

Seri 5k Project-Cluster Profiles

XII Plan (2012-2017)

Bivoltine Sericulture In India.

The efforts made by Government of India to develop Bivoltine sericulture in India through different projects programmes like NSP/JICA enable CSB to develop the suitable Mulberry varieties, package of practices, silkworm breeds like CSR2 x CSR4, CSR4 x CSR5, CSR18 x CSR19 appropriate Rearing methodology, disease management, improved reeling technologies suitable for the tropical climate of peninsular India.. These technologies were large scale demonstrated with 3700 farmers and 298 reelers in the Southern States and as a result, the bivoltine silk production in the country has increased significantly. The raw silk in India increased from 366 MT in 1998-99 to 1685 MT in 2011-12 registering an annual compound growth rate of 11.62%. The bivoltine silk accounted for just 2.57% of the total silk production of the country in 1998-99, which has increased to 7.15% in 2011-12.

Enthused by the achievements made under JICA programmes for promotion of Bivoltine in India, Govt. of India under its XII Five Year Plan (2012-13 to 2016-17) has given emphasis on generation of employment particularly to the economically weaker sections of the rural areas through promotion of import substitute Bivoltine silk through implementation of catalytic Development Programme (CDP), The main focus on mulberry sector would be to enhance the bivoltine silk (3A grade and above) production from the current production level of 1685 MT to 5000 MT with an ambitious increase of 197% (Plan to Plan). To achieve this challenging task, the XII Plan proposes for a strategic shift in the promotion of bivoltine sericulture in the areas of research, extension, seed production, cocoon production practices, marketing, credit facilitation, policy options and increased participation of stakeholders in decision making areas.

Keeping the extension system formulated in the project as base, Central Silk Board in its XIIth Plan (2012-17) proposed to formulate about 179 clusters all over India.

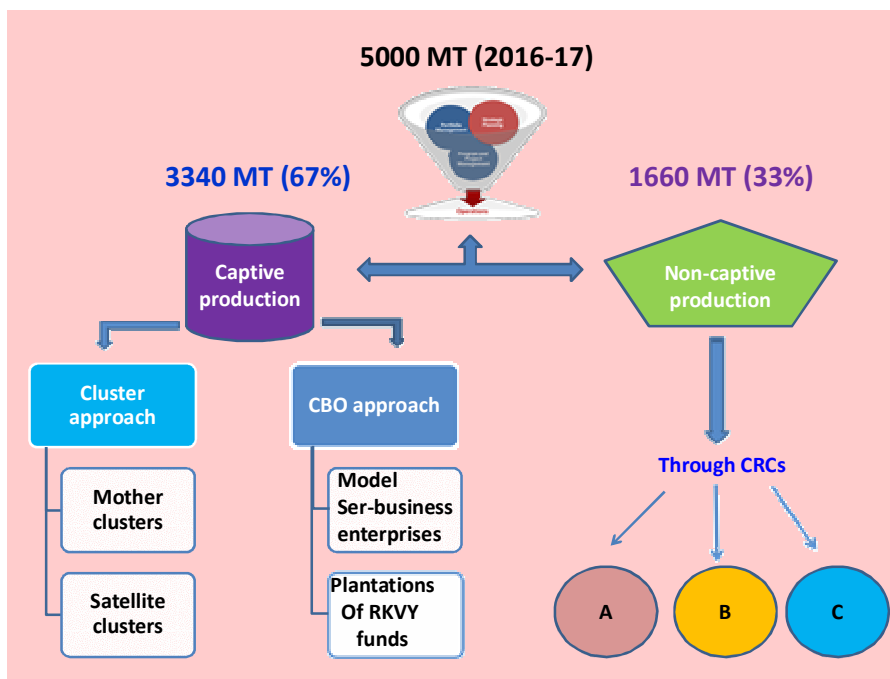
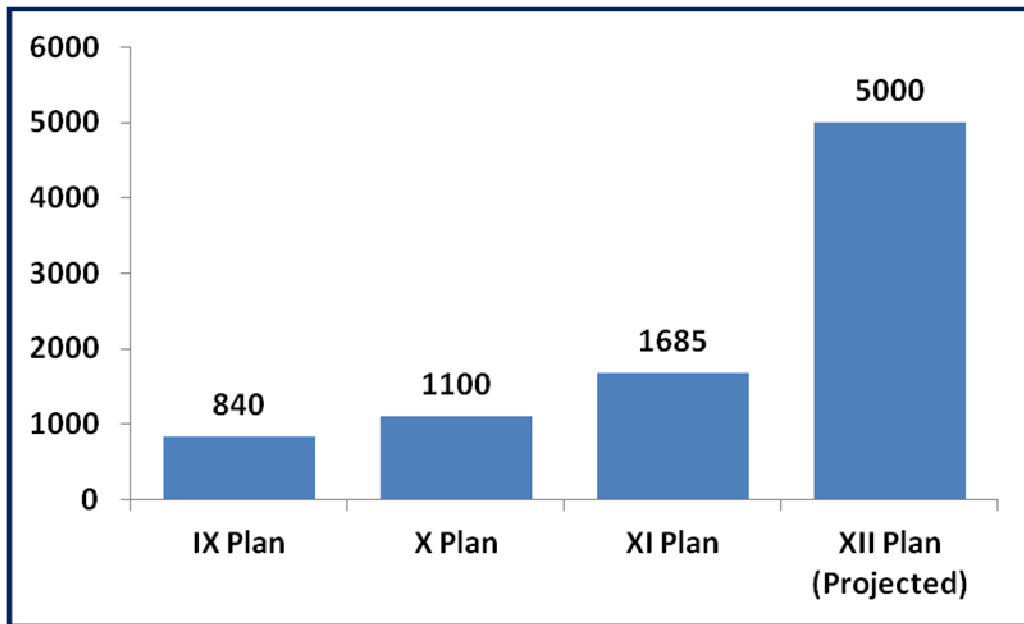
Target for organizing Clusters during XII Plan and its expected output.

#	Particulars	2013-14	2014-15	2015-16	2016-17
1	No. of clusters to be developed	138	179	179	179
2	Total number of farmers @ 250 number per cluster	34500	44750	44750	44750
3	Area under mulberry (Ha.) (@ 0.50 Ha. each by 250 farmers) - 125 Ha. per cluster	17250	22375	27000	28000
4	Productivity (kgs of silk per Ha.)	105	108	112	120
5	Average out put per each cluster (@ 13 .66 MT during 1 st year, 14.20 MT in 2 nd yr and 17.40 MT in 3 rd yr)	1800	2416	3024	3340

Apart from above, 1660 MT bivoltine silk is expected to be produced from the existing mulberry plantation through Non- captive areas. The growth is attributed only due to productivity improvement. The details are given below:

#	Area	Productivity (Kgs)	Raw Silk Production (MT)
1	2013-14	91.56	680
2	2014-15	93.18	969
3	2015-16	94.05	1131
4	2016-17	95.83	1660

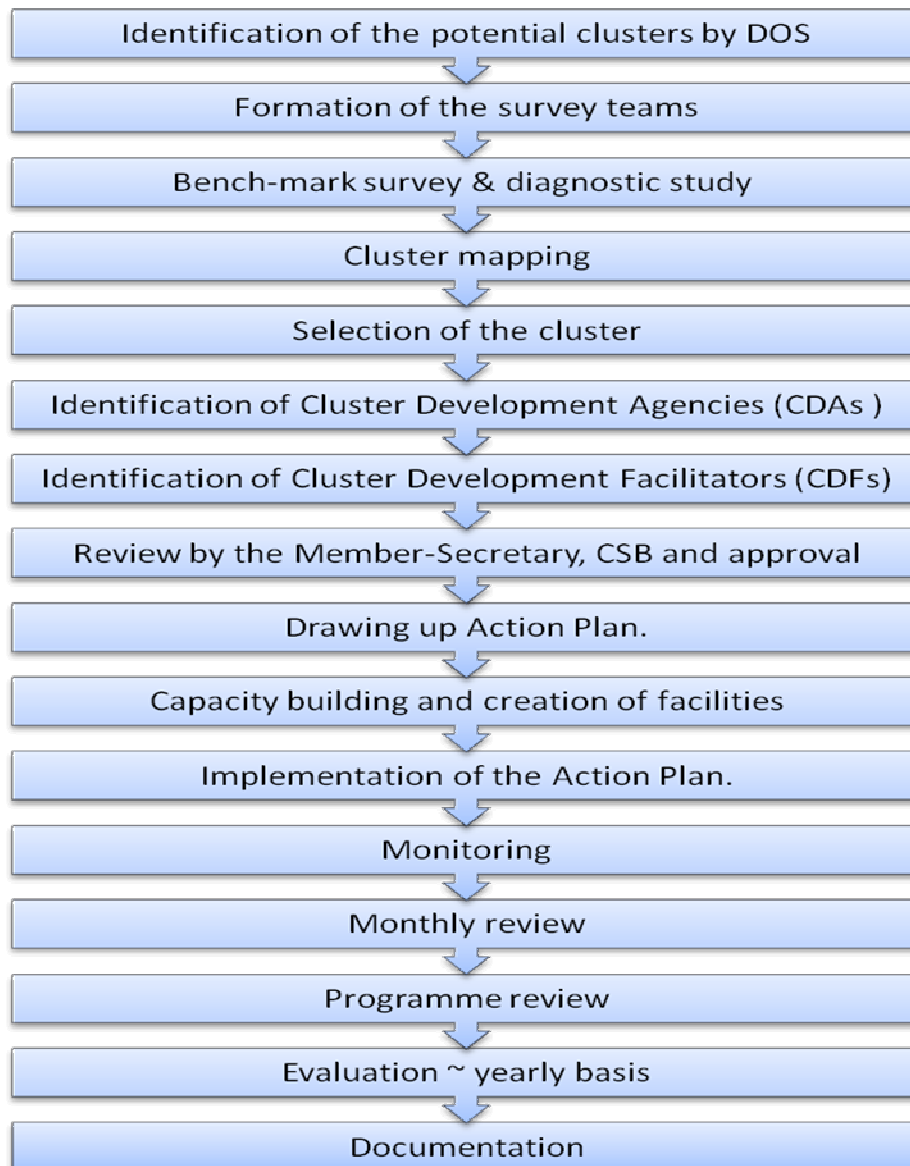
Production strategies for bivalent during XII Plan:



Brief Outlay of Cluster Approach:

- The tentative proposal is to form around 150-200 clusters across the country to accomplish the set targets
- Ideally, each cluster to have 200-250 farmers (around 300-350 acres) so that a tangible cluster-wise production targets could be set and achieved during the proposed time-schedule
- Mother clusters with high dfls intake capacity to be identified and concentrated
- Promising Satellite clusters to be chosen for strengthening and up-gradation
- Enforce bivoltine silkworm seed consumption as a major criteria for classifying the clusters and the output of gradable bivoltine raw silk as performance parameter for clusters
- Assurances under CDP would primarily be extended to the development of bivoltine cluster farmers
- Better management practices and incentivization
- Introduce CBO module in the clusters and make provision for para extension workers
- States will lead the implementation of CPP from the front, CSB will facilitate in Technical support, co-ordination, liaisoning, extending assistance in macro and micro planning and meticulous monitoring
- Appropriate technology interventions will be ensured to enable the farmers to achieve higher productivity and quality
- Clusters should be self reliant with creation of backward and forward linkages.
- Clusters should have common facilities like, mobile disinfection units, CRCs, cocoon grading centres.
- Cluster developing agencies like NGO's/SQCs/SHGs *etc* will be trained in all the pre-cocoon and post-cocoon activities
- Each cluster shall be linked with the nearest REC for better monitoring and the Scientists of CSB./ DoSs will act as main Cluster Development Facilitators.

Cluster Development Strategy;



Role and Responsibilities of participating Agencies:

Bivoltine Cell: CSB

- ❖ To monitor implementation of Bivoltine programme in India.
- ❖ To formulate strategy & action plan for promotion of bivoltine sericulture jointly by CSB and DOSs
- ❖ To strengthen coordination/collaboration mechanism among CSB, DOSs and participating units.
- ❖ To monitor Quality seed production and supply with states.
- ❖ To monitor the crop progress.

- ❖ To provide expertise in case of field problems.
- ❖ To organize review meeting once in three months with DOSs to review the progress of the BV programme, achievements made in accordance to action plan under the Chairpersonship of Member Secretary.

DOSs-BV Cell:-

- ❖ Directly responsible for success of the programme
- ❖ To monitor implementation of Bivoltine Programme in the State.
- ❖ To strengthen coordination/collaboration mechanism among CSB, DOSs and participating units.
- ❖ To associate in preparation of detailed Action Plan for each cluster and the State.
- ❖ To review the farmers requirement and plan for farmers up-gradation.
- ❖ To monitor Quality seed production and supply with agencies associated in seed production.
- ❖ Ensure batch brushing in all clusters & Non-Captive areas.
- ❖ Encourage farmers for 100% chawki distribution.
- ❖ Establish Market link for cluster cocoon produce.
- ❖ To organize review meeting once in three months with DOSs to review the progress of the BV programme, achievements made in accordance to action plan under the Chairpersonship of COS.

CSR & TI, Mysore / Berhampore / Pampore:

- ❖ To constitute Cluster promotion Committee (CPC) for each Cluster.
- ❖ To finalise RFD for each Cluster as per schedule.
- ❖ To conduct Diagnostic Study of farmers
- ❖ To organise backward-forward linkages in clusters.
- ❖ To coordinate to prepare action plan for production of Bivoltine in each cluster.
- ❖ To ensure timely available of support to the farmers.
- ❖ To motivate the State DOSs for batch brushing
- ❖ To ensure 100% Chawki distribution for better quality.
- ❖ Overseas performances of CRCs
- ❖ To arrange awareness programme including popularization of Rotary Moutage Technology.
- ❖ To ensure mobility of Cluster In-charges
- ❖ To arrange facilities to Cluster In-charges like PC, Internet, Communication facilities.
- ❖ To ensure effective implementation of RFD for each cluster.
- ❖ To conduct Quarterly Bivoltine Programme Review state wise to monitor the crop performance and implementation of Bivoltine programme.

NSSO

Clusters implemented through NSSO

(Ensure submission of reports through CSRTI, Mysore)

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- ❖ To ensure timely available of support to the farmers.
- ❖ To motivate the State DOSs for batch brushing
- ❖ To ensure 100% Chawki distribution for better quality.
- ❖ Overseas performances of CRCs
- ❖ To arrange awareness programme including popularization of Rotary Mountage Technology.
- ❖ To ensure mobility of Cluster In-charges
- ❖ To ensure effective implementation of RFD for each cluster.

Seed Sector:

- ❖ To monitor seed requirement and supply to the clusters.
- ❖ To encourage 100% chawki supply
- ❖ Top monitor the performance of state BV seed production units and private Seed Producers to maintain quality seed supply..

State Nodal Officers from CSB:

- ❖ Should coordinate with State in implementation of bivoltine promotion programmes.
- ❖ Should associate in finalising CDP support to farmers.
- ❖ Should ensure states to submit progress of implementation of bivoltine programme to CSB by 25th of every month.
- ❖ Should report in case of any field problems arises in clusters
- ❖ Should coordinate with the states to cover more farmers in clusters.

CSB Nodal Officer & Regional Office:

- ❖ Should coordinate with State in effective implementation of bivoltine promotion programmes.
- ❖ Collect capacity utilisation of the infrastructure created during the earlier plan periods
- ❖ Should associate in finalising CDP support to farmers. Ensure that predominantly the assistance goes to bivoltine farmers
- ❖ Should ensure that the states will submit progress of implementation of bivoltine programme to CSB by 25th of every month.

- ❖ Should report in case of any field problems arises in clusters.
- ❖ Should coordinate with the states to cover more farmers in clusters.
- ❖ Take up all other bivoltine promotional activities

Cluster Development Facilitators:

- ❖ To be In-charge of Clusters and Chairman for Cluster Promotion Committee.
- ❖ To be fully responsible in coordinating with different stake holders for smooth implementation of the programme.
- ❖ To select suitable farmers
- ❖ To analysis requirement of farmers facilities and work out funds flow.
- ❖ To draw Action Plan for the cluster covering requirement of seed, training etc.
- ❖ To prepare detailed Action Plan for silkworm rearing including pre-crop preparations, Dfls/ Chawki worm supply, crop supervision and monitoring, review of crop performances etc.
- ❖ To ensure batch brushing for effective monitoring
- ❖ To ensure 100% chawki distribution.
- ❖ To ensure testing and grading of cocoons for better pricing.
- ❖ Coordinate with farmers in marketing of their produce.
- ❖ To maintain all records and information concerned with the cluster.
- ❖ Coordinate with SSPC, CRC, FFS, Seri-Polyclinic and other concerned in organizing and providing supply of eggs, chawki worms, disease and pest control measures, training of farmers etc.
- ❖ Participate Crop Review Meetings, cluster promotion programmes etc.
- ❖ Conduct Cluster Promotion Committee meeting
- ❖ To adhere the RFD for better monitoring.
- ❖ To update data base to reduce paper work.

Fund Flow in Clusters:

1. Identify the farmers through base line survey jointly by the Cluster Promotion Committee (CPC) constituted by the Main Institute involving members drawn from State, CSB, Farmers, CRC & NSSO.
2. Collect farmer-wise benchmark data, analyzed thoroughly to arrive at the actual availability of facilities and requirements/assistance needed under CDP. This would mean that all the components envisaged in different sectors under CDP need not necessarily be required by all the farmers.
3. Submit the consolidated the proposal with the recommendation of concerned Joint Cluster Promotion Committee (JCPC) and the analyzed benchmark data clearly indicating the fund requirements under CDP to the Directorate of Sericulture to place it before State Project Monitoring Committee for approval.
4. Forward PMC cleared proposal to CSB through Zonal Cells for placing before the Apex Monitoring Committee (AMC) for final sanction and release of central share of funds.

5. CSB to release its share as per approved unit cost worked out and indicated in the booklet of Catalytic Development Program.
6. Any deviation over and above the approved unit cost will not be accepted.

Monitoring of Bivoltine Programme:

Multi level monitoring mechanism will be in place to oversee all the technical and coordination activities.

Methods of Review	Chairperson
Joint Coordination Committee Meeting	Member Secretary, CSB
Bivoltine Programme Review Committee meeting	Director, CSRTI, Mysore, Berhampore & Pampore
Cluster Promotion Committee Meeting	Chairman, CPC

1. CSB has constituted an apex, '**Joint Coordination Committee**', to review the overall progress of the bivoltine promotion programme in the country *vis-à-vis* its achievement of the Annual Work Plan, short falls if any and steps to be taken to overcome the same, on quarterly basis. While this committee will be Chaired by the Member-Secretary, CSB, the Commissioners/Directors of state sericulture departments from major bivoltine silk producing states and the directors of the CSB/State Research Institutes will be the members. Head of the Bivoltine Cell, CO, CSB will be the Member- Convenor.
2. CSB has constituted a '**Bivoltine Programme Review Committee**' under the chairmanship of Director, CSRTI, Mysore to review the bivoltine programme progress and crop performances in Southern Zone Clusters and also in the Non- Captive areas on quarterly basis. The Additional Director, Bivoltine Cell head, Joint Directors/Deputy Directors of DoS, Karnataka, Director, NSSO, Director CSTRI, Bangalore and CSB Scientists will be the members. The bivoltine programme coordinator of CSRTI, Mysore/ Berhampore /Pampore will be designated as Member-Convenor.
3. Director, CSRTI, Mysore / Berhampore / Pampore / NSSO has to constitute '**Cluster Promotion Committee**' a grass root level monitoring committee for each cluster for monitoring the cluster progress and crop performance on real time basis. This committee has to meet at least once in a month

4. Web designing of Seri5k Project has been designed and put up in Central Silk Board Website for necessary updation of information by the CDFs for online monitoring of the programme. The site is "seri5k.csb@nic.in"

Brief progress of organizing Clusters: 2014-15

1. Target set for the 172 Clusters is to produce about 2117 MT of raw silk, 60% of the total target (3500MT).
2. Necessary backward and forward linkages are established in the Cluster areas.
3. All the dfls are properly incubated and chawki reared through identified CRCs and maximum efforts have been made to supply only chawki worms to the identified farmers.
4. The CPP were regularly reviewed /monitored through Crop Review Meeting, Joint Coordination Committee Meeting by BV Cell of CSB and established effective coordination with different stake holders.
5. During the year 2014-15 With the joint concentrated efforts, produced 3766MT of Bivoltine raw silk which exceeded the target of 3500 MT.
6. The achievement is 108.18%, while it is in excess of 1207 MT compared to the production (2559MT) of 2013-14.
7. About 2357 MTs of rawsilk has been produced through 172 clusters, which is 63% of total production.
8. Significant impact has been noticed in South Zone. The production has increased from 2010 MT (2013-14) to 3163MT with an increase of 57.3% .
9. 2216MT of rawsilk produced through 102 clusters in South Zone which contributes 70%. of total production in South Zone and rest of the zones contributed to 141 MT only.



**Central Silk Board
Bangalore-560068**

The details of state wise progress of Bivoltine Silk production for the year 2014-15 is given below.

Details of progress achieved through Clusters and Non-Captive Areas during 2014-15						
Sl. No	Name of the State	No. of Clusters under implementation	Dfls brushed (Lakh dfls) in Clusters	Raw Silk output (MT)		
				Captive area	Non-captive area	Total
<u>SOUTHERN ZONE</u>						
1	Karnataka	46	89.40	895	309	1204
2	Tamil Nadu	28	59.55	692	515	1207
3	Andhra Pradesh	13	45.49	464	31	495
4	Telangana	4	4.51	45	6	51
5	Maharashtra	9	11.59	113	86	199
6	Kerala	2	0.88	7	0	7
	TOTAL	102	211.42	2216	947	3163.0
<u>NORTH-WEST ZONE</u>						
1	Jammu and Kashmir	25	6.74	36	111	147
2	Uttarakhand	7	1.04	7	22	29
3	Himachal Pradesh	8	1.49	10	20	30
4	Punjab	1	0.28	1.3	2.7	4
	Haryana		0	0	0.3	0.3
	TOTAL	41	9.55	54	156	210.3
<u>CENTRAL WESTERN ZONE</u>						
1	Madhya Pradesh	5	2.24	18	50	68
2	Uttar Pradesh	8	4.12	30	57	87
3	Chhattisgarh	0	0	0	0.45	0.45
	TOTAL	13	6.36	48	107	155.45

<u>EASTERN ZONE</u>						
1	West Bengal	4	1.84	10.4	16.6	27
2	Orissa	3	0.13	0.3	1.7	2
3	Bihar	1	0.10	0	0.35	0.35
	TOTAL	8	2.07	10.7	18.65	29.35
<u>NORTH EAST ZONE</u>						
1	Assam & BTC	3	1.60	8	17	25
2	Mizoram	1	0.71	4	28	32
3	Nagaland	1	0.57	2.5	3.5	6
4	Manipur	2	2.10	11.5	85.5	97
5	Tripura	1	0.63	1.7	23.3	25
6	Sikim	-	0.00	0	5	5
7	Ar.Pradesh	-	0.00	0	2	2
8	Meghalaya	-	0.00	0	16	16
	TOTAL	8	5.61	27.7	180.3	208
GRAND TOTAL		172	235.00	2357	1409	3766



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Action Plan for production of Bivoltine Silk during 2015-16:

Sl. No	Name of the State	No of Clusters*	2015-16		
			Raw Silk output Projected (MT)		
			Captive area	Non-captive area	Total
<u>SOUTHERN ZONE</u>					
1	Karnataka	46	1060	440	1500
2	Tamil Nadu	28	654	646	1300
3	Andh. Pradesh	13	510	140	650
4	Telangana	4	63	2	65
5	Maharashtra	9	138	82	220
6	Kerala	2	8	0	8
	TOTAL	102	2447	1296	3743
<u>NORTH-WEST ZONE</u>					
1	Jammu and Kashmir	25	92	78	170
2	Uttarakhand	7	26	9	35
3	Himachal Pradesh	8	30	6	36
4	Punjab	1	5	0	5
	Haryana	0	0	1	1
	TOTAL	41	153	94	247
<u>CENTRAL WESTERN ZONE</u>					
1	Madhya Pradesh	5	33	42	75
2	Uttar Pradesh	8	37	93	130
3	Chhattisgarh	0	0	1	1
	TOTAL	13	70	136	206
<u>EASTERN ZONE</u>					
1	West Bengal	4	26	4	30
2	Orissa	3	2	0	2
3	Bihar	1	0	0	0
4	Jharkhand	0	0	0	0
	TOTAL	8	28	4	32

NORTH EAST ZONE					
1	Assam & BTC	3	35	0	35
2	Mizoram	1	18	22	40
3	Nagaland	1	8	0	8
4	Manipur	2	37	83	120
5	Tripura	1	15	21	36
6	Sikkim	-	0	7	7
7	Ar.Pradesh	-	0	4	4
8	Meghalaya	-	0	22	22
TOTAL		8	113	159	272
GRAND TOTAL		172	2811	1689	4500

Check Points for success of Bivoltine crop:

- Encourage farmers to take up Bivoltine sericulture through awareness.
- Attend farmers' problem at once.
- Ensure batch brushing for effective monitoring of crop.
- Access availability of disinfectants in required quantity before rearing
- Conduct pre-crop inspection of CRC and farmers level for ensuring proper disinfection.
- Ensure timely supply of incubated laying to CRC
- Ensure 48 hours mandatory black boxing.
- Ensure Crop inspection at Chawki stage.
- Make chawki certification mandatory with no compromise.
- Ensure supply of chawki worms after 2nd moult.
- Ensure crop supervision at farmers level during critical stages
- Support farmers for their marketing of produce.
- Encourage farmers to maintain crop inspection note book.

2. Institute Village Linked Programme:-

For effective transfer of technology from Lab to land and to establish a model sericulture villages, CSB has decided to implement Institute Village Linked Programme (IVLP) through its main R & D Institutes during 2014-15.The main objectives of the IVLP programme are:-

- Identify domains for new technology requirement at macro and micro level,
- Introduce technological interventions with emphasis on stability and sustainability along with productivity of small farm production system.
- Introduce and integrate the appropriate technologies to sustain technological interventions and their integration to maintain productivity and profitability taking environmental issues into consideration.
- Facilitate adoption of appropriate on-farm value addition of agricultural products, by products and wastes for greater economic dividend.

- Facilitate adoption of appropriate technologies for removal of drudgery increased efficiency and higher income of farm women.
- Monitor socio-economic impact of the technology intervention

Contact Details :

Implementing Organization	Contact Person	Contact No.	e-mail id
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**CENTRAL SILK BOARD
BANGALORE – 560 068**



**GUIDELINES FOR SELECTION OF FARMERS FOR
BIVOLTINE COCOON PRODUCTION UNDER
CLUSTER DEVELOPMENT PROGRAM IN SOUTHERN STATES**

1. Farmers should have 1 to 5 acres of Mulberry.
2. The mulberry plantation should have improved variety, irrigation facility and wider spacing.
3. The farmers should rear at least 100 Dfls/crop.
4. Farmers should have separate rearing house or willing to construct.
5. Farmers should have shoot rearing facility or willing to change over.
6. Farmers should have mounting room or hall with enough ventilation and space.
7. Farmer should practice disinfection of rearing house and appliances.
8. Selected farmers should be closely located in a given TSC area.
9. Farmers should be getting consistently good cocoon yields.
10. The farmer should be willing to undergo training and adopt new practices.
11. The Govt. should organize a CRC close to the farmers, either run by Govt. or private.
12. The CRC should have a suitable chawki rearing house with adequate facilities such as power, water, improved irrigated mulberry garden, heaters, humidifiers, disinfection facility, etc.

**CENTRAL SILK BOARD
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GUIDELINES FOR CLUSTER DEVELOPMENT PROGRAMME

1. Identify the villages coming under each cluster, distance from each village.
2. Each cluster should consume at least 50,000 bivoltine dfis in a year and possess proportionate mulberry acreage and number of farmers.
3. Identify / select the farmers in each village based on identified parameters.
4. Collect detailed information on the selected farmers like,
 - i. Name of the farmer and UID and Photograph
 - ii. Availability of family labour,
 - iii. The area under mulberry and age of plantation
 - iv. Variety of mulberry
 - v. System of plantation and spacing
 - vi. Availability of irrigation facility
 - vii. Application of Farm yard manure and fertilizer
 - viii. Type of rearing house and scope for disinfection
 - ix. How often he disinfects and how it is done and chemicals used
 - x. System of rearing, shoot or tray. Type of trays and numbers
 - xi. Mounting hall/indoor mounting facility. No. of mountages and type
 - xii. No. of Dfls brushed per crop and per acre
 - xiii. Source of Dfls
 - xiv. Source of chawki worms and performance
 - xv. Hybrid used and the cocoon yield, total and per 100 Dfls
 - xvi. No. of crop failed during the last 6 months and probable reason
 - xvii. Adopted under any program like IVLP, JICA, Bivoltine etc
 - xviii. Training received
 - xix. Attended any field days, krishi mela, etc.
 - xx. Assistance received, if any, under any Govt. programme.
5. Prepare a job chart of each staff clearly indicating the allocated work his role and responsibility. Which cluster/village and farmers he is expected to cover and what kind of data he is expected to forward and the periodicity. If possible indicate the periodicity of visit like, stages of chawki and no. of visit, stage of mulberry and no. of visit, etc. Allocation of work should be practical and should be possible to carry out.

6. List out CSB and States infrastructure coming within the area of each cluster and near by locations like Farms, Grainages, TSC's, CRC's, Training schools, REC's, RSRS, any other extension units, which could be used for servicing the farmers.
7. Identify the CSB and State unit which would service the cluster like the extn. Unit, Dfls supply, chawki, disinfectants, etc.
8. Analyze the data of farmers and field units and chalk out a program for assistance under CDP and other state programmes like RKVY, MGNREGA. In case of assistance to availed under CDP, the requirements and the estimated cost based on CDP parameters.
9. Ensure availability of critical inputs and utilities to the farmers in the cluster or village area and the proposed arrangements to reach the farmers.
10. Strategy of CSB and State co-ordination at the field level and holding co-ordination meeting at Institution level, etc.
11. Brief data on the existing CSB and State units as also on the chawki centers run by the Govt., local farmers.
12. Work out up-gradation of infrastructural facilities and infrastructure needed funds requirement etc.,
13. Finalize Detailed Action Plan for silkworm rearing including pre-crop preparation, finalize the crop schedule, Dfls/ Chawki worm supply,
14. Regularly conduct crop supervision, monitoring, review of crop performances including reasons of crop failures if any and suggested remedies, etc
15. Conduct awareness programme and encourage farmers to take up bivoltine programme
16. Conduct awareness programme and encourage farmers to use improved mountages like rotary mountages with net collection for matured larvae and cocoon harvester for quality cocoon production.
17. Work out the training needs of farmers and organize training programmes in coordination with FFSs.
18. Procurement and supply of sample cocoons to CSTRI, Bangalore for test reeling and testing and defining grade of their produce.
19. Coordinate with the farmers in marketing of their produce.

20. Ensure testing and grading of cocoons for all bivoltine farmers in cluster for better pricing.
21. Maintenance of all records and information concerned with the cluster and furnish necessary information and data as and when required.
22. Progress should be reviewed fortnightly during regular periods and weekly during crop session to take stock of the problems and performances to initiate remedial measures without loss of time.
23. The progress of the cluster will be monitored under Result Framework Document signed between Central Silk Board and Cluster In-charge.

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