

PHYSICAL TARGET FOR THE YEAR 2016-17

CENTRAL TASAR RESEARCH & TRAINING INSTITUTE, RANCHI – 835 303, JHARKHAND

1. Organisational set up - Nested units:

Unit	Place
RSRS/RMRS/RTRS	Tropical : Baripada (Odisha), Dumka (Jharkhand), Bhandara (Maharashtra), Jagdalpur (Chhattisgarh), Warangal (Andhra Pradesh) Temperate : Imphal (Manipur), Bhimtal (Uttarakhand), Batote (J&K)*
SSBC	-
REC	Tropical : Hatgamharia (Jharkhand), Bangriposi (Odisha), Katghora (Chhattisgarh), Robertsganj (Uttar Pradesh), Jhansi (Uttar Pradesh), Bhadrachalam (Andhra Pradesh), Nasik (Maharashtra), Kapistha (West Bengal) Temperate : Palampur (Himachal Pradesh)*, Gopeshwar (Uttarakhand), Yaikongpao (Manipur), Umrangsu (Assam), Kikruma (Nagaland)
Sub REC	-
P4	Tropical : Bivoltine - Chakradharpur (Jharkhand), Jarmundi (Jharkhand), Trivoltine - Kargi-Kota (Chhattisgarh), Temperate : Batote (J&K)*

*Action Plan for RTRS/P4, Batote and REC, Palampur will be prepared on the basis of decision taken during JCC meeting held on 28.01.2016.

2. Projects:

Item	Target	Remarks	Page No.
1. Projects			
1.1 Projects of earlier year continued through the year 2016-17	04	Annex-I	22
1.2 Projects concluded during the year 2016-17	04	Annex-II	26
1.3 New Projects initiated during 2016-17	09	Annex-III	31
1.4 Pilot Studies / Programme of work of earlier year continued through the year 2016-17	08	Annex-IV	40
1.5 Pilot Studies / Programme of work concluded during the year 2016-17	01	Annex-V	48
1.6 Pilot Studies / Programme of work initiated during 2016-17	01	Annex-VI	49
2. Extension communication programs (No.)		Annex-VII	58
2.1. Farmers meet cum exhibition/ Krishi Mela	10	-	-
2.2. Field day / Farmers day	40	-	-
2.3. Awareness programme	-	-	-
2.4. Vichar Gosthi	70	-	-
2.5. Workshop / Seminar	-	-	-
3. Transfer of Technology (No. of technologies)	08	Annex-V	58
4. Training (No. of persons to be trained)	835	Annex-VI	112

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

At Main Institute

Sl. No.	Code	Title	Start	Closure	Milestone to be crossed			
					I Qtr	II Qtr	III Qtr	IV Qtr
1.	PIB-4697	Development of superior hybrids of <i>Terminalia arjuna</i> and <i>T. Tomentosa</i> for high leaf yield and quality.	May 2012	Sept. 2018	1. Isolation of superior hybrids from 29 F ₁ hybrids obtained during 2012. 2. Selection of superior hybrids from F ₁ seedlings obtained during May 2014. 3. Maintenance of the hybrids and their saplings in the field and nurseries. 4. Maintenance of Field Gene Bank.	1. Isolation of superior F ₁ hybrids obtained during May 2014 and their evaluation. 2. Biochemical analysis, growth observations and bioassay in finally selected hybrids obtained during 2012. 5. Maintenance of the hybrids and their saplings. 6. Multiplication of hybrids. 7. Maintenance of Field Gene Bank.	1. Multiplication of isolated superior hybrids obtained during 2012. 2. Growth observations in the hybrids of both the batches. 3. Maintenance of the hybrids and their saplings in the field, earthen pots and nurseries. 4. Maintenance of the Field Gene Bank.	1. Cultural operations and maintenance of the hybrids and their saplings in the field earthen pots and nurseries. 2. Maintenance of the Field Gene Bank.

BUDGET DETAILS FOR THE YEAR 2016-17 (Rs. in Lakh)*

#	A. Recurring		B. Non-Recurring		
	Operational Cost		Fixed cost		
	Particulars	Tentative cost*	Items (Equipments, furniture, etc.)	Tentative cost*	Grand total* (A+B)
A.	1. Chemicals/Glassware's required for project work	0.80	Electronic Balance	1.00	1.80
	2. Miscellaneous items (Farm Consumable/ Stationery/ Contingencies, etc.)	0.40	-	-	0.40
B.	1. Input Cost under Technology Transfer	-	-	-	-
	2. Input cost under Technology Trial Programme	-	-	-	-
C.	Seminar/Farmer's day/Vichar Gosthi	-	-	-	-
D.	Transport and travel under collaborative programme of work/projects	0.15	-	-	0.15
	Total	1.35	-	1.00	2.35

Sl. No.	Code	Title	Start	Closure	Milestone to be crossed			
					I Qtr	II Qtr	III Qtr	IV Qtr
2.	AIE-3555	Cryopreservation of Tasar silkworm, <i>Antheraea mylitta</i> semen and its artificial insemination [Collaborative project with CSGRC, Hosur]	February 2016	January 2019	Collection and supply of ready to emerge male and female pupae to CSGRC, Hosur	1. Comparative study on embryonic development and hatching of cryopreserved - inseminated tasar silkworm. 2. Rearing of hatched larvae of inseminated with respective control at CTR&TI Ranchi. 3. Collection and supply of ready to emerge male and female pupae to CSGRC, Hosur	1. Comparative study on egg fertilisation, fecundity, physiology morphology, larval behaviour and rearing performance of cryopreserved - inseminated tasar silkworm. 2. Rearing of hatched larvae of inseminated with respective control at CTR&TI Ranchi.	1. Comparative study on rearing performance and commercial characters of cryopreserved - inseminated and control tasar silkworm. 2. Overall performance evaluation <i>i.e.</i> , rearing, grainage, fecundity, <i>etc.</i>

BUDGET DETAILS FOR THE YEAR 2016-17 (Rs. in Lakh)*

#	A. Recurring		B. Non-Recurring		
	Operational Cost		Fixed cost		
	Particulars	Tentative cost*	Items (Equipments, furniture, <i>etc.</i>)	Tentative cost*	Grand total* (A+B)
A.	1. Chemicals/Glassware's required for project work	0.75	Defreeze (-20°C)	1.25	2.00
	2. Miscellaneous items (Farm Consumable/ Stationery/ Contingencies, <i>etc.</i>)	0.25	-	-	0.25
B.	1. Input Cost under Technology Transfer	-	-	-	-
	2. Input cost under Technology Trial Programme	-	-	-	-
C.	Seminar/Farmer's day/Vichar Gosthi	-	-	-	-
D.	Transport and travel under collaborative programme of work/projects	0.50	-	-	0.50
	Total	1.50	-	1.25	2.75

At Nested Units

Sl. No.	Code	Title	Start	Closure	Milestone to be crossed			
					I Qtr	II Qtr	III Qtr	IV Qtr
1.	AIB-4706	Conservation of Andhra local ecorace <i>Antheraea mylitta</i> Drury, through natural regeneration methods in Andhra Pradesh. [RTRS, Warangal]	April 2014	March 2019	1. Survey & collection of cocoons of Andhra Local ecorace. 2. Preservation of wild and reared cocoons.	1. First crop grainage of preserved cocoons. 2. Conservation and rearing through insect releasing methods.	1. Second & third crop grainage and rearing through different insect releasing methods. 2. Supply of dfls to farmer in periphery zone 3. Collection of seed cocoons.	Collection and preservation of seed cocoons

BUDGET DETAILS FOR THE YEAR 2016-17 (Rs. in Lakh)*

#	A. Recurring		B. Non-Recurring		
	Operational Cost		Fixed cost		
	Particulars	Tentative cost*	Items (Equipments, furniture, etc.)	Tentative cost*	Grand total* (A+B)
A.	1. Chemicals/Glassware's required for project work	0.24	-	-	0.24
	2. Miscellaneous items (Farm Consumable/ Stationery/ Contingencies, etc.)	1.44	-	-	1.44
B.	1. Input Cost under Technology Transfer	-	-	-	-
	2. Input cost under Technology Trial Programme	-	-	-	-
C.	Seminar/Farmer's day/Vichar Gosthi	1.44	-	-	1.44
D.	Transport and travel under collaborative programme of work/projects	1.20	-	-	1.20
	Total	4.32	-	-	4.32

Sl. No.	Code	Title	Start	Closure	Milestone to be crossed			
					I Qtr	II Qtr	III Qtr	IV Qtr
2.	AIB-4709	Assessment of conservation status of tasar ecoraces in Odisha and their characterization including genetic diversity for delineation of conservation areas. [RTRS, Baripada]	Nov. 2015	Oct. 2018	Preparation of formats for data collection	Survey, collection of cocoons/larvae, collection of geographical, food plants, soil, meteorological and behavioural data, preparation of physical map of Keonjhar, Mayurbhanj	1. Analysis for morphological and quantitative traits (cocoon, pupa, moth); PCT traits; genetic variability in the populations collected from the State. 2. Repetition of survey in the above area for II (Autumn) crop generation	1. Survey, collection of cocoons & larvae, Collection of geographical, food plants, soil, meteorological and behavioural data, preparation of physical map. 2. Repetition of survey in winter/after leaf shedding in Kankadahad, Boudh, Gajapati

BUDGET DETAILS FOR THE YEAR 2016-17 (Rs. in Lakh)*

#	A. Recurring		B. Non-Recurring		
	Operational Cost		Fixed cost		
	Particulars	Tentative cost*	Items (Equipments, furniture, etc.)	Tentative cost*	Grand total* (A+B)
A.	1. Chemicals/Glassware's required for project work	-	GPS tool - 2 No.	0.50	1.50
	2. Miscellaneous items (Farm Consumable/ Stationery/ Contingencies, etc.)	2.00	Digital Camera (SLR) - 1 No.	0.35	1.35
B.	1. Input Cost under Technology Transfer	-	Electronic Balance - 1 No.	0.50	0.50
	2. Input cost under Technology Trial Programme	-	pH meter - 1 No.	0.35	0.35
C.	Seminar/Farmer's day/Vichar Gosthi	-	Soil Conductivity Meter - 1 No.	0.30	0.30
D.	Transport and travel under collaborative programme of work/projects	2.00	-	-	2.00
	Total	4.00	-	2.00	6.00

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

At Main Institute

Sl. No.	Code	Title	Start	Closure	Milestone to be crossed			
					I Qtr	II Qtr	III Qtr	IV Qtr
1.	PPA-4704	Development of package for cultivation of <i>Lagerstroemia speciosa</i> for rearing of tasar silkworm, <i>Antheraea mylitta</i> D.	April 2014	March 2016 (Extended up to March 2017)	1. Pruning & cultural operations in the plantation. 2. Disinfection and preparations for rearing. 3. Multiplication of <i>L. speciosa</i> and maintenance of saplings.	1. Observations on plant growth parameters. 2. First crop silkworm rearing and cocoon assessment. 3. Cultural operations for maintenance of plants and leaf assessment. 4. Observations on grainage behaviour of 1 st crop cocoons 5. 2 nd crop rearing. 6. Multiplication and maintenance of <i>L. speciosa</i> saplings.	1. Cocoon harvest and assessment for 2 nd crop. 2. Maintenance of saplings and observations on the growth. 3. Cultural operations in the plantation.	1. Maintenance of the plantation and saplings. 2. Compilation of the data and preparation of final report.

BUDGET DETAILS FOR THE YEAR 2016-17 (Rs. in Lakh)*

#	A. Recurring		B. Non-Recurring		
	Operational Cost		Fixed cost		
	Particulars	Tentative cost*	Items (Equipments, furniture, etc.)	Tentative cost*	Grand total* (A+B)
A.	1. Chemicals/Glassware's required for project work	-	-	-	-
	2. Miscellaneous items (Farm Consumable/ Stationery/ Contingencies, etc.)	0.25	-	-	0.25
B.	1. Input Cost under Technology Transfer	-	-	-	-
	2. Input cost under Technology Trial Programme	-	-	-	-
C.	Seminar/Farmer's day/Vichar Gosthi	-	-	-	-
D.	Transport and travel under collaborative programme of work/projects	-	-	-	-
	Total	0.25	-	-	0.25

Sl. No.	Code	Title	Start	Closure	Milestone to be crossed			
					I Qtr	II Qtr	III Qtr	IV Qtr
2.	PIC-4705	Development of <i>in-situ</i> soil health and nutrient management in tasar growing areas	April 2014	March 2017	1. Redressing and maintaining the designed experimental plots in different locations. 2. Collection of leaf and soil samples.	1. Processing of collected samples. 2. Imposing treatments viz., growing leguminous plants and inoculation of phosphobacterium (PSB) in the experimental plots. 3. Determination of soil moisture and pH of all collected samples.	1. Analysis of soil and leaf for primary nutrients (N, P& K) of all collected samples from the experimental plots. 2. Mulching of leguminous plants before fruiting.	1. Analysis of soil for Organic Carbon, Sulphur, Boron and Zinc. 2. Analysis of leaf for Calcium, Magnesium, Sulphur and Zinc. 3. Compilation and analysis of data and preparation of final report.

BUDGET DETAILS FOR THE YEAR 2016-17 (Rs. in Lakh)*

#	A. Recurring		B. Non-Recurring		
	Operational Cost		Fixed cost		
	Particulars	Tentative cost*	Items (Equipments, furniture, etc.)	Tentative cost*	Grand total* (A+B)
A.	1. Chemicals/Glassware's required for project work	1.00	1. Water bath	0.55	1.55
	2. Miscellaneous items (Farm Consumable/ Stationery/ Contingencies, etc.)	1.90	2. Muffle furnace	0.55	1.45
B.	1. Input Cost under Technology Transfer	-	-	-	1.00
	2. Input cost under Technology Trial Programme	-	-	-	-
C.	Seminar/Farmer's day/Vichar Gosthi	-	-	-	-
D.	Transport and travel under collaborative programme of work/projects	0.60	-	-	0.60
	Total	3.50	-	1.10	4.60

At Nested Units

Sl. No.	Code	Title	Start	Closure	Milestone to be crossed			
					I Qtr	II Qtr	III Qtr	IV Qtr
1.	AIB-4707	Bioecology of Raily – an endemic Sal based ecorace of <i>Antheraea mylitta</i> Drury in Bastar (Chhattisgarh) [RTRS, Jagdalpur]	April 2014	March 2017	<ol style="list-style-type: none"> 1. Procurement of live cocoons of ecorace Raily and their assessment for commercial characters. 2. Observations on the status of food plant stages namely sprouting/ flowering / fruiting / leaf shedding, <i>etc.</i> and environmental parameters. 3. Recording of data on preservation & reproductive potential <i>i.e.</i>, voltinism, survivability, emergence pattern, coupling behaviour, hatching, <i>etc.</i> during unseasonal grainage. 	<ol style="list-style-type: none"> 1. To record morphometric characters of moths. 2. Observation on reproductive potential with complete life cycle in natural environment during 1st crop season. 3. Monitoring and observation on multiplication rate & traits of population and their duration at different localities earmarked for <i>in-situ</i> study. 4. Procurement of Raily cocoons of 1st crop harvest and data recording on preservation and reproductive potential. 5. Assessment of moth, cocoon characters and productivity. 6. Monitoring/recording of pests, predators and diseases and environmental parameters in nature. 	<ol style="list-style-type: none"> 1. Observation on reproductive potential with complete life cycle from eggs to egg laying in natural environment during 2nd crop season. 2. Observation on the traits of population <i>viz.</i>, size, shape, colour, period and weight of eggs, larvae, pupa, moths cocoons and their duration at different localities earmarked for studies. 3. Monitoring/recording of pests, predators and diseases and environmental parameters in nature. 	<p>Compilation of data for past 3 years, analysis and preparation of Final report.</p>

BUDGET DETAILS FOR THE YEAR 2016-17 (Rs. in Lakh)*

#	A. Recurring		B. Non-Recurring		
	Operational Cost		Fixed cost		
	Particulars	Tentative cost*	Items (Equipments, furniture, etc.)	Tentative cost*	Grand total* (A+B)
A.	1. Chemicals/Glassware's required for project work	-	--	-	-
	2. Miscellaneous items (Farm Consumable/ Stationery/ Contingencies, etc.)	0.35	-	-	0.35
B.	1. Input Cost under Technology Transfer	-	-	-	-
	2. Input cost under Technology Trial Programme	-	-	-	-
C.	Seminar/Farmer's day/Vichar Gosthi	-	-	-	-
D.	Transport and travel under collaborative programme of work/projects	0.50	-	-	0.50
	Total	0.85	-	0.85	0.85

Sl. No.	Code	Title	Start	Closure	Milestone to be crossed			
					I Qtr	II Qtr	III Qtr	IV Qtr
2.	AIB-4708	Survey, Collection, characterization and conservation of wild ecorace Laria and Barf of tasar silkworm, <i>Antheraea mylitta</i> D. available in different parts of Chhattisgarh [RTRS, Jagdalpur]	April 2014	March 2017	1. Survey to determine the boundaries, area, elevation, population structure, density and collection of the ecoraces, Laria and Baraf 2. Identification of ecopockets. 3. Characterization of different populations. 4. Preference of food, frequency distribution of tasar flora by quadrate analysis.	1. During 1 st crop season, survey and collection of data on <i>in situ</i> feeding, rearing & grainage behaviour in relation to meteorological condition under <i>in situ</i> & human interference condition. 2. Study the grainage behaviour of Laria and Baraf both in captivity & nature. 3. Observations on rearing performance of Laria and Baraf under captivity and in identified areas of ecopockets.	1. During 2 nd crop season, survey and collection of data on <i>in situ</i> feeding, rearing & grainage behaviour in relation to meteorological condition under <i>in situ</i> & human interference condition. 2. Study of grainage behaviour of Laria and Baraf both in captivity & nature. 3. Observations on rearing performance of Baraf under captivity and in identified areas of ecopockets.	1. Survey of Laria and Baraf for distribution in different forests and on food plants. 2. Recoding of abiotic & physical factors such as longitude, latitude and altitude of the study site.

BUDGET DETAILS FOR THE YEAR 2016-17 (Rs. in Lakh)*

#	A. Recurring Operational Cost		B. Non-Recurring Fixed cost		
	Particulars	Tentative cost*	Items (Equipments, furniture, etc.)	Tentative cost*	Grand total* (A+B)
A.	1. Chemicals/Glassware's required for project work	-	-	-	-
	2. Miscellaneous items (Farm Consumable/ Stationery/ Contingencies, etc.)	0.60	-	-	0.60
B.	1. Input Cost under Technology Transfer	-	-	-	-
	2. Input cost under Technology Trial Programme	-	-	-	-
C.	Seminar/Farmer's day/Vichar Gosthi	-	-	-	-
D.	Transport and travel under collaborative programme of work/projects	1.50	-	-	1.50
	Total	2.10	-	-	2.10

2.1.3. New projects to be initiated during 2016-17

At Main Institute

Sl. No.	Code	Title	Start	Closure	Objectives	Expected outcome
1.	AIP-4711	Screening and—vegetative multiplication of fast growing drought tolerant accessions of <i>Terminalia arjuna</i> for raising block plantation	March 2016	February 2018	1. To select the fast growing accessions of <i>Terminalia arjuna</i> available in the Gene Bank of CTR&TI for drought tolerance at the early stage of its growth. 2. To multiply and regenerate the selected accessions through clonal propagation for raising economic/block plantation.	1. A few fast growing genotypes with drought tolerant capacity will be identified. 2. Selected drought tolerant accessions of <i>Terminalia arjuna</i> will be multiplied through clonal propagation.

BUDGET DETAILS FOR THE YEAR 2016-17 (Rs. in Lakh)*

#	A. Recurring		B. Non-Recurring		
	Operational Cost		Fixed cost		
	Particulars	Tentative cost*	Items (Equipments, furniture, etc.)	Tentative cost*	Grand total* (A+B)
A.	1. Chemicals/Glassware's required for project work	-	-	-	-
	2. Miscellaneous items (Farm Consumable/ Stationery/ Contingencies, etc.)	0.40	-	-	0.40
B.	1. Input Cost under Technology Transfer	-	-	-	-
	2. Input cost under Technology Trial Programme	-	-	-	-
C.	Seminar/Farmer's day/Vichar Gosthi	-	-	-	-
D.	Transport and travel under collaborative programme of work/projects	-	-	-	-
	Total	0.40	-	-	0.40

Sl. No.	Code	Title	Start	Closure	Objectives	Expected outcome
2.	To be allotted (Approved by CSB & RAC)	Isolation of thermo-tolerant line(s) of tasar silkworm <i>Antheraea mylitta</i> D. through selection breeding	April 2016	March 2019	<ol style="list-style-type: none"> To isolate thermo-tolerant line(s) of tropical tasar silkworm, <i>Antheraea mylitta</i> To evaluate such line(s) in hotter zones through MLT approach To unravel the underlying molecular mechanism of thermal stress tolerance in tasar silkworm 	Isolated line(s) with thermo-tolerance can be multiplied further at field and utilized at farmers' level in hot and dry conditions.

BUDGET DETAILS FOR THE YEAR 2016-17 (Rs. in Lakh)*

#	A. Recurring		B. Non-Recurring		
	Operational Cost		Fixed cost		
	Particulars	Tentative cost*	Items (Equipments, furniture, etc.)	Tentative cost*	Grand total* (A+B)
A.	1. Chemicals/Glassware's required for project work	3.00	1. Centrifuge (18 or 24 Tube holder, 15-16 ml)	0.50	3.50
	2. Miscellaneous items (Farm Consumable/ Stationery/ Contingencies, etc.)	1.50	2. Double Distillation Unit	1.00	2.50
B.	1. Input Cost under Technology Transfer	-	-	-	-
	2. Input cost under Technology Trial Programme	-	-	-	-
C.	Seminar/Farmer's day/Vichar Gosthi	-	-	-	-
D.	Transport and travel under collaborative programme of work/projects	1.00	-	-	1.00
	Total	5.50	-	1.50	7.00

Sl. No.	Code	Title	Start	Closure	Objectives	Expected outcome
3.	To be allotted (Approved by CSB & RAC)	Studies on the seasonal incidence, biology and management of yellow fly, <i>Xanthopimpla</i> sp. in tasar cultivation [Collaborative project with CSIR-NCL, Pune]	April 2016	March 2019	1. To study the geographic distribution, bio-ecology, extent of crop loss, alternate host and natural enemies of Ichneumon fly, <i>Xanthopimpla predator</i> . 2. To identify attractant/repellents for formulating suitable management strategies of <i>Xanthopimpla predator</i>	Understanding of life cycle and host parasitoid interaction and also identification of chemical compounds which may attract or repel the parasitoid in tasar ecosystem.

BUDGET DETAILS FOR THE YEAR 2016-17 (Rs. in Lakh)*

#	A. Recurring		B. Non-Recurring		
	Operational Cost		Fixed cost		
	Particulars	Tentative cost*	Items (Equipments, furniture, etc.)	Tentative cost*	Grand total* (A+B)
A.	1. Chemicals/Glassware's required for project work	2.75	1. Trinocular Stereo zoom Microscope with digital Photomicrography (Carl Zeiss)	4.75	7.50
	2. Miscellaneous items (Farm Consumable/ Stationery/ Contingencies, etc.)	0.50	2. Olfactometer		
B.	1. Input Cost under Technology Transfer	-	-	-	0.50
	2. Input cost under Technology Trial Programme	-	-	-	-
C.	Seminar/Farmer's day/Vichar Gosthi	-	-	-	-
D.	Transport and travel under collaborative programme of work/projects	2.00	-	-	2.00
	Total	5.25	-	4.75	10.00

Sl. No.	Code	Title	Start	Closure	Objectives	Expected outcome
4.	To be allotted (Approved by RAC)	Development of chemical based technology for easy detection of <i>Nosema mylittans</i> , the causative pathogen of pebrine in tasar silkworm, <i>Antheraea mylitta</i> D. using light microscopy.	April 2016	March 2019	1. Study of different life cycle stages of <i>Nosema mylittans</i> 2. Development of chemical based technology for better and easy identification/ detection of <i>Nosema mylittans</i> spores through light microscopy.	1. Information on vegetative stages of <i>Nosema mylittans</i> and chemical based technology for better and easy identification of <i>Nosema mylittans</i> spores through staining & light microscopy.

BUDGET DETAILS FOR THE YEAR 2016-17 (Rs. in Lakh)*

#	A. Recurring		B. Non-Recurring		
	Operational Cost		Fixed cost		
	Particulars	Tentative cost*	Items (Equipments, furniture, etc.)	Tentative cost*	Grand total* (A+B)
A.	1. Chemicals/Glassware's required for project work	0.50	1. Image analyzer	6.00	6.50
	2. Miscellaneous items (Farm Consumable/ Stationery/ Contingencies, etc.)	0.50	-	-	0.50
B.	1. Input Cost under Technology Transfer	-	-	-	-
	2. Input cost under Technology Trial Programme	-	-	-	-
C.	Seminar/Farmer's day/Vichar Gosthi	-	-	-	-
D.	Transport and travel under collaborative programme of work/projects	0.50	-	-	0.50
	Total	1.50	-	6.00	7.50

Sl. No.	Code	Title	Start	Closure	Objectives	Expected outcome
5.	To be allotted (Approved by CSB & RAC)	Development of potent inhibitors using <i>in silico</i> approaches for controlling pebrine in tropical tasar silkworm, <i>Antheraea mylitta</i> D. [Collaborative project with BIT, Mesra, Ranchi]	August 2016	July 2019	<ol style="list-style-type: none"> 1. To characterize the <i>Nosema mylittansis</i> spore proteins. 2. To find the spore protein(s) interacting with host proteins. 3. To model the 3D structure of above selected spore protein(s) and predicting its active site. 4. To do the docking study between the potent inhibitors and the spore protein(s) affected by Pebrine. 5. To study feeding effect of potent inhibitor on tasar silkworm. 	The inhibitors identified from this project can be utilized for the control of pebrine in different stages of life cycle of tropical tasar silkworm.

BUDGET DETAILS FOR THE YEAR 2016-17 (Rs. in Lakh)*

#	A. Recurring		B. Non-Recurring		
	Operational Cost		Fixed cost		
	Particulars	Tentative cost*	Items (Equipments, furniture, etc.)	Tentative cost*	Grand total* (A+B)
A.	1. Chemicals/Glassware's required for project work	4.00	-	-	4.00
	2. Miscellaneous items (Farm Consumable/ Stationery/ Contingencies, etc.)	0.80	-	-	0.80
B.	1. Input Cost under Technology Transfer	-	-	-	-
	2. Input cost under Technology Trial Programme	-	-	-	-
C.	Seminar/Farmer's day/Vichar Gosthi	-	-	-	-
D.	Transport and travel under collaborative programme of work/projects	1.15	-	-	1.15
	Total	5.95	-	-	5.95

Sl. No.	Code	Title	Start	Closure	Objectives	Expected outcome
6.	To be allotted (Approved by RAC)	Isolation and characterization of sericin from tasar silk waste for commercial utilization. [Under active consideration with DBT for financial assistance]	April 2016	March 2018	1. Isolation & characterization of sericin from tasar silk waste and cocoon cooking water. 2. Characterization of sericin from different ecoraces & cocoons of different food plants.	Isolation & characterization of sericin from tasar silk waste.

BUDGET DETAILS FOR THE YEAR 2016-17 (Rs. in Lakh)*

#	A. Recurring			B. Non-Recurring		
	Operational Cost			Fixed cost		
	Particulars	Tentative cost*	Items (Equipments, furniture, etc.)	Tentative cost*	Grand total* (A+B)	
A.	1. Chemicals/Glassware's required for project work	2.50	1. Defreeze (-20°C) 2. Vacuum pump with kit 3. Normal Centrifuge	2.50	5.00	
	2. Miscellaneous items (Farm Consumable/ Stationery/ Contingencies, etc.)	5.61	-	-	5.61	
B.	1. Input Cost under Technology Transfer	-	-	-	-	
	2. Input cost under Technology Trial Programme	-	-	-	-	
C.	Seminar/Farmer's day/Vichar Gosthi	-	-	-	-	
D.	Transport and travel under collaborative programme of work/projects	0.75	-	-	0.75	
	Total	8.86	-	2.50	11.36	

Sl. No.	Code	Title	Start	Closure	Objectives	Expected outcome
7.	To be allotted (Approved by RAC of CSTRI, Bengaluru)	Grading of tasar raw silk yarn – Development of method and procedures [Collaborative project with CSTRI, Bengaluru]	April 2016	March 2019	<ol style="list-style-type: none"> To develop suitable test methods for quality parameters of tasar silk yarns. To develop standard test procedures for assessment of tasar silk yarn quality. To develop standard photographs for evaluation of Evenness, neatness and cleanness quality parameters of Tasar silk yarn. To develop suitable grading / classification norms for quality assessment. 	Development of methods of testing & grading, and evaluation of evenness variation, neatness and cleanness for tasar raw silk. It would bring fair trade practices among tasar raw silk traders/weavers and reelers and also help for improvement in tasar raw silk quality and to produce quality fabric.

BUDGET DETAILS FOR THE YEAR 2016-17 (Rs. in Lakh)*

#	A. Recurring		B. Non-Recurring		
	Operational Cost		Fixed cost		
	Particulars	Tentative cost*	Items (Equipments, furniture, etc.)	Tentative cost*	Grand total* (A+B)
A.	1. Chemicals/Glassware's required for project work	0.20	-	-	0.20
	2. Miscellaneous items (Farm Consumable/ Stationery/ Contingencies, etc.)	1.55	-	-	1.55
B.	1. Input Cost under Technology Transfer	-	-	-	-
	2. Input cost under Technology Trial Programme	-	-	-	-
C.	Seminar/Farmer's day/Vichar Gosthi	-	-	-	-
D.	Transport and travel under collaborative programme of work/projects	0.30	-	-	0.30
	Total	2.05	-	-	2.05

At Nested Units

Sl. No.	Code	Title	Start	Closure	Objectives	Expected outcome
1.	To be allotted	Development of diagnostic tool for early detection of baculovirus causing tiger band disease in <i>Antheraea proylei</i> . [RTRS, Imphal] [Active consideration with DBT for financial assistance in collaboration with SBRL, Bengaluru]	April 2016	March 2019	<ol style="list-style-type: none"> To characterize the baculovirus pathogen causing tiger band disease in oak tasar silkworm, <i>Antheraea proylei</i> To study the pathogenesis, source and mode of transmission of the viral pathogen. To develop DNA based diagnostic tools for early detection of baculovirus causing tiger band disease. Validation of developed diagnostic tools in Oak tasar Grainages and egg production centres. 	The proposed study will give a clear picture of etiology, pathogenesis, mode of transmission and will provide precise & reliable diagnostic tool for early detection of baculovirus causing tiger band disease in oak tasar silkworm, <i>Antheraea proylei</i> . Based on the investigation, strategies can be devised for interrupting the life cycle of the pathogen to reduce the disease spread.

BUDGET DETAILS FOR THE YEAR 2016-17 (Rs. in Lakh)*

#	A. Recurring Operational Cost		B. Non-Recurring Fixed cost		
	Particulars	Tentative cost*	Items (Equipments, furniture, etc.)	Tentative cost*	Grand total* (A+B)
A.	1. Chemicals/Glassware's required for project work	1.00	1. High Speed Refrigerated Centrifuge	4.00	5.00
	2. Miscellaneous items (Farm Consumable/ Stationery/ Contingencies, etc.)	1.07			
B.	1. Input Cost under Technology Transfer	-	2. Pippetteman	0.50	0.50
	2. Input cost under Technology Trial Programme	-	-	-	-
C.	Seminar/Farmer's day/Vichar Gosthi	-	-	-	-
D.	Transport and travel under collaborative programme of work/projects	0.50	-	-	0.50
E.	Manpower	2.02	-	-	2.02
	Total	4.59	-	4.50	9.09

Sl. No.	Code	Title	Start	Closure	Objectives	Expected outcome
2.	To be allotted (Approved by CSB & RAC)	Identification of early sprouting and fast growing genotypes of <i>Quercus serrata</i> for raising block plantation in North-West India	April 2016	March 2019	<ol style="list-style-type: none"> 1. Identification of early sprouting and fast growing genotypes of <i>Q. serrata</i> in the existing population. 2. Multiplication of isolated early sprouting genotypes to raise block plantation for utilization in early spring crop (March – April). 	Identification of early sprouting genotypes of <i>Q. serrata</i> for raising block plantation in North-west region which can sustain the early spring crop at low altitude for production of cocoons. The harvested cocoons can be utilized for the production of seed for commercial crop at high altitude.

BUDGET DETAILS FOR THE YEAR 2016-17 (Rs. in Lakh)*

#	A. Recurring		B. Non-Recurring		
	Operational Cost		Fixed cost		
	Particulars	Tentative cost*	Items (Equipments, furniture, etc.)	Tentative cost*	Grand total* (A+B)
A.	1. Chemicals/Glassware's required for project work	0.50	1. Weed Cutter (2 No.)	0.60	1.10
	2. Miscellaneous items (Farm Consumable/ Stationery/ Contingencies, etc.)	1.80	2. GPS	0.30	2.10
B.	1. Input Cost under Technology Transfer	-	3. Dusting Machine	0.10	0.10
	2. Input cost under Technology Trial Programme	-	4. Hygrometer (5 No.)	0.10	0.10
C.	Seminar/Farmer's day/Vichar Gosthi	-	-	-	-
D.	Transport and travel under collaborative programme of work/projects	1.00	-	-	1.00
	Total	3.30	-	1.10	4.40

2.1.4. Pilot Studies / Programme of work of earlier year to be continued during 2016-17

At Main Institute

Sl. No.	Code	Title	Start	Closure	Milestone to be crossed			
					I Qtr	II Qtr	III Qtr	IV QTR
1.	CTR&TI/HPP / POW-02	Farm Management and Developmental works	2008-09	Continuous	Regular Work (Development & maintenance of CTR&TI Farm/Campus.	Regular Work (Development & maintenance of CTR&TI Farm/Campus.	Regular Work (Development & maintenance of CTR&TI Farm/Campus.	Regular Work (Development & maintenance of CTR&TI Farm/Campus.

BUDGET DETAILS FOR THE YEAR 2016-17 (Rs. in Lakh)*

#	A. Recurring		B. Non-Recurring		
	Operational Cost		Fixed cost		
	Particulars	Tentative cost*	Items (Equipments, furniture, etc.)	Tentative cost*	Grand total* (A+B)
A.	1. Chemicals/Glassware's required for project work	-	1. Mini Tractor with accessories	5.00	5.00
	2. Miscellaneous items (Farm Consumable/ Stationery/ Contingencies, etc.)	4.00	2. Farm Equipments (Weed cutter with tree pruner, Sintax Tanks/Gator sprayer/Knapsack sprayer)	2.00	6.00
B.	1. Input Cost under Technology Transfer	-		-	-
	2. Input cost under Technology Trial Programme	-	-	-	-
C.	Seminar/Farmer's day/Vichar Gosthi	-	-	-	-
D.	Transport and travel under collaborative programme of work/projects	-	-	-	-
	Total	4.00	-	7.00	11.00

Sl. No.	Code	Title	Start	Closure	Milestone to be crossed			
					I Qtr	II Qtr	III Qtr	IV QTR
2.	CTR&TI/HPP / POW-14	Development of package of practices and protocol for production of organic silk.	Oct. 2014	Continuous	1. Growing of green manure crops, Sunhemp & Dhaincha. 2. Application of biofertilizers, Vermicompost and FYM.	1. Mulching of green manure crops. 2. Application of biofertilizers, Vermicompost and FYM. 3. Observation on plant growth. 4. Conducting 1 st crop silkworm rearing on treated plantation.	1. Application of biofertilizers, Vermicompost and FYM. 2. Observation on plant growth. 3. Conducting 2 nd crop silkworm rearing on treated plantation.	1. Compilation and analysis of data

BUDGET DETAILS FOR THE YEAR 2016-17 (Rs. in Lakh)*

#	A. Recurring		B. Non-Recurring		
	Operational Cost		Fixed cost		
	Particulars	Tentative cost*	Items (Equipments, furniture, etc.)	Tentative cost*	Grand total* (A+B)
A.	1. Chemicals/Glassware's required for project work	0.20	-	-	0.20
	2. Miscellaneous items (Farm Consumable/ Stationery/ Contingencies, etc.)	1.50	-	-	1.50
B.	1. Input Cost under Technology Transfer	-	-	-	-
	2. Input cost under Technology Trial Programme	-	-	-	-
C.	Seminar/Farmer's day/Vichar Gosthi	-	-	-	-
D.	Transport and travel under collaborative programme of work/projects	0.25	-	-	0.25
	Total	1.95	-	-	1.95

Sl. No.	Code	Title	Start	Closure	Milestone to be crossed			
					I Qtr	II Qtr	III Qtr	IV Qtr
3.	CTR&TI/HPT/POW-20	Prevalence and identification of stem borer(s) of tasar host plants & their management.	Aug. 2015	July 2017	Collection of stem borers from <i>Terminalia</i> plants and identification of causal insect.	Collection & identification of stem borers and studying mode of infestation.	Studying mode of infestation and development of suitable control measure.	Development of suitable control measure

BUDGET DETAILS FOR THE YEAR 2016-17 (Rs. in Lakh)*

#	A. Recurring		B. Non-Recurring		
	Operational Cost		Fixed cost		
	Particulars	Tentative cost*	Items (Equipments, furniture, etc.)	Tentative cost*	Grand total* (A+B)
A.	1. Chemicals/Glassware's required for project work	0.60	-	-	0.60
	2. Miscellaneous items (Farm Consumable/ Stationery/ Contingencies, etc.)	0.45	-	-	0.45
B.	1. Input Cost under Technology Transfer	-	-	-	-
	2. Input cost under Technology Trial Programme	-	-	-	-
C.	Seminar/Farmer's day/Vichar Gosthi	-	-	-	-
D.	Transport and travel under collaborative programme of work/projects	0.60	-	-	0.60
	Total	1.65	-	-	1.65

Sl. No.	Code	Title	Start	Closure	Milestone to be crossed			
					I Qtr	II Qtr	III Qtr	IV Qtr
4.	CTR&TI/SWP/POW-16	Fine tuning and continual evaluation of tasar silkworm rearing on semi-synthetic diet (<i>Tasar Amrit</i>)	April 2015	March 2016 (continue up to March 2017)	Collection of leaves and material for Semi-synthetic Diet preparation	Semi-synthetic Diet preparation and trial at CTR&TI, Ranchi RTRS Baripada and REC Robertsganj, Kapistha Bangriposi & Kathghora	Semi-synthetic Diet trial & popularization.	Data collection and compilation

BUDGET DETAILS FOR THE YEAR 2016-17 (Rs. in Lakh)*

#	A. Recurring		B. Non-Recurring		
	Operational Cost		Fixed cost		
	Particulars	Tentative cost*	Items (Equipments, furniture, etc.)	Tentative cost*	Grand total* (A+B)
A.	1. Chemicals/Glassware's required for project work	2.50	-	-	2.50
	2. Miscellaneous items (Farm Consumable/ Stationery/ Contingencies, etc.)	0.20	-	-	0.20
B.	1. Input Cost under Technology Transfer	-	-	-	-
	2. Input cost under Technology Trial Programme	-	-	-	-
C.	Seminar/Farmer's day/Vichar Gosthi	0.30	-	-	0.30
D.	Transport and travel under collaborative programme of work/projects	0.60	-	-	0.60
	Total	3.60	-	-	3.60

Sl. No.	Code	Title	Start	Closure	Milestone to be crossed			
					I Qtr	II Qtr	III Qtr	IV Qtr
5.	CTR&TI/SWPT /POW-19	Mass multiplication of <i>Nesolynx thymus</i> for management of tasar uzi fly, <i>Blepharipa zebina</i> Walker.	Aug. 2015	Continuous	Procurement of <i>Nesolynx thymus</i> from CSRTI, Mysore.	Standardization of mass multiplication technique of housefly in laboratory.	Maintenance of nucleus culture of <i>Nesolynx thymus</i> .	Mass multiplication of <i>Nesolynx N. thymus</i> on <i>Musca domestica</i> pupae.

BUDGET DETAILS FOR THE YEAR 2016-17 (Rs. in Lakh)*

#	A. Recurring		B. Non-Recurring		
	Operational Cost		Fixed cost		
	Particulars	Tentative cost*	Items (Equipments, furniture, etc.)	Tentative cost*	Grand total* (A+B)
A.	1. Chemicals/Glassware's required for project work	0.20	1. Air conditioner	0.40	0.60
	2. Miscellaneous items (Farm Consumable/ Stationery/ Contingencies, etc.)	0.75	-	-	0.75
B.	1. Input Cost under Technology Transfer	-	-	-	-
	2. Input cost under Technology Trial Programme	-	-	-	-
C.	Seminar/Farmer's day/Vichar Gosthi	-	-	-	-
D.	Transport and travel under collaborative programme of work/projects	0.20	-	-	0.20
	Total	1.15	-	0.40	1.55

Sl. No.	Code	Title	Start	Closure	Milestone to be crossed			
					I Qtr	II Qtr	III Qtr	IV Qtr
6.	CTR&TI/SWPT / POW-08	Application of disease management module (At CTR&TI field).	2010-11	Continuous	Pre-rearing application of different disinfectants (dusting & spraying of bleaching powder, slaked lime, <i>etc.</i>) and flame gunning in rearing fields at Institute's Farm.	1. Application of different disinfections in rearing fields at Institute's Farm. 2. Sample testing of different larval stages, pupae and moths of different sections for 1 st grainage & rearing.	1. Application of different disinfections at rearing fields in Institute's Farm. 2. Sample testing of different larval stages, pupae and moths of different sections for 2 nd grainage & rearing.	Post rearing application of different disinfectants (dusting & spraying of bleaching powder, slaked lime, <i>etc.</i>) in rearing fields at Institute's Farm.

BUDGET DETAILS FOR THE YEAR 2016-17 (Rs. in Lakh)*

#	A. Recurring		B. Non-Recurring		
	Operational Cost		Fixed cost		
	Particulars	Tentative cost*	Items (Equipments, furniture, <i>etc.</i>)	Tentative cost*	Grand total* (A+B)
A.	1. Chemicals/Glassware's required for project work	0.60	1. Sprayer/ Weed Cutter	1.50	2.10
	2. Miscellaneous items (Farm Consumable/ Stationery/ Contingencies, <i>etc.</i>)	0.75	-	-	0.75
B.	1. Input Cost under Technology Transfer	-	-	-	-
	2. Input cost under Technology Trial Programme	-	-	-	-
C.	Seminar/Farmer's day/Vichar Gosthi	-	-	-	-
D.	Transport and travel under collaborative programme of work/projects	-	-	-	-
	Total	1.35	-	1.50	2.85

Sl. No.	Code	Title	Start	Closure	Milestone to be crossed			
					I Qtr	II Qtr	III Qtr	IV Qtr
7.	CTR&TI/SWPT/POW-09	Laboratory production and supply of Leaf surface microbe (LSM).	2002-03	Continuous	Production of leaf surface microbes and supply of ampoules to nested units of CTR&TI, Ranchi and DOSs & other agencies as per demand.	Production of leaf surface microbes and supply of ampoules to nested units of CTR&TI, Ranchi and DOSs & other agencies as per demand.	Production of leaf surface microbes and supply of ampoules to nested units of CTR&TI, Ranchi and DOSs & other agencies as per demand.	Procurement of chemicals required for the large scale production of leaf surface microbes (LSM).

BUDGET DETAILS FOR THE YEAR 2016-17 (Rs. in Lakh)*

#	A. Recurring		B. Non-Recurring		
	Operational Cost		Fixed cost		
	Particulars	Tentative cost*	Items (Equipments, furniture, etc.)	Tentative cost*	Grand total* (A+B)
A.	1. Chemicals/Glassware's required for project work	0.30	-	-	0.30
	2. Miscellaneous items (Farm Consumable/ Stationery/ Contingencies, etc.)	0.10	-	-	0.10
B.	1. Input Cost under Technology Transfer	-	-	-	-
	2. Input cost under Technology Trial Programme	-	-	-	-
C.	Seminar/Farmer's day/Vichar Gosthi	-	-	-	-
D.	Transport and travel under collaborative programme of work/projects	-	-	-	-
	Total	0.40	-	-	0.40

Sl. No.	Code	Title	Start	Closure	Milestone to be crossed			
					I Qtr	II Qtr	III Qtr	IV Qtr
8.	CTR&TI/SWPT / POW-17	Tasar silkworm disease management and monitoring system.	2013-14	Continuous	1. Assessment of silkworm diseases in the egg, larval & pupal stage in BSMTCs, State PPCs and nested Units of the Institute. 2. Conducting of Awareness Programmes on disease management in MKSP project area in different States.	1. Assessment of silkworm diseases in the egg, larval & pupal stage in BSMTCs, State PPCs and nested Units of the Institute. 2. Conducting of Awareness Programmes on disease management in MKSP project area in different States.	1. Assessment of silkworm diseases in the egg, larval & pupal stage in BSMTCs, State PPCs and nested Units of the Institute. 2. Conducting of Awareness Programmes on disease management in MKSP project area in different States.	1. Assessment of silkworm diseases in the egg, larval & pupal stage in BSMTCs, State PPCs and nested Units of the Institute. 2. Conducting of Awareness Programmes on disease management in MKSP project area in different States.

BUDGET DETAILS FOR THE YEAR 2016-17 (Rs. in Lakh)*

#	A. Recurring		B. Non-Recurring		
	Operational Cost		Fixed cost		
	Particulars	Tentative cost*	Items (Equipments, furniture, etc.)	Tentative cost*	Grand total* (A+B)
A.	1. Chemicals/Glassware's required for project work	-	-	-	-
	2. Miscellaneous items (Farm Consumable/ Stationery/ Contingencies, etc.)	0.50	-	-	0.50
B.	1. Input Cost under Technology Transfer	-	-	-	-
	2. Input cost under Technology Trial Programme	-	-	-	-
C.	Seminar/Farmer's day/Vichar Gosthi	2.50	-	-	2.50
D.	Transport and travel under collaborative programme of work/projects	2.00	-	-	2.00
	Total	5.00	-	-	5.00

2.1.5. Pilot Studies / Programme of work continued through and to be concluded during 2016-17

At Main Institute

Sl. No.	Code	Title	Start	Closure	Milestone to be crossed			
					I Qtr	II Qtr	III Qtr	IV Qtr
1.	CTR&TI/SWI/ PS-20	Studies on genetic diversity among <i>Antheraea mylitta</i> physio-eco-variants by using modern molecular biology tools.	Sept. 2015	Aug. 2016	Genomic DNA/ mitochondrial DNA isolation and PCR amplification using different physio-eco-variant of tasar silkworm.	Assemblage of physio-eco-variants based on sequence similarities and evaluation of result	-	-

BUDGET DETAILS FOR THE YEAR 2016-17 (Rs. in Lakh)*

#	A. Recurring		B. Non-Recurring		
	Operational Cost		Fixed cost		
	Particulars	Tentative cost*	Items (Equipments, furniture, etc.)	Tentative cost*	Grand total* (A+B)
A.	1. Chemicals/Glassware's required for project work	2.00	-	-	2.00
	2. Miscellaneous items (Farm Consumable/ Stationery/ Contingencies, etc.)	0.20	-	-	0.20
B.	1. Input Cost under Technology Transfer	-	-	-	-
	2. Input cost under Technology Trial Programme	-	-	-	-
C.	Outsourcing	0.90	-	-	0.90
D.	Transport and travel under collaborative programme of work/projects	0.30	-	-	0.30
	Total	3.40	-	-	3.40

2.1.6. New Pilot Studies / Programme of work to be initiated during 2016-17

At Main Institute

Sl. No.	Code	Title	Start	Closure	Milestone to be crossed			
					I Qtr	II Qtr	III Qtr	IV Qtr
1.	CTR&TI/SW/POW-21	Demonstration of “Tasar Silkworm Eggs Cleaning and Surface Sterilization machine” for drudgery reduction	April 2016	March 2017	Demonstration cum multilocational trials for popularization of developed machine at various grainages of BSMTCs, PRADAN & DOS.	Demonstration cum multilocational trials for popularization of developed machine at various grainages of BSMTCs, PRADAN & DOS.	Demonstration cum multilocational trials for popularization of developed machine at various grainages of BSMTCs, PRADAN & DOS.	Fine tuning & compilation of results and submission of final report.

BUDGET DETAILS FOR THE YEAR 2016-17 (Rs. in Lakh)*

#	A. Recurring		B. Non-Recurring		
	Operational Cost		Fixed cost		
	Particulars	Tentative cost*	Items (Equipments, furniture, etc.)	Tentative cost*	Grand total* (A+B)
A.	1. Chemicals/Glassware's required for project work	0.10	-	-	0.10
	2. Miscellaneous items (Farm Consumable/ Stationery/ Contingencies, etc.)	0.10	-	-	0.10
B.	1. Input Cost under Technology Transfer	-	-	-	-
	2. Input cost under Technology Trial Programme	-	-	-	-
D.	Transport and travel under collaborative programme of work/projects	0.35	-	-	0.35
	Total	0.55	-	-	0.55