feb 2022	Jan 2025	Popularization of Biological control agent (<i>Chrysoperla</i> & <i>Scimmus</i>) for management of mulberry pests (Thrips and Mealybug) in five states covering 150 farmers.	Popularization of bio-control agents for effective and eco-friendly pest management at the field level. Creating awareness among the farmers about utilization of bio-control agents for ecofriendly pest management.	1.725	
		C-IV: Popularization of Chawki, Shoot/ Shelf rearing & plastic collapsible mountages	Feb 2022	Jan 2025	Selection of farmers with DoS for the technology Procurement of materials as per technology package/guidelines &	Beneficiary selection Materials procurement & supply 02 chawki crop and report compilation 02 late age rearing and report compilation	32.22	

Sl. No.	Code	Title	Start	End	Milestone to be crossed	Progress to be achieved	Budget Requirement	
					distribution 02 chawki crop & 2 late age rearing with shoot rearing method Awareness programme through ECPs	As per ECP target in all locations		
		C-V: Popularization of Sampoorna	Feb 2022	Jan 2025	Documenting the efficacy of the Sampoorna at farmers level and percolation of the technology with the farming community of E & NE India	Evaluation of performance of Sampoorna at farmer's level with 1400 farmers across Eastern and North-eastern region for the year 2023-2024.	1.29	
10	MOE 02015 MI	Evaluation of improved technologies developed in the field of mulberry sector for Eastern & North Eastern India.						
		C-I: Evaluation of High Yielding & Bacterial leaf spot resistant mulberry variety C-2070.	Feb 2022	Jan 2025	Evaluation of promising bacterial leaf spot resistant & high yielding genotype C-2070 in E & NE States.	Completion of another 5 crops in irrigated & 3 crops in rainfed region.	0.60	
		C-II: Evaluation of High Yielding and Low temperature stress tolerant varieties C-2060 & C-2065.	Feb 2022	Jan 2025	Evaluation of promising low temperature stress tolerant genotypes C-2060 & C-2065, at different locations of E&NE region.	Performance of test genotypes for leaf productivity and quality at different locations over seasons.	0.62	
		C-III: Low cost drip fertigation system for mulberry.	Feb 2022	Jan 2025	Imposing treatment & data collection on growth & yield traits along with pest-diseases severity.	Drip tape & drum kit fertigation systems will be validated at different test centres and improvement of leaf yield percentage over control will be recorded.	0.945	

1.1.2. Projects to be concluded during the year 2023-2024

(Rs. Lakh)

Annex- 2.I.2

Sl. No.	Code	Title	Start	End	Project Outcome	Utility of out-put/Impact on silk industry	Budget allocation
At main institute							
1.	PIE 02002 SI	Evaluation of performance of mulberry genotype C-9 under red and	July 2019	June 2023	Performance of C-9 & two checks for leaf productivity and quality at three locations under rainfed red laterite soils. Assessment of pest and disease	Identification of superior variety suitable for rainfed red lateritic soils.	0.20

Sl. No.	Code	Title	Start	End	Project Outcome	Utility of out-put/Impact on silk industry	Budget allocation
		laterite soils			severity along with nutrient use efficiency.		
2.	PPA 02005 SI	Optimization of spacing and nutrient dose for newly developed high yielding mulberry variety (C-2038) under irrigated condition	Oct 2019	Sep 2023	Optimized spacing and nutrient dose would be identified for the newly developed high yielding mulberry variety C-2038 to exploit full potential of the variety in terms of leaf productivity and quality.	The outcome of the project would help to develop a separate agronomic package of practices for newly developed high yielding mulberry variety, C2038 for adaptation in Eastern & North Eastern regions of India.	3.00
3.	AIT 02012 CI (DST-JSPS-CSB)	Characterization of mulberry silkworm, <i>Bombyxmori</i> L. mutants for tolerance to flacherie syndrome through genome editing tools	Oct 2021	Sep 2023	Development of silkworm mutants with flacherie resistance through genome editing. Training in Genome editing techniques under Japanese collaboration	The technique can be used for developing silkworm lines with disease resistance that can be used for silkworm breeding programs	11.70
4.	MOE 02011 EF	Development of Seri-Entrepreneur-ship through sericulture chawki business by setting up 02 Chawki Rearing Centers (CRC) as demonstrative units in Murshidabad district, West Bengal	Apr 2021	Mar 2024	Improvement in cocoon productivity and quality cocoon at farmers' level Increase in the economic returns from sericulture. Regular supply of quality chawki worms to farmers Self-sustaining seri-chawki business for the CRC-owners as entrepreneur Impact of seri-chawki business as an enterprise would be used to popularize in the sericultural districts of WB	Improvement in raw silk with increase in cocoon production Popularization of Seri- entrepreneurship The self-sustaining seri-chawki business may be replicate to the whole district and other Seri. areas of West Bengal	4.18
5.	MOE 02014 SI	Popularization of improved technologies developed in the field of mulberry sector for Eastern & North-Eastern India					
		C-III: Popularization of eco-friendly disinfectant, NIRMOOL	Feb 2022	Jan 2024	Evaluation of effectiveness of NIRMOOL in disinfection of silkworm rearing house and appliances at the farmers' fields in E & NE states. The commercialization of the Nirmool is under process	1. Popularization of eco- and user-friendly disinfectant "NIRMOOL" across E & NE India. 2. A broad spectrum room disinfectant "NIRMOOL" which is equally effective as that of 5% Bleaching powder solution as a eco-friendly alternative as it is non- chlorinated, non- corrosive room disinfectant	3.38

Sl. No.	Code	Title	Start	End	Project Outcome	Utility of out-put/Impact on silk industry	Budget allocation
6.	MOT 02016 EF	Seri-Entrepreneurship Development in Aspirational Districts of North-Eastern India. (DBT funded)	Feb 2022	Jan 2024	Total of 100 no. of self-sustaining rejuvenated seri-enterprises have been developed in the aspirational districts of north-eastern India. The outcome of the project will be a model for uplifting and converting the seri-enterprises in the other parts of the country. Increase in the economic returns from sericulture vis-à-vis economical empowerment of women sericulture farmers in aspirational districts of NE India.	The output of the project will be a model for implementing/intimating seri-enterprises in the country. Improvement of cocoon productivity or raw silk production from selected aspirational districts of NE India would defiantly help the silk industry. Impact of seri-enterprise would be used to popularize as model for other sericultural districts of various states in NE India.	8.10

Annex- 2.I.3

1.1.3. New Projects to be initiated year 2023-2024

(Rs.Lakh)

Sl. No	Code	Title	Start	End	Objectives	Expected outcome	Budget allocation
At main institute							
1.	Concept Note (RC approved)	Identification of superior polycross hybrids of mulberry for leaf yield and quality traits	Sep 2023	Aug 2027	To identify the superior polycross hybrids of mulberry. To assess the identified superior polycross hybrid families for leaf yield and quality traits.	Identification of superior polycross hybrids for leaf yield and quality traits.	4.50
2.	New Proposal	Authorization trials of new bivoltine double hybrid, BHP-DH at Eastern and North Eastern India.	Jul 2023	May 2025	To evaluate the new bivoltine double hybrid, BHP-DH with farmers of Eastern and North-Eastern India for generation of data for Hybrid Authorisation.	The new bivoltine double hybrid, BHP-DH would be authorized by HAC and recommended for commercial exploitation in E & NE India.	25.00
3.	Concept Note Approved by C.O.	Improvement of Seed Crop Productivity in NE Region of India.	Feb 2023	Jan 2026	To improve quality of multi and bivoltine seed cocoon crops To improve sustainable production of commercial hybrid dfls in NE States	To improve quality of multi and bivoltine seed cocoon crops To improve sustainable production of commercial hybrid dfls in NE States	13.00

Sl. No	Code	Title	Start	End	Objectives	Expected outcome	Budget allocation
4.	Concept Note Approved by RC	Vulnerability of Sericulture to Climate Change in West Bengal and North-Eastern states of India	July 2023	June 2025	To assess the vulnerability of sericiculturists to climate change. To find out the adaptation strategies followed to cope-up with climate change. To build the climate resilience among sericiculturists through extension programmes.	The climate induced vulnerability of the sericulture farmers in West Bengal and North-Eastern states will be known/ documented which acts as a starting point to foresee the future of sericulture farming in the study area. Adaptation strategies to cope-up with the changing climate will be identified, after validation can be further popularized or appropriate policy decision can be taken up.	11.34
5.	Concept Note Approved by RC	Development of App based detection of mulberry diseases and treatment recommendation system using deep convolution neural network (DCNN)	July 2023	June 2026	To create mulberry diseases image data base Development of an app-based tool/model helping sericulture farmers and extension functionaries in real time detection of mulberry diseases along with treatment advisory Validation of model/app using images from field	Real time detection of mulberry diseases to help sericulture farmers and extension functionaries for timely control of the diseases and advisory.	8.30
6.	Concept Note Approved by RC	Host Plant influence on multiplication of pathogen causing Grasserie Bacterial Flacherie and Muscardine in <i>Bombyx mori</i> L.	July 2023	June 2026	To evaluate the influence of mulberry host plant on grasserie, muscardine and bacterial flacherie incidence To analyse the effect of leaf moisture content of mulberry varieties on grasserie, muscardine and bacterial flacherie	Identification of potential mulberry host plant variety that influences the silkworm pathogen multiplication Development of effective package of practice for silkworm disease management in regards with host plant leaf moisture influence. The study will help in better understanding of host plant influence on silkworm pathogen multiplication and it will also help to set target in breeding programmes of mulberry host plant.	9.95
TOTAL							72.09

1.2. With CI from the Institute (Collaborative projects with other CSB Institutes)**1.2.1. Projects of earlier year continued through the year 2023-2024**

(Rs.Lakh)

Annex- 2.I.4

Sl. No	Code	Title	Start	End	Milestone to be crossed	Progress to be achieved	Budget allocation
At main institute							
1.	PIB 03013 SI	Development of high yielding quality mulberry (<i>Morus</i> spp.) genotypes under sub-tropical conditions of Northern India.	Jun 2022	May 2026	Hybridization through random mating and collection of hybrid seeds. Supply of hybrid seeds and assisting in planning and layout of PRT at RSRS, Jammu	Polycross hybrids fruits will be harvested after natural hybridization during upcoming flowering season. Seed extraction and supply to RSRS Jammu for evaluation under progeny row trial (PRT)	0.50
2.	MTS 13002 MI	Impact Assessment of Mulberry Sericulture Technologies in India.	July 2022	June 2025	Tour plans Initiating the survey Crop-wise data collection & analysis Preparation of progress reports	Survey in all the study area of E & NE regions. Collection of crop-wise data Submission of data to the PI at CO-Bangalore	3.95
3.	MTL 01025 MI	Life Cycle Assessment of Mulberry Silk: A National Assessment	Feb 2022	Jan 2025	Procurement of project related instruments. Identification of sites for experimental set up. Preparation of the final questionnaire. Installation of GHG sample collection chamber, sample collection and analysis Survey of silk production system Collection and supply of samples for estimation of C, N energy budget for different silk sector.	Estimation of season specific GHG for respective mulberry leaf production system recommended and farmer's practice Quantification of energy estimates in season and region-specific mulberry production system	21.90
4.	ARE 010028 MI	Recommendation of novel fungicidal and insecticidal applications for mulberry crop protection	June 2022	May 2025	Determination of Biosafety & Short listing of chemicals Standardization of doses of fungicides and insecticides under laboratory conditions	Elimination of chemicals with longer residual toxicity Determination of optimum dosage for application	9.47

*Review Meeting of Life Cycle Assessment (LCA) Project (MTL01025MI) held at CO, CSB, Bengaluru on 11th Nov., 2022 it was resolved in the meeting that, the starting period of the project shall be considered from the date of this meeting and the previous time spent shall be treated as preparatory period. This is in view of the late starting and also the complication arising about the ending period of the project.

Annex- 2.I.5

1.2.1. Projects to be concluded during the year 2023-2024

(Rs. Lakh)

Sl. No	Code	Title	Start	End	Progress output	Utility of out-put/ Impact on silk industry	Budget allocation
At main institute							
1.	PIE 13001 MI	All India Co-ordinated Experimental Trial for Mulberry (AICEM) – Phase IV	Apr 2019	Mar 2024	Performance of three test genotypes and two checks for leaf productivity and moisture content along with pest and disease incidence over seasons at 8 centers under two conditions. Performance of three test genotypes for cocoon and silk parameters and leaf to cocoon ratio. Propagation studies of test genotypes at 8 locations for understanding easy of multiplication. Stability of genotypes over seasons and years across East& NE zone.	The superior genotype over check with stable performance for leaf productivity and bioassay cocoon quality will be recommended for authorization and commercial cultivation across region/zone/national level.	17.72
2.	AIB 01009 MI	Evaluation of New Bivoltine Double Hybrid, TT21 x TT56 at Farmers Level for Authorization for Commercial Exploitation (Coll. Of CSRTI – Mysore) <i>[extended upto Dec 2023 (vide ltr no. CSB-31/2 (MYS-NP)/2022-23/RCS dated 22.02.2023]</i>	Apr 2020	Dec 2023	In all the tested states viz. West Bengal, Assam & Tripura, observed that TT21 x TT56 double hybrid is performed better than the control with higher cocoon yield.	After authorization, hybrid, TT21 x TT56 would be commercialized to increase quality silk production.	4.39
TOTAL							22.11

Annex- 2.I.6

1.2.3. New Projects to be initiated during year 2023-2024 - Nil

2.Trial of Technologies (ToTs) Programmes to be carried out during year 2023-2024: NIL

2.1 On Station Trials (for validation of technology at CSB institutes/ RSRs/ DoS units etc.) (Rs. Lakh)

Annex- 2. II.1

Sl. No	Name of the Technology	Unit Cost (Rs.)	At CSB institutes	RSRs	DOS Units	Total	Anticipated impact	Budget allocation
1	Evaluation of high yielding & bacterial leaf spot resistant mulberry variety C-2070	0.308	--	6	--	6	High yielding and disease resistant mulberry variety for E & NE region.	0.55
2	Evaluation of High yielding and Low temperature stress tolerant mulberry varieties C-2060 and C-2065	0.398	--	5	--	5	High yielding and Low temperature stress tolerant mulberry varieties for E & NE region.	0.75
3	Low cost drip fertigation for mulberry in E & NE India	0.480	--	7	1	8	Economic drip fertigation for mulberry in E & NE India.	1.945

Annex- 2. II.2

2.2. On Farm Trials (for demonstration of Technologies at farmers' level)

(Rs. Lakh)

Sl. No	Name of the Technology	Unit Cost (Rs.)	No. of locations	No. of stakeholders	Anticipated impact	Budget allocation
1	Popularization of new mulberry varieties (C-2038, Tr-23/BC ₂ 59 & C-2028)	0.04	12 (9 states)	180	Popularization of new mulberry varieties among the farmers in E & NE India and assessment of the impact on cocoon productivity.	7.20
2	Popularization of Bio-control agents for the management of mulberry pests	0.0115	8 (5 states)	150	Popularization of Biological control agent (<i>Chrysoperla</i> & <i>Scimmus</i>) for management of mulberry pests (Thrips and Mealy bug).	1.725
3	Popularization of eco-friendly disinfectant, NIRMOOL	0.00284	13 (10 states)	1190	Popularization of eco-friendly disinfectant, NIRMOOL among the farmers of E & NE India.	3.38
4	Popularization of Chawki, Shoot/ Shelf rearing & plastic collapsible mountages.	0.2098	9 (7 states)	140	Selection of farmers, Procurement of materials & distribution, 02 chawki crop & 2 late age rearing with shoot rearing method. Awareness programme through ECPs	29.38
5	Popularization of Sampoorna	0.0012	13 (10 states)	1090	Documenting the efficacy of the Sampoorna at farmers level and percolation of the technology with the farming community of E & NE India.	1.29

3.A.Capacity Building & Training programmes to be carried out during year 2023-2024

(Rs.in lakhs)

Sl. No.	Title of the training programme	Unit cost (Rs.)	Target		
			No of programmes	No of stake holders	Budget proposed
3.1	Structured Training Course				
3.1.1	PGDS	0.10	1	30	3.00
3.1.2	Intensive Sericulture Training	0.1585	1	40	5.00
3.2	Farmers Skill Training	0.0450	18	450	20.25
3.2.1					
3.2.2					
3.3	Training Under STEP	0.05	1	50	2.50
3.4	Exposure visit for technology awareness	0.040	10	200	8.00
3.5	Technology Orientation Programme	0.038	4	100	3.80
3.6	Sericulture Resource Centres (SRCs)	--	40	800	4.50
3.7	Sericulture Resource Centres (SRCs)-NEW*	4.00	4	-	16.00
3.6.1	Training under Post Cocoon Sector				
3.8	Management Development Programme under STEP				
3.9	Training for Adopted Seed Rearers (ASRs)				
3.10	Training to Registered Seed Producers (RSPs)				
3.11	Training on Seed Act				
3.12	Other Need Based Training Programme				
3.12.1	Non-CBT: Trainingprogramme funded by agencies other than CSB				-
3.13					
3.13.1	Training under SAMARTH				
3.13.2	Pre-cocoon (Silkworm rearing)		21	520	
3.13.3	Post cocoon–Silk (Reeling, Spinning, Wet processing)				
3.13.4	Post-cocoon– Handloom (Designing & Weaving)				
	Total		100	2190	63.05

* Detailed Guidelines is awaited from Central Office CBT cell - *An amount of Rs.0.75 Lakhs (Max) can be spent under each existing SRC towards opex. (6x0.75=4.50)

Annex- 2.III.b

2. B. Capacity Building & Training programmes to be carried out for/ at KVKs during 2023-24

State	CSB Units	KVKs	KVK SMS Training (Rs. InLakh) @2SMS/KVK5 days		Farmers Training by KVK (Rs. InLakh) @25 F/KVK4 days	
			Unit Cost	Total	Unit Cost	Total
WEST BENGAL	REC-Kamnagar (Closed) Nearest to CSRTI-BHP	KVK-Dhaanaya Ganga, Sargachhi, Murshidabad	0.152	10	0.0675	50
	REC-Mothabari	KVK-UBKB, Ratua Malda ICAR-CISH-KVK, Madha				
	RSRS-Kalimpong	KVK-Kalimpong, Darjeeling				
ODISHA	RSRS-Koraput	5.KVK-Sunabeda, Koraput	0.152	10	0.0675	50
	REC-Dhenkikote (Closed) Nearest to BSMTC-Keonjhar	6. KVK, Judia Farm, Keonjharkvkkeonjhar.ouat@gmail.com				
JHARKHAND	REC-Bhandra	7.KVK-Lohardaga	0.152	10	0.0675	50
	REC-MPRaj (Closed) Nearest to CSRTI-BHP	KVK-Pakurkvpakur@gmail.com				
SIKKIM	REC-Mamring	9.KVK-Namthang, South Sikkim	0.152	10	0.0675	50
ASSAM +BTC	RSRS-Jorhat	10.KVK-Teok, Koliapani, Jorhat				
		REC-Mangaldoi	11.KVK-Mangaldoi, Darrang	0.152	10	0.0675
TRIPURA	REC-Agartala	12.KVK-Latiacherra, Bishalgarh, Sepahijala,				
MIZORAM	REC-Aizawl	13.KVK-CAU, Selesih, Aizawl	0.152	10	0.0675	50
MEGHALAYA	REC-Shillong	14.KVK-CAU, Selesih, Aizawl				
NAGALAND	REC-Dimapur	15.KVK- Dimapur, ICAR Complex For NEH Region, Jharnapani, Medziphema	0.152	10	0.0675	50
ARUNACHALP RADESH	REC-Sille	16.KVK College of Horticulture & Forestry, CAU, Pasighat-East Siang				
MANIPUR	REC-Imphal (Closed) Nearest To RSRS-Imphal	17.KVK-Manipur Center, amphelpat, Imphal West	0.152	10	0.0675	50
Sub-Total						
Budget Rs. In lakh: 1.52+1.52+3.375+3.375=9.79						

Annex- 2.IV.A

4.a. Extension Communication Programmes to be conducted during year 2023-2024

(Rs. In lakhs)

Sl. No	Programmes	Unit cost	No. of events					No. of stakeholders to be sensitized					Budget allocation
			I Qtr	II Qtr	III Qtr	IV Qtr	Total	I Qtr	II Qtr	III Qtr	IV Qtr	Total	
4.1	KrishiMela / Reelersmela cum exhibition	3.0/1.50	--	--	2	2	4	--	--	200	600	800	7.50
4.2	Farmers Field day	0.07-0.15	--	4	8	8	20	--	200	400	400	1000	3.0
4.3	Awareness programme	0.05-0.10	--	15	15	15	45	--	400	400	400	1200	4.50
4.4	Technology demonstration / Enlightenment programmes	0.01	--	15	15	15	45	--	300	300	300	900	0.45
4.5	Workshop / Seminars & Conferences	2.0	--	--	1	1	2	--	--	100	100	200	2.0
	Total		--	34	41	41	116	--	900	1400	1800	4100	17.45

Annex- 2.IV.B

4.b. Extension Programmes to be conducted for KVK during year 2023-2024

[Rs. In lakh]

State	Nearest CSB Unit for Assistance	KVKs	Demo. Mulberry plot (0.5 acre)			Awareness Programme with 100 participants			Technology Demonstration 20 participants		
			Phy. Tar (No.)	Unit cost (Rs.)	Total cost (Rs.)	Phy. Tar (No.)	Unit cost (Rs.)	Total cost (Rs.)	Phy. Tar (No.)	Unit cost (Rs.)	Total cost (Rs.)
West Bengal	CSRTI-BHP	KVK-Dhaanaya Ganga, Sargachhi, Murshidabad	01	0.50	0.50	2	0.15	0.3	4	0.01	0.04
	REC-Mothabari	KVK-UBKB, Ratua, Malda	01	0.50	0.50	2	0.15	0.3	4	0.01	0.04
	RSRS-Kalimpong	KVK-Kalimpong, Darjeeling	01	0.50	0.50	2	0.15	0.3	4	0.01	0.04
Odisha	RSRS-Koraput	KVK-Sunabeda, Koraput	01	0.50	0.50	2	0.15	0.3	4	0.01	0.04
		KVK, JudiaFarm, Keonjhar	01	0.50	0.50	2	0.15	0.3	4	0.01	0.04

Jharkhand	CSRTI-BHP	KVK-Pakur	01	0.50	0.50	2	0.15	0.3	4	0.01	0.04
Sikkim	REC-Mamring	KVK-Namthang, South Sikkim	01	0.50	0.50	2	0.15	0.3	4	0.01	0.04
Assam + BTC	RSRS-Jorhat	KVK-Teok, Koliapani, Jorhat	01	0.50	0.50	2	0.15	0.3	4	0.01	0.04
	REC-Mangaldoi	KVK-Mangaldoi, Darrang	01	0.50	0.50	2	0.15	0.3	4	0.01	0.04
Tripura	REC-Agartala	KVK-Latiacherra, Bishalgarh, Sepahijala	01	0.50	0.50	2	0.15	0.3	4	0.01	0.04
Mizoram	REC-Aizawl	KVK-CAU, Selesih, Aizawl	01	0.50	0.50	2	0.15	0.3	4	0.01	0.04
Meghalaya	REC-Shillong	KVK-East Khasi Hills Upper Shillong	01	0.50	0.50	2	0.15	0.3	4	0.01	0.04
Nagaland	REC-Dimapur	KVK-Dimapur, Jharnapani, Medziphema	01	0.50	0.50	2	0.15	0.3	4	0.01	0.04
Manipur	RSRS-Imphal	KVK-Manipur Center, Lamphelp, Imphal	01	0.50	0.50	2	0.15	0.3	4	0.01	0.04
Sub-Total			14		7.0	28		4.20	56	0.56	2.24

*Total 3920 stakeholders would be covered through KVKs (28x100=2800 / 56x20=1120)

Annex-2.V

5. Soil samples to be tested/analyzed during the year 2023-24: NIL

6. Information, Education and Communication for the year 2023-24

Annex -2.VI

Sl.No.	Item	Target (No.)	
		Physical (No)	Budget allocation (Rs. In lakhs)
6.1	Periodicals	2	1.00
6.2	Publications		
6.2.1	Research papers-National	8	1.00
6.2.2	Research papers-International	4	1.00
6.2.3	Proceedings/ Abstracts	8	1.00
6.2.4	Books/ Book Chapters/ Manuals etc.	8	1.00
6.2.5	Popular Articles	2	1.00
6.2.6	Booklets, Brochures etc.	6	1.00
6.3	Extension literature	12	1.00
6.4	Films/ Videos	2	1.00
6.5	Social media	20	0.00
Total		72	9.00

7. Technology to be filed for Patent /grant of patent, technologies to be Commercialized/ Products to be Developed during 2023-24 Annex-2.VII

Sl. No.	Item	Patent No., Date of filing patent by NRDC, Technology commercialised to & Date of licence.	Target	
			Physical (No)	Budget allocation (Rs. In lakhs)
7.1	Patents filed			
7.2	Patents granted			
7.2.1				
7.3	Technologies commercialized	Commercialization of Labex & Morizyme - under process	2	1.30
7.4	Android/mobile app, software developed etc.			
7.4.1				
TOTAL			2	1.30

8. A. Procurement of equipment's and other accessories proposed for the year 2023-24**Annex-2.VIII**

#	Items/ equipments/ other accessories	Justification	Target	
			Physical (No)	Budget allocation (Rs in Lakh)
A. IT initiative				
8.1	Desktop Computer	1- For AD (A&A), Accts for official use 1- for For establishment Section 3 for Computer Section 1 for Entomology 1 for Plant pathology 3 for training 2 for Extension 2 for MBG section 1 for Electrical section 1 for Silkworm Pathology	21	14.70
8.2	Printer (MFP), HP or Equivalent	2-For establishment Section 1- For AD (A&A), Accts for official use 1- for MBG	4	1.00
Sub Total (A)			25	15.70

#	Items/ equipments/ other accessories	Justification	Target	
			Physical (No)	Budget allocation (Rs in Lakh)
B. Other items & equipments				
8.1	UPS 1KVA	21-For all computer	21	0.84
8.2	Scanner (Both Side)	For Accts Section	01	0.08
8.3	Tractor	For mulberry field cultivation for Farm Management	1	4.40
8.4	Air Conditioners	1- for Store Section 2 -for Training Division (1 for of class room + 1 office room). 3- for Establishment Section. 2- for Silkworm Pathology culture room 1-Mulberry Pathology culture room 1-REC Mothabari 1- for office use. (RSRS Jorhat office). 1- for Maintenance section 5- for Meeting room 1- for Electrical section	18	10.8
8.5	Autoclave	Sterilization of media and glassware for culturing and subculturing microorganisms during in-vitro evaluation and standardization chemical dosage	1	1.50
8.6	Power sprayer	Spraying of fungicides and pesticides during experimentation.	1	0.2
8.7	Electronic weighing Balance	Required for weighing of chemicals during experimentation	1	0.2
8.8	Revolving chair	1-For AD (A&A), Accts for official use 2- for Establishment section 1-For office use. (RSRSKPG office). 1-For training division for the day long work with comfortable sitting.	5	0.50
8.9	Poly acrylic transparent close chamber along with thermometer, battery operated fan	Required for green House gas sampling	25	3.80

#	Items/ equipments/ other accessories	Justification	Target	
			Physical (No)	Budget allocation (Rs in Lakh)
8.10	Lysimeter	Required for collecting the leachate from the field for Carbon & Nitrogen budgets	6	5.40
8.11	Sampling vials. Syringe and needles	For collecting GHGs sample from the close chamber box	1000	1.00
8.12	Magnetic Stirrer	Required for sample preparation	1	0.5
8.13	Hot air oven	For research laboratory	2	2.0
8.14	pH meter	For research laboratory	1	0.2
8.15	Table top refrigerated centrifuge	For research laboratory	1	6.0
8.16	Table top Microfuge	For research laboratory	1	0.2
8.17	Portable autoclave	For research laboratory	2	0.6
8.18	Armed steel chair	For research laboratory	2	0.1
8.19	Colour LED TV	For hostel to create ambient and recreation facility in the hostel	1	0.5
8.20	Interactive Panel	For creating student-centric classroom and learning focused teaching methodology, it is imperative that smart panel/interactive panel to be installed to allow collaboration and interactive communication between teachers and students.	1	4.0
8.21	IRGA	To measure photosynthetic activity of Host plants	1	50.00
8.22	Vortex	To conduct molecular work at laboratory	1	0.10
8.23	Spinwin	To conduct molecular work at laboratory	1	0.10
8.24	Pipette	To conduct molecular work at laboratory	3	0.30
8.25	Liquid Nitrogen Can	To conduct molecular work at laboratory	1	0.50
8.26	Knapsack Sprayer (Battery Operated)	For supplying proper & timely nutrient and disease & pest management of Host Plant	1	0.10
8.27	Hot Air Oven	To conduct the field based laboratory works under PIE 02013 SI	1	0.60

#	Items/ equipments/ other accessories	Justification	Target	
			Physical (No)	Budget allocation (Rs in Lakh)
8.28	Refrigerator	For laboratory works under PIE 02013SI	1	0.40
8.29	Double door Refrigerator 900 L capacity	For biotechnology laboratory	1	1.40
8.30	Electronic weighing Balance (Cap:30kg)	To conduct all field experiments under project PPA02005SI.	1	0.20
8.31	Reverse Osmosis system (Drinking water)	1-for MBG Lab (3 scientists, 3 STAs, 1 MTS & 9 SFWs). The water in Berhampore contains high amount of heavy metals so for safety of the people working in the lab one RO is required for. 1-For Accounts Section getting purified water for officials 1- For RSRS Koraput office	3	0.60
8.32	BOD incubator and water purification	Laboratory research purpose	2	2.00
8.33	Hot & Cold water filter with UV	For installation at wash room for officials	1	0.30
8.34	C.C.T.V. for trainees hostel	To ensure students and trainees safety in the trainees' hostel of the institute installation of CCTV camera is very essential. One set with eight cameras	1	2.50
8.35	C.C.T.V.	With 08 no. C.C.camera needed, as no single watch & ward personal at this station and this station is established in two different location at 7 th mile & another is at East main road, Kalimpong, which is 8 kilometer far way from 7 th miles (RSRS, KPG office). (8 set)	02	1.0
8.36	Iron/Steel Cot	8 no. for Trainees hostel, CSR&TI-Berhampore	8	0.96
8.37	Sartorius Weighing Balance	One Weighing balance is not in working condition. (RSRSKPG office).	01	0.70
8.38	Blue star water system	Aqua guard water filter rods are not in good condition. (RSRSKPG office).	01	0.09
8.39	Tullu Pump	For water supply (RSRS Jorhat office).	1	0.10

#	Items/ equipments/ other accessories	Justification	Target	
			Physical (No)	Budget allocation (Rs in Lakh)
8.40	Grass Cutter Machine	1-CSRTI-Berhampore 2-For cleaning office premises (RSRS, JHT) 1-For cleaning office premises (REC Sille). 2-For RSRS Koraput office	6	1.50
8.41	Pruning Machine	For pruning mulberry plants (RSRS Jorhat office).	2	0.50
8.42	Room heater	2-For Rearing RSRS Jorhat 2-For REC Shillong	4	0.40
8.43	Generator	For RSRS Jorhat	1	0.80
8.44	Brush Cutter	For office use. (REC Mothabari office).	1	0.27
8.45	Power Tiller	For RSRS Koraput farm	1	5.00
8.46	Podium	For Meeting room, CSR&TI, Berhampore	1	0.30
8.47	RO Water Filter with UV	1 for CSR&TI, Berhampore 1 for RSRS, Kalimpong	2	1.00
8.48	Television 65"	2 for Meeting room	2	2.20
8.49	Office Vehicle	3 for CSR&TI, Berhampore	3	30.0
			SUB-TOTAL (B)	146.74
			TOTAL (A+B)	162.44

8.B. Maintenance of existing infra-structure: Budget Estimate for the year 2023-24

#	Name of the unit : CSR&TI, Berhampore	Amount (in Lakh)	Remarks
1	Repairing / renovation of type IV staff quarters one block (4 unit) at CSR&TI, Berhampore	18.21	Proposal has been sent to central office for financial approval vide letter no.CSB/ CSR&TI/Maint.7(F)/2022-23/1088 dated 01.06.2022
2	Repairing / renovation of type IV staff quarters one block (4 unit) at CSR&TI, Berhampore	18.21	Proposal will send soon
3	Repairing / renovation of type III staff quarters one block (4 unit) at CSR&TI, Berhampore	15.20	Proposal will send soon
4	Repairing / renovation of type III staff quarters one block (4 unit) at CSR&TI, Berhampore	15.20	Proposal will send soon

5	Repairing / renovation of training division at CSR&TI, Berhampore	13.45	Proposal will send soon
6	General maintenance works day-to-day, petty works, minor works etc.	5.00	
7	Proposal for engagement of 12 additional security guard at CSR&TI, Berhampore	33.00	Proposal has been sent to central office for administrative approval vide letter no.CSB/ CSR&TI/Maint.E-16(F)/Lab.Attendant/22-23/5370 dated 28.12.2022
8	Proposal for engagement of 14 labourers at CSR&TI, Berhampore	24.50	Proposal will send soon
9	Proposal for engagement of 10 laboratory attendant , 20 helper at CSR&TI, Berhampore	55.00	
10	Engagement of one contractual Electrician at CSR&TI, Berhampore	3.50	
11	Engagement of one contractual Plumber at CSR&TI, Berhampore	3.50	
12	Engagement of 4 contractual Operator at CSR&TI, Berhampore	13.00	
13	Engagement of 8 contractual Security Guards at CSR&TI, Berhampore	45.00	
Name of the unit:RSRS, Jorhat			
14	Construction of compound wall around the land of RSRS, Jorhat	35.00	Administrative approval received. Proposal for financial approval will be sent soon
Name of the Unit: RSRS, Kalimpong			
15	Construction of roof shed over the roof of Research & Training building of RSRS, Kalimpong	35.00	Proposal will send soon
Name of the unit:RSRS, Koraput			
16	Repair / Maintenance of residential and non-residential buildings of RSRS, Koraput	30.00	Proposal will send soon
Name of the unit:REC, Mongaldoi			
17	Repair/Maintenance of Mulberry Rearing House. Repair of office-cum-store building. Repair of over head tank and water supply system of REC, Mongaldoi	30.00	Proposal will send soon
Total		392.77	

9. Cluster Promotion Programme

Annex-2.IX

Target for 2023-24								Budget (Rs. Lakh)
State	Mega Cluster	Dfls (Lakh)			Raw Silk (MT)			
		BV	ICB	Total	BV	ICB	Total	
West Bengal	Malda	3.50	4.00	7.5	28.40	16.00	44.40	1.716
	Murshidabad	3.25	4.00	7.25	26.60	16.00	42.60	1.716
	Sub Total	6.75	8.00	14.75	55.00	32.00	87.00	3.432
Manipur	Manipur-Plain	2.75		2.75	17.50		120.00	0.858
	Manipur-Hill	2.75		2.75	17.50		175.00	0.858
	Sub Total	5.50		5.50	35.00		120.00	1.716
Assam	Assam-Lower	4.50		4.50	30.00		175.00	1.716
	Assam-Upper	4.25		4.25	24.00		120.00	1.716
	Sub Total	8.75		8.75	54.00		175.00	3.432
Mizoram	Aizawl	2.80		2.80	16.00		120.00	0.858
Tripura	West Tripura	2.50		2.50	15.00		175.00	0.858
Sub Total (NE Zone)		19.55		19.80	120.00		120.00	6.864
Total (E & NE zone)		26.30	8.00	34.30	175.00	32.00	207.00	10.296
Monitoring & overhead expenditure								3.50
Total Expenditure								13.796

9. B. Other Activities to be taken up during the year 2023-2024

Annex-2.IX.B

Activities	Budget (Rs. Lakh)
Maintenance of 2 acres of germplasm (358 accessions) and demonstration plots	0.50
Evaluation of new Mulberry and silkworm crop schedules at 15 farmers of West Bengal in different seasons.	0.40
Maintenance of mulberry germplasm and demonstration plots	0.40
Maintenance of breeder stock of varieties for supply of mulberry cuttings	0.20
Maintenance of mulberry nursery for raising saplings	0.20
Maintenance of mulberry garden, supply of leaf/ shoot for in-house rearings (5000kg)	0.50
Expansion of New Mulberry variety	0.10
Survey surveillance and monitoring of silkworm disease in seed and commercial crop of E & NE states	0.70
Maintenance of Breeders' stocks of poly-voltine and bivoltine silkworm breeds	3.50
Large scale evaluation of new silkworm breeds/ hybrids	
Seed multiplication for silkworm breeds/hybrids	
Forewarning forecasting of mulberry pests and diseases	0.50
Consultancy	0.50
RTI	0.10
TOTAL	7.60

10. Revenue to be Generated during the year 2023-2024

Annex -2.X

Sl. No.	Source of Revenue Generation	Physical (No.)	Revenue to be generated (Rs.)
7.1	Patent (Technology)		
7.1.1	License Fee collected		
7.1.2	Royalty collected		
7.2	Testing & Analytical charges (Sample)		
7.2.1	Testing of Soil/water/FYM/ Leaf etc		
7.2.2	Quality analysis/ testing of products		
7.2.3	Testing of cocoons/silk yarn/fabric etc.		
7.3	Consultancy (Services)		
7.4	Supply/ sale proceeds of cutting / Sapling/ seedling/ chawki worms/ cocoons/ Silk etc.		
7.4.1	Mulberry cutting /saplings		1.50
7.4.2	Vanya host plant sapling/ seedling		
7.4.3	Mulberry chawki worms		
7.4.4	Mulberry seed(DFLs)		0.50
7.4.5	Vanya DFLs		
7.4.6	Cocoons/Pierced Cocoons		0.50
7.4.7	Output from R&D Projects (Silk, fabric etc)		0.20
7.4.8	Others (pl specify)		
7.4.8.1	Sale of grass / fallen tress		0.20
7.4.8.2	Sale of water from ATM		0.50
7.4.8.3	Rent & hiring charges (Building /Qtr/ Guest house/ hostel)		16.40
7.4.8.4	Misc. (Xerox/ publication/ fine) etc.		0.20
	Total		20.00