

Annexure-5

Physical Target for the year 2016-17 Central Muga Eri Research & Training Institute Lahdoigarh, Jorhat

1. Organizational Set-up – Nested units

Unit	Place
RMRS	Boko, Kamrup, Assam
RERS	Mendipathar and Shadnagar
REC	Tura, Lakhimpur, Coochbehar, Kokrajhar, Diphu , Fatehpur and Balijan

2. Projects

Item	Target	Remarks
2.1. Projects of earlier year continued through the year 2016-17	7 (including 2 regular programmes)	Annex-I
1.5 Projects to be concluded during the year 2016-17	4	Annex-II
1.6 New Projects to be initiated during 2016-17		Annex-III
2.1 Farmers meet cum exhibition/Krishimela	04	Annex - IV
2.2 Field day	18	
2.3 Farmers day / group discussion	70	
2.4 Awareness programme	22	
2.5 Vichar Gosthi	-	
2.6 Workshop/Seminar	01	
2. Transfer of technology (No. of technologies)	02	Annex-V
3. Training (No. of person trained)	650	Annex-VI

Annex-1

2.1.1. Projects of earlier year to be continued during 2016-17

#	Code	Title	Start	Closure	Milestone to be crossed			
					1Qtr	II Qtr	III Qtr	IV Qtr
At main institute								
1	ARP 5867	Characterization, transmission and cytopathology of infectious flacherie and cytoplasmic polyhedrosis virus in muga silkworm, <i>Antheraea assamensis</i> Helfer (funded by DBT)	July 2013	June 2016	Isolation of viral RNA/DNA from the infected larvae. Characterization of the virus. To study the transmission pattern of the viral agent	Isolation of viral RNA/DNA from the infected larvae. Characterization of the virus. To study the transmission pattern of the viral agent	Isolation of viral RNA/DNA from the infected larvae. Characterization of the virus. To study the transmission pattern of the viral agent	Isolation of viral RNA/DNA from the infected larvae. Characterization of the virus. To study the transmission pattern of the viral agent
2	ARP 5868	Isolation and Characterization of Anti Fungal Peptides from Muga Silkworm. (in collaboration with NEIST, Jorhat and IIT, Kharagpur (DBT funded)	April 2014	March 2017	Rearing of muga silkworm Injection of antifungal species. Collection of haemolymph at different intervals. Detection of antifungal peptides using SDS-PAGE.	Further purification of antifungal peptides to homogeneity. Performance of Two dimensional gel electrophoresis. Bioassay of antifungal peptides against the fungal species	Further performance of two dimensional gel electrophoresis. Biochemical characterization of peptides by MALDI-TOF mass spectrophotometry. LCMS-MS performance	Determination of N- and C-terminal amino acid sequences of protein and its analysis using Bioinformatics tool and prediction of peptides structure by homology modeling and in silico approaches
3	APR 5866	Sustainable Eri Silkworm rearing: Evaluation of	February 2013	June 2016	Biochemical analysis of three secondary metabolites.			

		<i>Ailanthus</i> species (DST funded)			Field trials among 200 farmers. Report compilation and submission			
4	DBT-1	Establishment of Institutional Biotech Hub (funded by DBT) – 2 nd phase	March 2013	November 2016	Organize one workshop/training programme. Conduct more awareness and demonstration programmes on seribiotechnology for School/College students.	Invite more college/school students for proper utilization of infrastructure available at Biotech Hub of the institute	Conduct more awareness and demonstration programmes on seribiotechnology for School/College students.	Invite more college/school students for proper utilization of infrastructure available at Biotech Hub of the institute
5	AIB 5879	Development of suitable combinations/hybrids of eri silkworm with sustainable performance for commercial exploitation (funded by CSB)	November 2014	October 2017	Isolation of the eri silkworm strains of promising eco-races and rearing. Development of crosses among different strains based on established combining ability and test rearing.	Isolation of the eri silkworm strains of promising eco-races and rearing. Development of crosses among different strains based on established combining ability and test rearing.	Isolation of the eri silkworm strains of promising eco-races and rearing. Development of crosses among different strains based on established combining ability and test rearing.	Isolation of the eri silkworm strains of promising eco-races and rearing. Development of crosses among different strains based on established combining ability and test rearing.
6	AIT 5872	Whole Genome Sequencing and functional genomics of Golden Silk Moth <i>Antheraea assamensis</i> (In collaboration with SBRL)	November 2015	October 2018	Collection of silkworm samples, DNA extraction and homogygosity testing by SSRs	Collection of silkworm samples, DNA extraction and homogygosity testing by SSRs	Collection of silkworm samples and DNA extraction; homozygosity test within population; prototypes identification based on heterozygosity /	Collection of silkworm samples and DNA extraction; homozygosity test within population; prototypes identification based on

							divergence in phenotypes, silk quality / immuno-competence	heterozygosity/ divergence in phenotypes, silk quality / immuno-competence
7	Regular programme	Monitoring of diseases and pests of muga silkworm, host plants and their management (CSB)	-	-	<p>Survey and Collection of Data at monthly intervals and updating the forewarning calendar for diseases and pests.</p> <p>Identify the disease occurrence in advance & forewarn the beneficiaries with remedial measures through awareness programme</p>	<p>Survey and Collection of Data at monthly intervals and updating the forewarning calendar for diseases and pests.</p> <p>Identify the disease occurrence in advance & forewarn the beneficiaries with remedial measures through awareness programme</p>	<p>Survey and Collection of Data at monthly intervals and updating the forewarning calendar for diseases and pests.</p> <p>Identify the disease occurrence in advance & forewarn the beneficiaries with remedial measures through awareness programme</p>	<p>Survey and Collection of Data at monthly intervals and updating the forewarning calendar for diseases and pests.</p> <p>Identify the disease occurrence in advance & forewarn the beneficiaries with remedial measures through awareness programme</p>

Annex-II

2.1.2. Projects continued through and to be concluded during 2016-17

#	Code	Title	Start	Closure	Milestone to be crossed			
					I Qtr	II Qtr	III Qtr	IV Qtr
At main institute								
1	ARP 5867	Characterization, transmission and cytopathology of infectious flacherie and cytoplasmic polyhedrosis virus in muga silkworm, <i>Antheraea assamensis</i> Helfer (funded by DBT)	July 2013	June 2016	Isolation of viral RNA/DNA from the infected larvae. Characterization of the virus. To study the transmission pattern of the viral agent	Isolation of viral RNA/DNA from the infected larvae. Characterization of the virus. To study the transmission pattern of the viral agent	Isolation of viral RNA/DNA from the infected larvae. Characterization of the virus. To study the transmission pattern of the viral agent	Isolation of viral RNA/DNA from the infected larvae. Characterization of the virus. To study the transmission pattern of the viral agent
2	ARP 5868	Isolation and Characterization of Anti Fungal Peptides from Muga Silkworm. (in collaboration with NEIST, Jorhat and IIT, Kharagpur (DBT funded)	April 2014	March 2017	Rearing of muga silkworm Injection of antifungal species. Collection of haemolymph at different intervals. Detection of antifungal peptides using SDS-PAGE.	Further purification of antifungal peptides to homogeneity. Performance of Two dimensional gel electrophoresis. Bioassay of antifungal peptides against the fungal species	Further performance of two dimensional gel electrophoresis. Biochemical characterization of peptides by MALDI-TOF mass spectrophotometry. LCMS-MS performance	Determination of N- and C-terminal amino acid sequences of protein and its analysis using Bioinformatics tool and prediction of peptides structure by homology modeling and in silico approaches
3	APR 5866	Sustainable Eri Silkworm rearing: Evaluation of <i>Ailanthus</i> species (DST funded)	February 2013	June 2016	Biochemical analysis of three secondary metabolites.			

					Field trials among 200 farmers. Report compilation and submission			
4	-	Establishment of Institutional Biotech Hub (funded by DBT) – 2 nd phase	March 2013	November 2016	Organize one workshop/training programme. Conduct more awareness and demonstration programmes on seri-biotechnology for School/College students.	Invite more college/school students for proper utilization of infrastructure available at Biotech Hub of the institute	Conduct more awareness and demonstration programmes on seri-biotechnology for School/College students.	Invite more college/school students for proper utilization of infrastructure available at Biotech Hub of the institute

Annex-III

2.1.3. New Projects to be initiated during 2016-17

#	Code	Title	Start	Closure	Objectives	Expected outcome
At main institute						
1	-	Study on the effect of plant protection formulations on the growth, development and productivity of muga silkworm, <i>Antheraea assamensis</i> Helfer.-CSB Funding	3 years		<p>To study the effect of chemical pesticides / plant protection formulations on the growth and development of Muga Silkworm.</p> <p>To study the effect of biopesticides / biocontrol agents on the growth, development and productivity of Muga Silkworm.</p> <p>To develop suitable methodologies / procedures to reduce the effect of pesticides on muga silkworm.</p>	<p>Progressive farmers: Progressive and higher education level farmers will be able to take up strategies to reduce the detrimental effects of pesticides sprayed in the agricultural and plantation crops and thereby can save the muga crops.</p> <p>Extension workers and NGOs: Extension personnel of the state will get the knowledge and disseminate the information to the farmers.</p> <p>Sericultural scientists: Sericultural research scientists will be benefited at large and disseminate the information to their respective regions.</p> <p>The outcome of the project will also fulfill the ultimate goal of higher productivity of muga silkworm.</p>
2	-	Socio-economic upliftment of farmers through adoption of Improved technologies and skill development in eri culture- CSB Funding	3 years		<p>To adopt improved technologies (both pre and post cocoon sectors) at farmers' level.</p> <p>Promotion of organic farming through waste management in ericulture.</p> <p>To improve the economies of scale through group approach.</p> <p>Diversification of ericulture towards income and employment generation</p>	<p>The refined location specific technology package in eri silk sector will be developed and same will be replicated in the other eri growing districts of Assam and Meghalaya. The complete forward and backward linkages will be developed for sustainable production and income of the</p>

					farmer. The outcome of the project will be published in the form of technology booklet, success stories, extension bulletin and research papers, etc.
3	-	Mutation breeding in eri silkworm, <i>Samia ricini</i> (Donovan) through ionizing irradiation [in collaboration with NEIST, Jorhat]-DBT funding	3 years	<p>To evolve new mutant breeds of eri silkworm through application of gamma irradiation.</p> <p>To analyze the desirable economic characters such as fecundity, hatching, larval duration, larval weight, survival %, cocoon weight, shell weight, boil off loss%, tenacity, filament length, reelability including texture, colour, strength and other important silk fibre quality parameter.</p> <p>To study the effect of gamma irradiation on activity of a few metabolic enzymes like Glutathion S Transferase which provide resistance against pollution.</p> <p>To study the heritability and stability of the desired traits in the subsequent generations of the selected breeds.</p> <p>Multilocational trial rearing of the selected breed, analysis of the rearing performance and recommendation of the high yielding breeds/ hybrid for commercial cocoon production</p>	<p>A new high yielding breed/race of eri silkworm is expected to develop.</p> <p>Possible enhancement of metabolic enzyme activity to enhance the resistance against environmental pollution.</p>
4	-	Development of concentrate protein supplement from eri silkworm pupa for diabetic and high BP patients- DST funding	3 years	<p>To standardize the dehydration of eri silkworm pupa and extraction of concentrated protein in the form of powder.</p> <p>To assess the anti-diabetic activity, toxicity and safety of eri silkworm protein powder in animal model.</p> <p>To conduct clinical bioassay on high</p>	<p>This product will be a new source of nutrition of the 21st century, the raw materials is unique. The ESPP will be with no additives and with the features of natural components, nutrition, balance fill, easy to absorb, and so on. The products with high bioactivities, low fat and complete amino acids, especially with sufficient 9 essential amino</p>

					<p>blood pressure and diabetic patients</p> <p>To develop the drug formulation / product of concentrated Eri Silkworm Protein Powder.</p> <p>To commercialize the product and entrepreneurship development in Eri culture.</p>	<p>acids, vitamins, minerals, trace elements. The ratio of essential amino acids is 57.01% in it, more than the standard of FAO and WHO. The product is natural animal protein, with the functions of benefiting for growth, strength and anti-aging suitable for high BP and diabetic patients. It can be used for health food, suitable for children, older, pregnant women, athletes and other special work staffs.</p>
5	-	Development of Decision Support System for early warning of selected muga silkworm diseases & pests with geospatial technique. [in collaboration with NESAC]- CSB Funding	3 years		<p>Identification of various landscape and climatic parameters crucial for disease incidence.</p> <p>Development of DSS for early warning of selected muga silk worm diseases.</p> <p>Dissemination of interactive advisory services to farmers linking with SILKS portal.</p>	<p>The final outcome of the project will benefit the farmers for management of diseases and pests of muga silkworm and host plants besides providing information on potential new areas for expansion of vanya silk cultivation</p>
6.	DBT funding	Enhancement of rural economy through technology intervention for sustainable muga culture in Upper Brahmaputra Valley of Assam	-		<ol style="list-style-type: none"> 1. To create awareness and popularize muga cultivation among the farmers of three upper Assam District 2. To increase income and employment generation avenues among the rural youth of weaker section through adoption of SHG approach 3. To train 150 beneficiaries for upgradation of skills for sustainable employment generation through activities like rearing of muga silkworm, rearing of cocoon, marketing of 	<p>More income of farmers</p>

					cocoon, yarn, fabrics, utilization of pupae et.	
7	-	Integrated management of uzifly through sterile insect technique and biorational facts in muga silkworm (<i>Antherea assamensis</i> Helfer) of Assam	3 years		<p>To study the population of uzifly infesting in muga silkworm in Assam (CMER&TI).</p> <p>To conduct quality quasi-mass rearing of uzifly species (<i>Blepharipa assama</i>) (CMER&TI & Delhi University)</p> <p>Efficacy of gamma irradiation on uzifly (<i>Blepharipa assama</i>) (Delhi Univ., CEDFD, CMER&TI)</p> <p>Efficacy of photosensitizer as environmentally safe biorational chemical against on uzifly (<i>Blepharipa assama</i>) (Delhi Univ. & CMER&TI)</p> <p>Extraction, characterization of waxy layer of eri silkworm and screening the chemical working as repellent for uzifly in muga silkworm. (CDFD & CMER&TI)</p> <p>Testing of presence of Wolbachia endosymbiont in uzifly infesting muga silkworm and its possible use in developing male only strains of uzifly to be used in SIT with novel approach (CDFD, CMER&TI, Delhi Univ.)</p>	<p>Most of the work was conducted on chemical control, biological control through hyperparasitoids, but sterile insect technique was not utilized so far in controlling uzifly. Both the technique SIT and the chemical working as repellent in waxy layer of eri silkworm study will be first attempt to manage the uzifly in muga silkworm in North East India, which will immensely help to control uzifly in muga silkworm. It will minimize the population of uzifly in muga silkworm, which will reduce the loss of cocoons. It will also increase the yield of muga silk by which North East India's silk production will increase. Thereby, it will help in increasing production of muga cocoons, which will also solve the seed (eggs) problem of muga industry. The developed technology will provide immense help to large number muga farmers of North Eastern India in increasing their income through muga culture</p>
8	-	Development of LED traps for controlling major insect pests and predators in muga	3 years		To develop light traps through LED (Light Emitting Diode) for controlling insect pests and predators in muga	The proposed project would be beneficial in solving the pest problems in muga culture by

		ecosystem- Need for organic muga silk production			ecosystem □□ Trial for validation of developed LED traps in muga ecosystem	evolving LED traps for controlling insect pests and predators which will reduce crop loss and in turn to increase yield. This is a method for organic silk production. The developed method can also be utilized in agriculture sector to protect the different agricultural crops from pests.
9	-	Characterization, utilization and validation of probiotics for sustainable muga culture in NE India	3 years		Exploration and characterization of beneficial gut bacteria from muga silkworm (IARI, CMERTI). Development, characterization and validation of stable probiotic formulations for their utility in muga culture (IARI & CMERTI). Training and demonstration on utility of probiotics for the stakeholders of muga culture (CMER&TI). Assessing antagonistic potential of probiotics against entomopathogens of <i>A. Assamensis</i> (IARI)	Muga silkworms are exclusively found in the North Eastern regions of India and hitherto the gut microbiology of the worms has been unexplored. Molecular and biochemical characterizations of gut microbe will help identifying beneficial gut microbial isolates which can be utilized for developing probiotic formulations. Further, validation and adoption of the technology at farmers level will augment the productivity in commercial muga culture to enhancing rural livelihood in North East India.
10	-	Evaluation of muga and eri silkworm pupae oil as a potential source of non-conventional energy: Biodiesel.	3 years		Extraction of waste muga/eri pupae oil by using Soxhlet apparatus and its conversion to fatty acid methyl esters (FAME) through base catalyzed transesterification. Study of the physico-chemical properties of the pupae oil and the FAME to assess whether the physical parameters are in conformity with the International biodiesel standards.	Establishment of waste silkworm pupae oil as a potential source of non-conventional energy and to use as a supplementary biodiesel that not only help saving fossil fuel, but also help fighting global warming as it generates less CO and has less sulphur content.
11.	-	Development of better fit	3 years		Screening of long-lived silkmoth of	This study will help in

		line of Muga silk moth through selection of long-lived silk moth			Muga through selection to develop a better fit line	developing a robust line of Muga silk moth through selection of long-lived moth from the general mass population, which will have better survivability and higher yield
12.	DBT funding	Development of diagnostic tool for detection of pebrine in <i>Antheraea assamensis</i> Helfer	3 years		<ul style="list-style-type: none"> • Designing LAMP primers • Determination of the sensitivity of the LAMP PCR • Immunological studies for diagnosing of pebrine detection 	Rapid diagnostic methodology for pebrine detection will be achieved.
13.	-	Phytochemical analysis of Som and Soalu muga host plants grown under different locations with respect to different silkworm rearing crops	3 years		<ol style="list-style-type: none"> 1. To quantify phytochemicals produced in Som and Soalu muga host plants grown in different locations of northeast India. 2. Assessment of leaf phytochemical constituents produced in Som and Soalu during different silkworm rearing crops (six crops). 3. Statistical analysis of leaf phytochemicals produced in Som and Soalu grown in different geographical locations and crop seasons. 	<ol style="list-style-type: none"> 1. Identification of leaf phytochemicals contents in Som and Soalu host plant at different locations during different crops of silkworm rearing. 2. Information on location and season wise variation of leaf biochemical constituents will assist the farmers for selection of suitable host plants for successful seed/commercial crop. 3. Information on the impact of agronomical practices viz. pruning, pollarding etc. on phytochemical constituents of Som and Soalu.
14.	-	Comparative study of cuticle-development genes in <i>Antheraea assamensis</i> (muga) &	3 years		<ol style="list-style-type: none"> 1. Sample collection of common breed Eri and Muga worms during rearing cycles of the year (summer & winter crop) and mRNA enrichment. 	The identified genes which participate in larval cuticle formation will be important in devising experimental approach for egg laying efficacy of Uzi

		<i>Samia ricini</i> (Eri) silkworm larva for efficient management of uzi infection.			<ol style="list-style-type: none"> 2. Characterization of different cuticle genes of Muga and Eri silk worm expressed at different larval instar stage by transcriptome sequencing. 3. Real time PCR validation of the differentially expressed genes during developmental progression and silkworm type. 4. Bioinformatics and statistical evaluation. 	fly (<i>Blepharipa zebina</i>) which lay eggs on the integument of the worms in dorso and dorso-lateral side.
15.	-	Population dynamics of Reduviid bug (<i>Sycanus collaris</i>) in muga ecosystem and their control	3 years		<ol style="list-style-type: none"> 1. To study the biology of Reduviid bug 2. To study the population dynamics of Reduviid bug 3. To work out control measures of Reduviid bug 	The study will enable to understand the extent of damage caused by Reduviid bug in muga culture. Technology for their control measures will also be developed. This will increase the muga cocoon yield.
16.	-	Impact of Training on Knowledge and Adoption Level of Improved Technologies of Muga Cultural	2 years		<ol style="list-style-type: none"> 1. To assess the knowledge and adoption level of improved technologies among the trained farmers. 2. To identify significant variables associated with level of adoption of improved technologies 3. To know the level of muga cocoon production through adoption of improved technologies. 	The findings of the study will indicate about the level of knowledge and adoption behaviour of the improved technologies in different categories of farmers which will promote for designing the effective and suitable training strategies for rapid transfer of technologies. It is also expected that the finding of the study will make sure about usefulness of the recommended technologies.

17.	-	Population dynamics of leaf gall insect (<i>Asphondylia sp.</i>) in som plant			<ol style="list-style-type: none"> 1. Study on life cycle of leaf gall insect on muga plants. 2. Biochemical analysis of leaf galls infested by <i>Asphondylia sp.</i> In som plant in comparison to normal healthy leaf. 3. Management of control measures of leaf gall insects on som 	Understanding the biology and development of control measures of leaf gall insect infesting som plants.
18.	-	Seasonal analysis of the levels of Oxidative Stress and Biochemical components in Muga silkworm reared on two primary host plants at different locations of North-East India	3 years		<ol style="list-style-type: none"> 1. To estimate the endogenous levels of Oxidative stress in Muga silkworm 2. To analyze the biochemical components of Muga Silkworm 3. To assess the role of oxidative stress and biochemical components on rearing performance and cocoon economic parameters 4. All the three above mentioned objectives will be studied during different seasons at different locations reared on two primary host plants. 	This study will help us to understand the inter-relationship of host plant, seasonal and location effect on silkworm endogenous levels of oxidative stress and biochemical components, which would support the favorable improvement of yield of Muga silkworm.
19.	-do-	Characterization and efficacy of bacterial antagonists against <i>Alternaria ricini</i> infecting Castor in North-eastern India	3 years		<ol style="list-style-type: none"> 1. To characterize antagonistic and plant growth promoting rhizobacteria from rhizosphere of castor plants. 2. To evaluate the efficacy of different bacterial antagonists as a biocontrol against <i>Alternaria ricini</i> causing leaf blight in castor. 3. Microscopic studies to detect 	The study will aim to promote antagonists as a potential bio-pesticide for augmentative biological control of <i>Alternaria ricini</i>

					physical and or morphological changes in mycelia.	
20.	New Regular programme	Collection and documentation of plant pathogens in Som and soalu: The Muga host plants for problem diagnosis	Regular		Collection, Conservation and permanent storage of the specimens along with information about their collection.	The reliable and accurate identification of the causative organisms that cause plant diseases. The herbarium specimens are used as reference material in routine identification of plant diseases.
21.	Regular programme	Documentation and preservation of Som and Soalu accessions (institute in-house accessions)	-	-	Documentation and preservation of Som and Soalu accession as herbarium specimen.	<ul style="list-style-type: none"> • Maintenance of in-house Som and Soalu accessions herbarium for proper identification of accessions • It can be used as data sheet for future selection / accession strengthening.
22.	Regular programme	Domestication of muga silkworm <i>Antheraea assamensis</i> Helfer	Regular		To develop a stock of muga silkworm for domestication under indoor conditions	<ul style="list-style-type: none"> • Rearing of same stock of muga silkworm under indoor condition in different seasons of the year

g) Pilot studies

#	Title	Start	Closure	Objectives	Expected outcome	Scientists involved	Budget (Rs. In lakh)
1	Morphological and molecular characterization of Som and Soalu accessions	April, 2016	March, 2018	<p>4. Identify morphological traits that are most stable and independent as a method to identify unique and desirable accession.</p> <p>5. Use molecular markers (RAPD/SSR) to assess genetic diversity in Som and Soalu accessions</p>	<p>The use of morphological descriptions in combination with molecular marker will help with the identification of different Som and Soalu accessions for selection.</p> <p>Tagging desirable trait with molecular markers will help in identifying superior accession for higher productivity and good quality cocoon.</p>	<p>Dr. Prashanth Sangannavar, Sci-B (Principal Investigator)</p> <p>Dr. R. Das, Sci-D (Co-Investigator)</p> <p>Dr. D. K. Gogoi, Sci-C (Co-Investigator)</p>	3.00
2	Next generation sequencing studies and bioinformatics analysis of flacherie infected muga silkworm <i>Antheraea assamensis</i> Helfer	April, 2016	March, 2018	<ul style="list-style-type: none"> •Extraction of microbiome of flacherie infected muga silkworm •High throughput genome sequencing analysis of flacherie infected muga silkworm. •Bioinformatics analysis and detection of causative bacterial pathogen responsible for flacherie disease in <i>Antheraea assamensis</i> 	<ul style="list-style-type: none"> •The bacterial pathogen associating with deadly flacherie disease of Muga silkworm will be systematically addressed. •Ecology of bacterial pathogen would be better understood to evolve effective management practices for flacherie disease in Muga culture 	<p>Dr. Gangavarapu Subrahmanyam, Sc. B (Principle investigator);</p> <p>Dr. Ranjana Das, Sc. D (Co-Investigator);</p> <p>Dr. Rajal Debnath, Sc. B (Co-Investigator)</p>	4.00

3	Biocontrol potential of <i>Pseudomonas</i> species against <i>Alternaria ricini</i> infecting Castor in North-eastern India	April 2016	March 2017	<ul style="list-style-type: none"> To evaluate the efficacy of different strains of <i>Pseudomonas</i> species as a biocontrol against <i>Alternaria ricini</i> causing leaf blight in castor. Microscopic studies to detect physical and or morphological changes of mycelia 	The study will aim to promote <i>Pseudomonas</i> species as a potential bio-pesticide for augmentative biological control of <i>Alternaria ricini</i>	Mr. Jeevan B (Principal investigator) Dr. Rajesh Kumar (Co-investigator) Mr. Vijay N (Co-investigator) Dr. Ranjana Das (Co-investigator)	2.00
4	Maximization on leaf yield of Som (<i>Persea bombycina</i> Kost) through Liquid Organic Manures	April 2016	March 2017	<p>To study the response of different levels of organic liquid fertilizers on growth and yield of som through both foliar and soil application</p> <p>To study the nutrient uptake and fertility status of the soil.</p> <p>To workout the economics of different organic liquid fertilizers.</p>	<p>Minimization of environmental, economic and social problems.</p> <p>Enhancement on leaf yield</p> <p>Sustainable production</p>	Dr. Vinod kumar Naik (Principal investigator) Dr.Urmimala Hazarika (Co-investigator)	0.50
5	Assessment of chemical properties and Nutritional composition of muga silkworm (<i>Antheraea assamensis</i> Helfer) litter.	April 2016	March 2017	<p>To study the chemical properties (dry matter percentage, pH and electrical conductivity or soluble salt level) and nutritional composition (Major and micronutrients) of muga silkworm litter.</p> <p>To study the standard procedures for collection and preservation of silkworm litter.</p>	Biochemical composition of muga silkworm litter Possibility of muga silkworm litter in preparation of organic manure	Dr. Vinod kumar Naik (Principal investigator) Dr.Urmimala Hazarika (Co-investigator)	0.50

Annex-IV

3. Extension Communication Programmes to be conducted

Action Plan for Extension Communication Programme to be conducted by CMER&TI, Lahdoigarh and its nested units for 2016-17

Sl. No	Programmes	Unit cost (Rs. in lakh)	Physical target					Financial (Rs. In lakh)					Persons to be sensitized
			Qtr -I	Qtr- II	Qtr- III	Qtr- IV	Total	Qtr -I	Qtr-II	Qtr- III	Qtr- IV	Total	
1	Work shop/ Seminar for CMER&TI, Lahdoigarh	2.00	0	0	1	0	1	0.00	0.00	2.00	0.00	2.00	150
2	Organization of Krishimela												
	CMER&TI, Lahdoigarh	1.00	0	0	0	1	1	0.00	0.00	0.00	1.00	1.00	300
	RMRS, Boko	1.00	0	1	0	0	1	0.00	1.00	0.00	0.00	1.00	300
	REC, Lakhimpur	1.00	0	0	0	1	1	0.00	0.00	0.00	1.00	1.00	300
	REC, Kokrajhar	1.00	0	0	1	0	1	0.00	0.00	1.00	0.00	1.00	300
	Sub Total			0	1	1	2	4	0.00	1.00	1.00	2.00	4.00
3	Awareness Programme												
	CMER&TI, Lahdoigarh	0.20	1	1	1	1	4	0.20	0.20	0.20	0.20	0.80	300
	RMRS, Boko	0.20	1	1	0	0	2	0.20	0.20	0.00	0.00	0.40	150
	RERS, Mendipathar	0.20	0	1	1	0	2	0.00	0.20	0.20	0.00	0.40	150
	RERS, Shadnagar	0.20	0	1	1	0	2	0.00	0.20	0.20	0.00	0.40	150
	REC, Tura	0.20	0	1	1	0	2	0.00	0.20	0.20	0.00	0.40	150
	REC, Coochbehar	0.20	0	1	1	0	2	0.00	0.20	0.20	0.00	0.40	150
	REC, Lakhimpur	0.20	0	1	1	0	2	0.00	0.20	0.20	0.00	0.40	150
	REC, Fatehpur	0.20	0	1	1	0	2	0.00	0.20	0.20	0.00	0.40	150
	REC, Kokrajhar	0.20	0	1	1	0	2	0.00	0.20	0.20	0.00	0.40	150
	REC, Diphu	0.20	0	1	0	0	1	0.00	0.20	0.00	0.00	0.20	75
	REC, Balijan	0.20	0	0	1	0	1	0.00	0.00	0.20	0.00	0.20	75

	Sub Total		2	10	9	1	22	0.20	1.80	1.60	0.00	4.40	1650
4	Field day												
	CMER&TI, Lahdoigarh	0.20	0	1	0	1	2	0.00	0.20	0.00	0.20	0.40	150
	RMRS, Boko	0.20	1	0	1	0	2	0.20	0.00	0.20	0.00	0.40	150
	RERS, Mendipathar	0.20	0	1	1	0	2	0.00	0.20	0.20	0.00	0.40	150
	RERS, Shadnagar	0.20	0	1	1	0	2	0.00	0.20	0.20	0.00	0.40	150
	REC, Tura	0.20	0	1	0	0	1	0.00	0.20	0.00	0.00	0.20	75
	REC,Coochbehar	0.20	0	1	1	0	2	0.00	0.20	0.20	0.00	0.40	150
	REC, Lakhimpur	0.20	0	1	1	0	2	0.00	0.20	0.20	0.00	0.40	150
	REC, Fatehpur	0.20	0	0	1	0	1	0.00	0.00	0.20	0.00	0.20	75
	REC, Kokrajhar	0.20	0	1	1	0	2	0.00	0.20	0.20	0.00	0.40	150
	REC, Diphu	0.20	0	0	1	0	1	0.00	0.00	0.20	0.00	0.20	75
	REC, Balijan	0.20	0	1	0	0	1	0.00	0.20	0.00	0.00	0.20	75
	Sub Total		1	8	8	1	18	0.20	1.60	1.60	0.20	3.60	1350
5	Group Discussion												
	CMER&TI, Lahdoigarh	0.01	2	3	3	2	10	0.02	0.03	0.03	0.02	0.10	200
	RMRS, Boko	0.01	2	3	3	2	10	0.02	0.03	0.03	0.02	0.10	200
	RERS, Mendipathar	0.01	2	3	2	2	9	0.02	0.03	0.02	0.02	0.09	180
	RERS, Shadnagar	0.01	1	2	2	1	6	0.01	0.02	0.02	0.01	0.06	120
	REC, Tura	0.01	1	2	1	1	5	0.01	0.02	0.01	0.01	0.05	100
	REC,Coochbehar	0.01	1	2	1	1	5	0.01	0.02	0.01	0.01	0.05	100
	REC, Lakhimpur	0.01	1	1	2	1	5	0.01	0.01	0.02	0.01	0.05	100
	REC, Fatehpur	0.01	1	2	1	1	5	0.01	0.02	0.01	0.01	0.05	100
	REC, Kokrajhar	0.01	1	1	2	1	5	0.01	0.01	0.02	0.01	0.05	100
	REC, Diphu	0.01	1	1	2	1	5	0.01	0.01	0.02	0.01	0.05	100
	REC, Balija	0.01	1	2	1	1	5	0.01	0.02	0.01	0.01	0.05	100
	Sub Total		14	22	20	14	70	0.14	0.22	0.2	0.14	0.70	1400
	Grand Total (1+2+3+4+5)							0.54	4.62	6.4	2.34	14.7	5750

Annex-V**4. Transfer of Technology**

Sl. No.	TOT Activity	No. of farmers to be covered
1	Integrated technology package of muga culture (10 nos. against target of 56 nos.)	
2	Integrated technology package of eri culture (9 nos. against target of 64 nos)	

Annex-VI

5. Training / Human Resource Development

Action Plan for Training/Human Resource Development to be conducted by CMER&TI, Lahdoigarh during 2016-17

Sl. No.	Training/ Programme	Unit cost	Annual Target	
		(Rs. In lakh)	Physical	Financial (Rs. In lakh)
A	Capacity Building & Training under R&D Sector			
I	Farmers Skill Training at CMER&TI, Lahdoigarh			
1	5 days duration	0.035	240	8.40
2	3 days duration	0.035	60	2.10
II	Exposure visit of farmers & Extn. agents			
1	CMER&TI, Lahdoigarh	0.025	60	1.50
2	RMRS, Boko	0.025	50	1.25
3	REC, Coochbehar	0.025	40	1.00
III	Technology orientation programme (student, NGO, DOS and CSB staffs)			
1	CMER&TI, Lahdoigarh	0.035	150	5.25
2	RMRS, Boko	0.035	50	1.75
B	Skill Training & Enterprise Development Programme			
1	Management Development Programme at CMER&TI, Lahdoigarh	0.250	2	0.50
2	Training impact assessment at CMER&TI, Lahdoigarh	-	-	2.00
C	Sericulture Resource Centre (SRC)	3.500	4	14.00
D	Information, Education & Communication (IEC) at CMER&TI, lahdoigarh			
1	Leaflets/pamphlets/ booklets on muga and eri technologies	1.000	-	1.00
2	Production of video/short films on muga/eri technology	1.000	-	1.00
Total				39.75

6. Seri Model Village Programme

Proposal for Implementation of Seri Model Village Under CMER&TI, Lahdoigarh During 2016-17

Introduction

Muga and eri culture is a traditional and age old practice and sustaining amidst the rural populace. In the recent past, various technologies were recommended for enhancing production in muga and eri culture. Keeping in view of the above, CMER&TI, Lahdoigarh is being implemented 4 muga and 4 eri Seri Model Villages covering 100 beneficiaries in each village and one PCT village covering 62 beneficiaries during XII Plan (From 2014-15) for disseminating the integrated technology package to the farmers' field through demonstration, organization of awareness programme, field day, training, etc. Further, need based critical items also arranged for providing to the beneficiaries for encouraging to quick adoption of technologies. Adoption of technologies are found encouraging in all the SMV. Cumulative impact assessment from the rearing performance of 2014-15 and 2015-16, resulting that level of cocoon production is enhanced by 21.2 % in seed crop and 26.5 % in commercial crops in Muga SMVs. Similarly, cocoon production is enhanced by 40.0% in Eri SMVs. Improvement of cocoon production, also resulting enhancement of raw silk production and higher income generation among the farmers covered under SMVs. Further, implementing the Eri PCT SMV in last two years, it has recorded that the traditional method of eri spinning (Takli) has shifted to Pedal cum Motorized eri spinning machines among 62 beneficiaries covered under the SMV. Adopting the improved eri spinning technology by the beneficiaries, production of eri spun yarn has increased up to 100-120 gm from the benchmark production of 30-40 gm per day per person. Similarly, annual income of the beneficiaries from eri post cocoon activities has been increased up to Rs. 16,000/ to 30,000/- against the benchmark Rs. 6,000/- to 22,000/- per annum.

Hence, it is proposed to continue all the 9 existing Seri Model Villages for the year 2016-17 for further improvement of muga and eri cocoons as well as raw silk production in both qualitatively and quantitatively through providing need based technological supports to the farmers with the following objectives.

Objectives

- To make aware the improved technologies of muga and eri culture to the farmers.
- To improve the production of muga and eri culture through adoption of improved technology package.

List of the technologies identified for integration in to technology package

A. Muga culture

- Pruning/pollarding of host plants
- Input application to the host plants and green manuring
- Pest and disease management of host plants
- Disinfection of rearing fields
- Early stage rearing of muga silkworm
- Prophylactic measures against pest and diseases of muga silk worms
- Improved mountage for spinning of cocoons.

B. Eri culture

- Raising of high yielding castor variety
- Agronomical practices of kesseru
- Disinfection of rearing appliances and rearing house
- Improved eri silkworm breed (C2)
- Early stage rearing of eri silkworm
- Platform rearing techniques of eri silkworms.

C. Eri PCT

- Sorting, boiling and drying of cocoon
- Motorized Eri Spinning Machine

Name of the Seri Model Villages and Nodal Officers

Enclosed in **Annexure –I**

Estimated Budget: Rs. 16.75 lakh (Details are given in **Annexure-II**)

Outcome of the programme

1. Implementing the Seri Model Villages, it is estimated to produce 2.40 MT muga raw silk and 3.84 MT Eri raw silk during 2016-17.
2. Estimated turnout of Muga Seri Model Villages is Rs. 140.00 lakh (from sale proceed of seed and commercial cocoons) and eri Seri Model Villages is Rs. 112.80 lakh (from sale proceed of pupae and cocoons shell).

Target of Dfls brushing and cocoon production in each Muga and Eri Seri Model Villages during 2016-17 : Given in Annexure –III & IV

Mode of implementation:

- All the existing SMVs with 862 beneficiaries will be continued under the programme.
- Technological supports for host plant management, rearing of silkworms, silkworm seed production, etc will be continued through Awareness programme, Front line demonstrations, training, exposure visits, etc.
- Need based critical equipments, disinfectants, etc will be provided to the beneficiaries of Seri Model Villages under the programme.
- Silkworm crop will be conducted by the farmers of each Seri Model Villages as per schedule under regular technical guidance.
- Data on rearing performance will be collected from the farmers and will be reviewed after completion of every crop separately.
- Collected data will be analyzed and compared with the benchmark data to assess the sustainability and improvement over the benchmark.

7. Schedule of Research Advisory Committee (RAC) and Research Council (RC) meetings

#	RAC RC	Date
1.	48 th RC	May, 2016
2.	31 st RAC	June, 2016
3.	49 th RC	November, 2016
4.	32 nd RAC	December, 2016

Annexure –I**Name of the Seri Model Village and associated Nodal Officers**

#	Sector	Name of the Seri Model Village/District	Name of the Nodal Officer	Coordinator
1	Muga Pre cocoon	Khawang Seri Model Village, Dibrugarh	Sri D.Goswami, Scientist –D, CMER&TI, Lahdoigarh	Shri D. Mech, Scientist –D CMER&TI, Lahdoigarh
		Chinatoli & Borpathar Seri Model Village, Golaghat	Dr. (Mrs) R. Das, Scientist –D, CMER&TI, Lahdoigarh	
		Baida Langurpara, Seri Model Village Goalpara	Sri A. K. Gogoi, Scientist –D, RMRS, Boko	
		Charideo Seri Model Village, Sivsagar	Mrs. Ranuma Das, Scientist –D, CMER&TI, Lahdoigarh	
2	Eri Pre cocoon	Dadhara Seri Model Village, Golaghat	Dr. M.C.Sarmah, Scientist C, CMER&TI, Lahdoigarh	
		Tamulichiga Seri Model Village, Sivsagar	Dr. B.N. Sarkar, Scientist C, CMER&TI, Lahdoigarh	
		Barekuri Seri Model Village, Tinsukia	Sri S.A.Ahmed, Scientist -C, CMER&TI, Lahdoigarh	
		Deogharia, Seri Model Village, Jorhat	Mrs. M.D Senapati, Scientist –C, CMER&TI, Lahdoigarh	
3	PCT	Borhula Seri Model Village, Jorhat	Dr. D.K.Gogoi Scientist –C CMER&TI, Lahdoigarh	

Annexure -II

Estimated Budget for implementation of Seri Model Villages during 2016-17

Sl. No	Particulars/ Activities	Quantity	Rate (Rs.)	Amount (Rs.)
1	Organization of awareness meet, technology demonstrations, field days, and short time training, exposure visit, etc	9 SMV	100000/-	900000
2	Supply of eri spinning machines to the beneficiaries of PCT SMV	20	7000/-	140000
3	Supply of disinfectants (bleaching powder, lime and Sodium hypochloride)	9 SMV	Lump sum	50000
4	Mobility of the scientists/technical staffs	9 SMV	50000/-	450000
5	Contingency expenditure including mobile bills of Nodal Officers	9 SMV	15000/-	135000
	Total			1675000

Annexure –III

Target of Dfls brushing and cocoon production in each Muga Seri Model Villages during 2016-17

Name of the crops	Dfls to be brushed	Number of farmers to be involved	Number of cocoons to be produced	Dfls to be produced (g)	Estimated Raw silk (Kg)	Estimated turn out from sale proceed of cocoons (Rs. In lakh)
Jethua Commercial crop (Apr-May)	25000g	85	1500000 (@ 60 cocoons/dfl)	-	300 (@ 5000 cocoons for 1.0 kg silk)	15.00 (@Rs.1/- per cocoon)
Bhadia Seed crop (Aug-Sep)	2500g	15	100000 (@ 40 cocoons/dfl)	25000	-	2.50 (@Rs.2.5 per cocoon)
Kotia commercial crop (Oct- Nov)	25000g	85	1500000 (@ 60 cocoons/dfl)	-	300 (@ 5000 cocoons for 1.0 kg silk)	15.00 (@Rs.1/- per cocoon)
Chatua Seed crop (Feb-Mar)	2500g	15	100000 @ 40 cocoons/dfl	25000	-	2.50 (@Rs.2.5 per cocoon)

Annexure –IV
Target of Dfls brushing and cocoon production in each Eri Seri Model Village during 2016-17

Crop season	Dfls to be reared	Number of farmers to be involved	Cocoons to be produced (Kg)	Estimated pupae to be produced (Kg)	Raw silk to be produced (Kg)	Estimated turn out from sale proceed of pupae (Rs. In lakh)	Estimated turn out from sale proceed of cocoons (Rs. In lakh)
Apr-Jun	3000 (@ 25-50 dfls/farmer)	100	300 (@ 10.0 kg/100dfls)	2100 (@ 7kg per 10 dfl)	240 (@ 80% of total cocoons)	5.25 (@ Rs.250/- per kg)	1.80 (@ Rs. 600/ per kg)
Jul- Sep	3000 (@ 25-50 dfls/farmer)	100	300 (@ 10.0 kg/100dfls)	2100 (@ 7kg per 10 dfl)	240 (@ 80% of total cocoons)	5.25 (@ Rs.250/- per kg)	1.80 (@ Rs. 600/ per kg)
Oct-Dec	3000 (@ 25-50 dfls/farmer)	100	300 (@ 10.0 kg/100dfls)	2100 (@ 7kg per 10 dfl)	240 (@ 80% of total cocoons)	5.25 (@ Rs.250/- per kg)	1.80 (@ Rs. 600/ per kg)
Jan-Mar	3000 (@ 25-50 dfls/farmer)	100	300 (@ 10.0 kg/100dfls)	2100 (@ 7kg per 10 dfl)	240 (@ 80% of total cocoons)	5.25 (@ Rs.250/- per kg)	1.80 (@ Rs. 600/ per kg)

8. Other activities

a) Land use and resource conservation:

Action Plan for 2016-17

. Plan for Land Use and Resource Conservation

(Rupees in lakh)

#	Activities	Physical Target for 2016-17					Financial for 2016-17				
		Qtr-1	Qtr-2	Qtr 3	Qtr-4	Total	Qtr-1	Qtr-2	Qtr 3	Qtr-4	Total
A	Raising of seedlings/ sapling (nos)										
I	Som / Soalu seedling (Raising cost cost Rs.2.50 per seedling in polybag)										
1	CMER&TI, Lahdoigarh	10000	10000	0	0	20000	25000	25000	0	0	50000
2	RMRS, Boko	10000	10000	0	0	20000	25000	25000	0	0	50000
3	REC, Lakhimpur	5000	0	0	0	5000	12500	0	0	0	12500
4	REC, Coochbehar	5000	0	0	0	5000	12500	0	0	0	12500
5	REC, Tura	5000	0	0	0	5000	12500	0	0	0	12500
6	REC, Kokrajhar	5000	0	0	0	5000	12500	0	0	0	12500
	Sub Total (I)	40000	20000	0	0	60000	100000	50000	0	0	150000
II	Raising of Kesseru seedlings (Raising cost cost Rs.2.50 per seedling in polybag)										
1	CMER&TI, Lahdoigarh	20000	0	0	0	20000	50000	0	0	0	50000
2	RERS, Mendipathar	20000	0	0	0	20000	50000	0	0	0	50000
3	REC, Kokrajhar	5000	0	0	0	5000	12500	0	0	0	12500
4	REC, Diphu	5000	0	0	0	5000	12500	0	0	0	12500
5	REC, Balijan	5000	0	0	0	5000	12500	0	0	0	12500
	Subt Total (II)	55000	0	0	0	55000	137500	0	0	0	137500
	Total (A)	95000	20000	0	0	115000	237500	50000	0	0	287500

B	Supply of seedling / sapling										
I	Som / Soalu seedling @ Rs.3/- per seedling										
1	CMER&TI, Lahdoigarh	5000	5000	0	0	10000	0	0	0	0	0
2	RMRS, Boko	10000	10000	0	0	20000	0	0	0	0	0
3	REC, Lakhimpur	2500	2500	0	0	5000	0	0	0	0	0
4	REC, Coochbehar	2500	2500	0	0	5000	0	0	0	0	0
	Sub Total	20000	20000	0	0	40000	0	0	0	0	0
II	Kesseru seedling @ Rs. 3/- per seedling										
1	CMER&TI, Lahdoigarh	5000	3000	0	0	8000	0	0	0	0	0
2	RERS, Mendipathar	5000	5000	0	0	10000	0	0	0	0	0
	Sub Total	10000	8000	0	0	18000	0	0	0	0	0
C	Dfls brushing										
I	Muga Commercial crop (Cost @ Rs. 10/- per dfl)										
1	CMER&TI, Lahdoigarh	1500	0	1500	0	3000	15000	0	15000	0	30000
2	RMRS, Boko	1250	0	1250	0	2500	12500	0	12500	0	25000
3	REC, Lakhimpur	250	0	250	0	500	2500	0	2500	0	5000
4	REC, Coochbehar	250	0	250	0	500	2500	0	2500	0	5000
5	REC, Kokrajhar	200	0	200	0	400	2000	0	2000	0	4000
	Sub-Total (I)	3100	0	3450	0	6900	34500	0	34500	0	69000
II	Muga Seed crop (Cost @ Rs. 10/- per dfl)										
1	CMER&TI, Lahdoigarh	250	600	250	600	1700	2500	6000	2500	6000	17000
2	RMRS, Boko	150	200	200	150	700	1500	2000	2000	1500	7000
3	REC, Tura	100	200	200	100	600	1000	2000	2000	1000	6000
4	REC, Lakhimpur	0	200	0	200	400	0	2000	0	2000	4000
5	REC, Coochbehar	100	200	200	100	600	1000	2000	2000	1000	6000
	Sub-Total (II)	600	1400	850	1150	4000	6000	14000	8500	11500	40000

III	Eri (Cost @ Rs. 5/- per dfl)										
1	CMER&TI, Lahdoigarh	100	150	150	100	500	500	750	750	500	2500
2	RERS, Mendipathar	100	150	100	150	500	500	750	500	750	2500
3	RERS Shadnagar	100	150	150	100	500	500	750	750	500	2500
4	REC, Diphu	50	50	50	50	200	250	250	250	250	1000
5	REC Fatehpur	0	0	100	100	200	0	0	500	500	1000
6	REC, Kokrajhar	50	50	50	50	200	250	250	250	250	1000
	Sub-Total (III)	400	550	600	550	2100	2000	2750	3000	2750	10500
D	Muga Commercial cocoon production (@ 60 cocoons/dfl)										
1	CMER&TI, Lahdoigarh	90000	0	90000	0	180000	0	0	0	0	0
2	RMRS, Boko	75000	0	75000	0	150000	0	0	0	0	0
3	REC, Lakhimpur	15000	0	15000	0	30000	0	0	0	0	0
4	REC, Coochbehar	30000	0	30000	0	60000	0	0	0	0	0
5	REC, Kokrajhar	12000	0	12000	0	24000	0	0	0	0	0
	Sub-Total (D)	222000	0	222000	0	444000	0	0	0	0	0
E	Muga Seed cocoon production @ 40 cocoons/ dfl										
1	CMER&TI, Lahdoigarh	10000	24000	10000	24000	68000	0	0	0	0	0
2	RMRS, Boko	6000	8000	8000	6000	28000	0	0	0	0	0
3	REC, Tura	4000	8000	8000	4000	24000	0	0	0	0	0
4	REC, Lakhimpur	0	8000	0	8000	16000	0	0	0	0	0
5	REC, Coochbehar	4000	8000	8000	4000	24000	0	0	0	0	0
	Sub-Total (E)	24000	56000	34000	46000	160000	0	0	0	0	0

F	Eri cocoon production @ 10.0 kg shell /100dfl										
1	CMER&TI, Lahdoigarh	10.0	15.0	15.0	10.0	50.0	0	0	0	0	0
2	RERS, Mendipathar	10.0	15.0	10.0	15.0	50.0	0	0	0	0	0
3	RERS Shadnagar	10.0	15.0	15.0	10.0	50.0	0	0	0	0	0
4	REC, Diphu	5.0	5.0	5.0	5.0	20.0	0	0	0	0	0
5	REC Fatehpur	0.0	0.0	10.0	10.0	20.0	0	0	0	0	0
6	REC, Kokrajhar	5.0	5.0	5.0	5.0	20.0	0	0	0	0	0
	Sub-Total (F)	40.0	55.0	60.0	55.0	210.0	0	0	0	0	0
G	Muga dfls production from 60% of cocoons generated from seed crop @ Cocoon : dfl is 3 :1 (g)										
1	CMER&TI, Lahdoigarh	2000	4800	2000	4800	13600	0	0	0	0	0
2	RMRS, Boko	1000	2500	2500	1000	7000	0	0	0	0	0
3	REC, Tura	500	1500	1500	500	4000	0	0	0	0	0
4	REC, Lakhimpur	0	1200	0	1200	2400	0	0	0	0	0
5	REC, Coochbehar	500	1500	1500	500	4000	0	0	0	0	0
	Sub Total (G)	4000	11500	7500	8000	31000	0	0	0	0	0
H	Eri dfl production from own source of seed cocoons @ Cocoon : dfl is 3 :1 (Nos)										0
1	CMER&TI, Lahdoigarh	2500	2500	2500	2500	12000	0	0	0	0	0
2	RERS, Mendipathar	2500	2500	2500	2500	12000	0	0	0	0	0
3	RERS Shadnagar	2000	2000	2000	2000	8000	0	0	0	0	0
4	REC, Diphu	1500	1500	1500	1500	6000	0	0	0	0	0
	Sub-Total (H)	8500	8500	8500	8500	38000	0	0	0	0	0

I	Muga dfis supply @ Rs.10/- per dfl (g)										
1	CMER&TI, Lahdoigarh	2000	4800	2000	4800	13600	0	0	0	0	0
2	RMRS, Boko	1000	2500	2500	1000	7000	0	0	0	0	0
3	REC, Tura	500	1500	1500	500	4000	0	0	0	0	0
4	REC, Lakhimpur	0	1200	0	1200	2400	0	0	0	0	0
5	REC, Coochbehar	500	1500	1500	500	4000	0	0	0	0	0
	Sub-Total (I)	4000	11500	7500	8000	31000	0	0	0	0	0
J	Eri dfis supply										
1	CMER&TI, Lahdoigarh	2400	2350	2350	2400	11500	0	0	0	0	0
2	RERS, Mendipathar	2400	2350	2400	2350	11500	0	0	0	0	0
3	RERS Shadnagar	1900	1850	1850	1900	7500	0	0	0	0	0
4	REC, Diphu	1450	1450	1450	1450	5800	0	0	0	0	0
	Sub-Total (J)	8150	8000	8050	8100	36300	0	0	0	0	0
	Grand Total						280000	66750	46000	14250	407000

Tentative Revenue Generation target for the year 2016-17

#	Particulars	Amount (Rs. In lakh)
1.	Eri Section (GCC Chenijan)	1.20
2.	Entomology Section	0.60
3.	Pathology Section	0.30
4.	Biotechnology Section	0.60
5.	Soil Chemistry & Agronomy	0.20
6.	Extension & Training	2.00
7.	Guest House	0.50
8.	Field Laboratory, Titabar	0.40
9.	Host Plant	0.45
10.	Seed Technology Section	1.36
11.	Rearing Section	1.80
12.	RMRS, Bokjo	6.00
13.	RERS, Mendipathar	1.10
14.	RERS, Shadnagar	0.80
15.	REC, Tura	0.80
16.	REC, Lakhimpur	1.00
17.	REC, Coochbehar	1.00
18.	REC, Kokrajhar	0.50
19.	REC, Diphu	0.50
20.	REC, Fatehpur	0.30
21.	Other	12.00
	Total	33.41