

SILKWORM REARING AND DISEASE CONTROL. (Progress)

Survey was conducted in four districts of Karnataka State and 75 farmers and 5 chawki rearing centres were selected in 6 Technical Service Centres and considered for verification of silkworm rearing and disease control technologies. Technology for bivoltine sericulture was established in 4 TSC viz, Srirangapatna, Halagur, Sira and Chitradurga with 50 farmers and as a result, a stabilised yield of above 55 kg per 100 dfls was achieved in all the 4 centres from the second crop onwards. Bivoltine technology could not be established in 2 TSC viz Hiriur and Baragur due to local problems. Use of rotary moutage for production of quality cocoons was successfully introduced in the field and cocoon produced gave 2A to 3A grade silk and renditta also improved to 5.5 to 6.0. Farmers also got an increased income of Rs.20-30 per kg of cocoons harvested by using rotary moutage. Technology for disinfection and hygiene was also established successfully with 50 farmers and the disease incidence was reduced to less than 5%. After analysing the field performance modifications in rearing technology and disease control methods were introduced and got better results in yield.. Trained 54 officials in chawki rearing, 13 in late age rearing and mounting and 18 officials in full scale rearing. 66farmers were also trained in shoot rearing and use of rotary moutage.. Participated in 14 enlightenment activities covering 1366 farmers.

Activities for the Remaining Period:

Survey of identified areas will be made for selection of suitable sericulturists for verification , demonstration and popularisation of bivoltine rearing technology and disease control methods. Based on the field results technology will be updated and the manuals on silkworm rearing and disease control will be prepared for popularisation of practical technology. Training of CSB/DOS staff of selected areas on different aspect of silkworm rearing and disease control will be conducted in line with Training section. Participation in enlightenment programmes for DOS and CSB officilas on silkworm rearing and disease control in association with Extension Division.

3. SILKWORM REARING AND DISEASE CONTROL TECHNOLOGY

Item of work	97	98	99	00	01	Goal of achievement	Score	Present status and attainment	Activities in remaining period																																																													
1. Verification, demonstration and popularisation of bivoltine silkworm rearing technology and disease control methods. (selected farmers places)																																																																						
(i). Verification of rearing technology for young silkworms.						Quality of young age silkworm will be improved and supplied.	A	During 1997-99 after conducting survey, young age rearing was conducted at the following places and supplied to the farmers. For the first crop clawki was not satisfactory due to absence of facilities. From second crop facilities were improved and quality young silkworms were supplied to farmers after certification. Further improvements were made from forth crop as a result yield was increased and disease incidence was controlled. Details as below-	Some more new areas will be identified and young age silkworm rearing centres will be established to cater the need of new selected farmers.																																																													
								<table border="1"> <thead> <tr> <th rowspan="2">Name of the TSC</th> <th rowspan="2">Name of the CRC</th> <th colspan="5">Number of DFLs</th> </tr> <tr> <th>1st</th> <th>2nd</th> <th>3rd</th> <th>4th</th> <th>5th</th> </tr> </thead> <tbody> <tr> <td>Hiriyur Sira</td> <td>GSF Nandihalli</td> <td>3300</td> <td>620</td> <td>900</td> <td>-</td> <td>-</td> </tr> <tr> <td>Baragur Sira</td> <td>GSF Sira</td> <td>800</td> <td>1200</td> <td>1100</td> <td>1500</td> <td>2250</td> </tr> <tr> <td>Halagur Sira</td> <td>GSF Sira</td> <td>2400</td> <td>300</td> <td>1150</td> <td>-</td> <td>-</td> </tr> <tr> <td>S Patana</td> <td>Pvt. DK.Halli</td> <td>1950</td> <td>1100</td> <td>1700</td> <td>1400</td> <td>1400</td> </tr> <tr> <td>J.N.Kote</td> <td>CSRTI/ DOS</td> <td>2075</td> <td>1275</td> <td>2500</td> <td>2500</td> <td>2500</td> </tr> <tr> <td></td> <td>GSF.Marghatta</td> <td>---</td> <td>---</td> <td>800</td> <td>950</td> <td>1200</td> </tr> <tr> <td colspan="2">TOTAL</td> <td>10525</td> <td>4495</td> <td>8150</td> <td>6350</td> <td>7350</td> </tr> </tbody> </table>		Name of the TSC	Name of the CRC	Number of DFLs					1 st	2 nd	3 rd	4 th	5 th	Hiriyur Sira	GSF Nandihalli	3300	620	900	-	-	Baragur Sira	GSF Sira	800	1200	1100	1500	2250	Halagur Sira	GSF Sira	2400	300	1150	-	-	S Patana	Pvt. DK.Halli	1950	1100	1700	1400	1400	J.N.Kote	CSRTI/ DOS	2075	1275	2500	2500	2500		GSF.Marghatta	---	---	800	950	1200	TOTAL		10525	4495	8150	6350	7350
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Item of work	19 97	19 98	19 99	20 00	20 01	Goal achievement	Score	Present status and attainment	Activities in remaining period
ii) Verification of technology for late age silkworm rearing.						Shoot rearing technology will be verified.	A	During the year from 1997 to 1999 after conducting survey 75 farmers were selected in Uthara districts and five time rearing was conducted in the field at farmers place. All the technology related to late age silkworm rearing were demonstrated to the farmers by Japanese and Indian counterparts in each and every stage particularly during crucial stages of rearing. All the farmers selected adopted the shoot rearing technology. TSC wise details of farmers and yield per 100 dfls(Kg) are given below-	After surveying the new sericultural areas proposed by the DOS, Karnataka more farmers will be selected and in addition to the present old selected farmers technologies will be expanded among new farmers.
	TSC							No of the farmers/Average yield per crop (Kg)	
	1 st	2 nd	3 rd	4 th	5 th				
Sira	03 29.5	06 51.2	04 51.3	10 69.9	10 64.83				
Baragur	07 11.8	03 45.7	05 40.0	-	-				
Hiriyur	12 *	03 38.2	06 40.3	-	-				
Halagur	13 45.4	09 65.8	14 62.5	12 65.1	12 63.56				
SRPalana	14 54.8	09 66.5	17 66.0	14 65.2	18 66.40				
J.N. Kote	-	-	05 70.3	06 60.1	09 44.75				
Total	49 24.8	30 56.7	51 57.2	42 65.1	48 61.73				
	<ul style="list-style-type: none"> crop rejected. Shoot rearing technology was demonstrated to all selected farmers and targets was achieved								

Item of work	19 97	19 98	19 99	20 00	20 01	Goal of achievement	Score	Present status and attainment	Activities in remaining period
iii). Verification of technology for silkworm mounting and cocoon harvesting.						Cocoon quality will be improved	A	During 1st and 2 nd crop blindfolds were used for mounting. Farmers were trained in the method of improving cocoon quality. From third crop rotary mountages were provided to farmers. Cocoon quality was improved and cocoons harvested from rotary mountages gave Rs.20- 30 more per kg of cocoon compared to chandrike. These cocoons also gave a Renditta of six and 2A to 3 A grade silk. Separate mounting place and facility to maintain environmental conditions are not available with many farmers. A wooden harvester for harvesting the cocoons was also demonstrated among the farmers. Cocoon quality was improved in all selected farmers.	Rotary mountage will be popularised among new farmers in addition to old. Mounting conditions will be improved at farmers level to reduce defective cocoons.
iv). Verification of technology for disease control.						Disease incidence will be reduced and cocoon yield will be increased.	A	During first field trial the crops suffered at chawki stage at Nandihally and Sira due to secondary contamination. At Halagur and Sirangapana yield was low due to infection at late instar. During second trial disinfection at CRC and farmers houses were improved and personnel hygiene was enhanced, as a result disease level came down in all the places. But at Hirtur and Barugut the improvement was marginal due to poor quality leaf and insufficient hygiene measures followed by farmers. During 98-99 importance was given to personnel hygiene in addition to disinfection for prevention of secondary contamination and as a result the disease level was least and insignificant. But further improvement are required to reduce infection during spinning to avoid defective cocoons. Two years result indicate that technology developed is fool proof method for prevention and control of disease during silkworm rearing. The target of controlling disease incidence and increasing cocoon yield was achieved.	Importance will be given to maintain the personal hygiene in addition to through disinfection particularly among new farmers.

Item of work	19 97	19 98	19 99	20 00	20 01	Goal of achievement	Score	Present status and attainment	Activities in remaining period
(v). Demolition and popularisation of silkworm rearing and disease control technology						Bivoltine silkworm rearing and disease control technologies will be made available for large number of farmers.	B	Technical staff of RRSRS & REC, DOS staff were trained in the bivoltine rearing technologies and disease control methods and through them technologies will be popularised with large number of farmers. All the technical staff of RRSRS, REC and DOS could not be trained as it was the first year for popularisation	All the new Technical staff of RRSRS and RECs and DOS Karnataka will be trained in bivoltine silkworm rearing and disease control.
2.Improvement of bivoltine silkworm rearing technology and disease control methods and their manuals									
(i).Evaluation and improvement of technologies on silkworm rearing.						Bivoltine rearing technology will be refined.	B	Rearing performance in the field was analysed and observed that modifications are required in the spacing of larvae, feeding quantum and use of rotary mounage for getting good results in the field. Further modifications may be required after analysing the performance in new areas.	After analysing the rearing performance of present farmers, improvement will be done in the technologies.

Item of work	19 97	19 98	19 99	20 00	20 01	Goal of achievement	Score	Present status and attainment	Activities in remaining period
i). Evaluation and improvement of technologies on disease control.						Silkworm disease control technology will be refined.	B	Silkworm disease prevalence in the field was analysed and observed that modifications were required to avoid specific diseases. Modifications were made and technological improvement was achieved. But further improvement may be required in new areas.	Disease incidence at CRC and farmers level will be analysed and improvement will be made in the technologies.
(iii). Upgradation of manual of silkworm rearing.						Manuals on silkworm rearing technologies will be upgraded.			Manuals on silkworm rearing technologies will be upgraded
(iv). Upgradation of manual on silkworm disease control						Manuals on silkworm disease control will be prepared and upgraded			Manuals on silkworm disease control will be prepared and upgraded
3. Training and guidance of technical staff and selected farmers									

Item of work	19 97	19 98	19 99	20 00	20 01	Goal of achievement	Score	Present status and attainment	Activities in remaining period
(i). Training to technical staff in silkworm rearing and disease control.						Technical staff of CSB and DOS will be trained on bivoltine silkworm rearing and disease control	A	During 1997-98, training was given in bivoltine silkworm rearing and disease control for 70 officials in six batches. Similarly during 1998-99, 93 Officials from DOS and CSB were trained in 8 batches in Chawki rearing, late age rearing, mounting and harvesting technology, disinfection, disease monitoring and disease control methods.	All the technical staff involved in PPPBST will be trained.
(ii). Guidance to selected farmers in silkworm rearing and disease control.						The selected farmers will be given enough information on bivoltine rearing and disease control.	B	37 farmers trained in 3 batches specially on late age rearing and mounting technology. Farmers awareness programme for 3 days was also arranged. Study tour were also conducted for the farmers to show the implementation and its performance of different technologies at field level. Out of 50 selected farmers 13 were not trained as they were not proposed by DOS.	All the newly selected farmers will be trained, farmers awareness and study tour will be organised.
4. Enlightenment activities for expanding bivoltine silkworm rearing technology									

Item of work	19 97	19 98	19 99	20 00	20 01	Goal of achievement	Score	Present status and attainment	Activities in remaining period
(i). Organising interaction of farmers meet and farmers visit to research institute						Awareness will be created among the farmers on new technologies for successful bivoltine rearing.	A	Counterparts of Rearing technology and disease control participated and enlightened the farmers and DOS staff on new and improved rearing technology and disease control methods. During the year 1997-98 eight enlightenment programme were organised at Halagur, Srirangapatana, Sirsi, Baragur, Chantarayapalana, Pune, Belgaum and Ranngara. One field day was conducted at Mahadevapura of Srirangapatana TSC. Except Belgaum (31) in all other places more than 100 participants attended the programme. During 1998-99 counterparts participated in seven enlightenment programme conducted at CSRTI, Mysore; J.N. Kote; Dehradun (Uttar Pradesh); Hassan; Kudige; K.R. Nagar; and Marayoor (Kerala). Except CSRTI, Mysore (52) and J.N. Kote (83) in all other places more than 100 participants attended the function.	Some more enlightenment and field day programme will be organised to enlighten the farmers in bivoltine silkworm rearing.
(ii). Supply of general informations on bivoltine sericulture to sericulture farmers and reelers.						Knowledge of the farmers and reelers on new technologies will be improved	A	All the selected farmers were provided with guidelines for rearing the bivoltine silkworms. More information in the form of literature and diagram were given to all farmers on shoot rearing technology, use of rotary mountages etc. All the technical staff who came for training were provided with enough and suitable information in the form of technical bulletins, pamphlets and notes to improve their technical knowledge on new rearing technology	All the relevant literature, booklets and pamphlets will be provided to selected farmers

MULBERRY CULTIVATION: (Progress)

After surveying 4 districts in Karnataka State, initially selected 75 farmers and finally around 50 farmers were considered for verification of technology. Planting material of high yielding mulberry varieties V-1 and S-36 were supplied to 30 farmers covering 22.20 acres. Out of which, 9 plots were established in I-J/Modified I-J system of spacing as demonstration plots. While field testing of technologies, supervised the calendar of cultivation of activities both at CRC and at farmer's level covering 5 crops. Established 4 acres of breeder's stock of V-1 mulberry variety at CSR&TI, Mysore and supplied seed material to selected farmers and Government Silk Farms. 3 acres of foundation stock of V-1 mulberry variety was established under 3 Government Silk Farms. Planted two Final Yield Trials with 6 selected mulberry genotypes for identification of genotypes suitable for young age and late age silkworm rearing. Motivated farmers to take up row thinning/plant thinning in close plantation and 10 selected farmers adopted row/plant thinning. Demonstrated top working to 35 farmers to change their existing low yielding mulberry varieties into high yielding mulberry varieties. Trained 110 officials of CSB and DOS and 6 officials of sericultural training schools on different aspects of mulberry cultivation. Participated in 14 enlightenment activities covering 1366 farmers.

ACTIVITIES FOR THE REMAINING PERIOD:

Survey of identified areas will be made for selection of suitable sericulturists for verification, demonstration and popularisation of selected mulberry varieties and cultivation technologies. 4 acres of breeder's stock of V-1 mulberry variety will be maintained and seed material will be supplied to selected farmers and Government Silk Farms. Collection of data on leaf yield and quality of leaves from two established Final Yield Trial will be made for identification of genotypes suitable for young age and late age silkworm rearing. Technical manual on mulberry breeding and cultivation will be refined. Data on existing farmer practices on mulberry cultivation will be collected from selected new areas. Training of DOS/CSB officials of selected areas on different aspects of mulberry cultivation will be conducted in line with the Training Division. Participation in enlightenment programmes for farmer's and DOS officials on mulberry cultivation will be made in line with Extension Division.

SUMMARISED PROGRESS AS PER TDIP FOR 1997-98 AND 1998-99.

4 MULBERRY CULTIVATION.

Item as per TDIP	97	98	99	2000	2001	Goal of achievement	Score	Present status and attainment	Activities in Remaining period																																								
a. VERIFICATION, DEMONSTRATION & POPULARISATION OF NEW MULBERRY VARIETIES AND CULTIVATION TECHNOLOGY.							A																																										
(i) Verification, demonstration and popularisation of selected mulberry varieties.						Performance of selected mulberry varieties will be verified, demonstrated and popularised.		Survey was conducted in four districts and selected 75 farmers and around 50 farmers were considered for verification of technology. Planting material of V-1 and S-36 was supplied to 30 selected farmers covering 22.20 acres.	Survey of identified areas and selection of suitable sericulturists for verification, demonstration and popularization of selected mulberry varieties.																																								
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3 MULBERRY CULTIVATION.

Item as per TDIP	97	98	99	2000	2001	Goal of achievement	Score	Present status and attainment	Activities in Remaining Period
(ii) Verification, demonstration and popularisation of mulberry cultivation technology.						Improved cultivation technology will be adopted by farmers.		<p>Nine demonstration plots were established with V-1/S-36 variety in I-J/modified I-J system of spacing. Periodical training and maintenance of new plantations was demonstrated.</p> <p>While field testing of cultivation technology, prepared and supervised the calendar of cultivation activities both at CRC and farmer's level, during first and second year covering five crops.</p> <p>TSC No. of farmers covered 1997-98 1998-99 I II III IV V</p> <p>S.R. Patna 14 9 17 14 18 Halagur 13 9 14 12 12 Sira 4 6 4 10 10 Hiriyur 12 3 6 --- --- Baragur 7 3 5 --- --- Chitradurga --- --- 5 6 7</p> <p>All the farmers except 3 Nos. in Baragur and 2 Nos. in Hiriyur adopted the technologies in full.</p>	<p>Verification, demonstration and popularization of cultivation technologies with selected farmers. Preparation & supervision of mulberry cultivation activity calendars for CRCs and farmers.</p>

4 MULBERRY CULTIVATION.

Item as per TDIP	97	98	99	2000	2001	Goal of achievement	Score	Present status and attainment	Activities in Remaining Period
<p>b. MULTIPLICATION OF REGION SPECIFIC MULBERRY VARIETIES</p> <p>(i) Maintenance of selected mulberry varieties</p>						Selected mulberry varieties will be maintained.	A	Four acres breeder's stock of V-1 mulberry variety has been established at CSR&TI, Mysore. Supplied seed materials to selected IICA farmers and also to progressive farmers and Government Silk Farms.	Maintenance of 4 acres of breeder's stock of V-1 mulberry variety and supply of seed material to selected farmers and farms.
<p>(ii) Multiplication of selected mulberry varieties</p>						Selected mulberry varieties will be multiplied and supplied to farmers.		Developed 3 acres foundation stock of V-1 variety at Govt. Silk Farm, Chikkonahally, Rudrapatna and K.P. Doddi. Seed cuttings are being supplied to progressive farmers.	Maintenance of foundation stock and supply of seed material to selected farmers.

4 MULBERRY CULTIVATION.

Item as per TDIP	97	98	99	2000	2001	Goal of achievement	Score	Present status and attainment	Activities in Remaining period
c IMPROVEMENT OF MULBERRY AND CULTIVATION TECHNOLOGY AND THEIR MANUALS.							B		
(i) Improvement and testing of evolved genotypes.						New mulberry varieties will be recommended.		Planted two final yield trials with 6 promising genotypes isolated from PYT in three replications along with V-1 and S-36 as check separately for identification of genotypes suitable for young age and late age silkworm rearing.	Establishment of two final yield trials. Record of leaf yield data and quality assessment to identify genotypes suitable for young age and late age silkworm rearing.
(ii) Improvement of cultivation technology for young and late age silkworm rearing.						Mulberry cultivation technology will be refined.		Survey was made on existing practices of mulberry cultivation under TSC, Sira, Baragar and Hiriyur. Most of the gardens are in row system of plantation and no proper adoption of cultivation package. Motivated farmers to take up row/plant thinning and for proper training of plants. Out of 22 farmers with close plantation, 10 farmers adopted row/plant thinning.	Collection of data on existing practices of mulberry cultivation in comparison with the improved practices.

4 MULBERRY CULTIVATION.

Item as per TDIP	97	98	99	2000	2001	Goal of achievement	Score	Present status and attainment	Activities in Remaining period
(iii) Improvement of technical manuals.						Technical manuals of mulberry breeding and cultivation will be upgraded.		Commences from 2000.	Upgradation of technical manuals on mulberry breeding and cultivation.
d. TRAINING AND GUIDANCE TO TECHNICAL STAFF OF CSB AND DOS. (i) Training of technical staff.						Technical staff of CSB and DOS will acquire new technology.	A	Training curriculum, course material on mulberry cultivation has been prepared. During 1997-98, trained 69 officials of CSB/DOS. During 1998-99, trained 21 officials on maintenance of chawki garden, 20 officials on maintenance of garden, for late age silkworm rearing and 6 officers of Sericultural Training School on mulberry cultivation aspects.	Training of technical staff of CSB and DOS on improved mulberry cultivation aspects.
ii) Guidance to technical staff and farmers						Knowledge of DOS technical staff and farmers on mulberry cultivation tech will be improved.		During the visit of experts and counterparts to the target areas guidelines were given on various aspects of mulberry cultivation on spot.	Training of technical staff of CSB and DOS on improved mulberry cultivation aspects.

4 MULBERRY CULTIVATION.

Item as per TDIP	97	98	99	2000	2001	Goal of achievement	Score	Present status and attainment	Activities in Remaining period
<p>c. ENLIGHTENMENT ACTIVITIES FOR EXPANDING MULBERRY CULTIVATION TECHNOLOGY FOR BIVOLTINE SILKWORM.</p> <p>(i) Enlightenment programme for technical staff.</p> <p>(ii) Enlightenment programme for farmers.</p>						<p>Technical staff will be educated on new technologies of mulberry cultivation.</p> <p>Knowledge of farmers on new technology of mulberry cultivation will be improved.</p>	A	<p>Technical guidance on mulberry cultivation was given to 33 technical staff during awareness programmes and 18 staff members through field days. 161 DOS officials were covered on mulberry cultivation aspects through enlightenment programme.</p> <p>During the first year, enlightenment programmes were conducted at 8 places covering 734 farmers. During second year, 6 enlightenment programmes were organised and 632 farmers were educated on mulberry cultivation aspects. 141 farmers under awareness programme and 108 farmers through field days were educated on mulberry cultivation technologies.</p>	<p>To attend the programme as fixed by the Extension Division.</p> <p>To attend the programme as fixed by the Extension Division.</p>

Development of silk reeling technology

Progress :

During the period under report, 106 lots of CSR race cocoons produced by selected farmers were verified for bivoltine silk reeling technology at CSTRl.

Five demonstration programmes on bivoltine silk reeling technology were conducted for the 150 reelers of Vijayapura, Ramanagaram, Kolar, Kanakapura and Sidlaghatta.

Two multiend filatures viz., M/s Lakshmi Silk Filature, KGF, and M/s Eshwari Silk Filature, Anghatti, Kolar district, were given transfer of bivoltine silk reeling package for producing quality raw silk using CSR race bivoltine cocoons.

Six training programmes on bivoltine silk reeling technology have been conducted for the Officers of DOS, Karnataka and CSTRl extension centers. 66 Officers have been trained for 3 days/batch in 6 batches to cover raw silk quality testing and grading, theoretical aspects of bivoltine cocoon reeling package.

Detailed practical training on bivoltine silk reeling technology have been imparted to the technical/supervisory staff of DOS, Karnataka. Three programmes were conducted for 53 technical staff of Kolar, Bangalore rural, Mysore, Mandya and Chamarajanagara districts. The duration of each programme was 5 days with one day field visit to adopted reeling filature.

Reelers/new entrepreneurs were trained on practical bivoltine silk reeling technology at the institute. Three programmes were conducted for 54 reelers from Kolar Bangalore rural, Mysore, Mandya and Chamarajanagara districts. The duration of each programme was 4 days with one day field visit to multiend reeling filature.

One propagation of bivoltine silk reeling technology programme has been organised for the reelers from kanakapura. About 30 reelers attended the programme.

Six enlightenment programmes on bivoltine silk reeling technology were organised in the different reeling clusters for the reelers of Ramanagaram, Kolar, Vijayapura, Chintamani and Siddlaghatta. Duration of the programme was for one day and 500 reelers attended the programmes. Reelers have understood CSR race cocoon quality and bivoltine silk reeling package for the production of gradable quality raw silk.

Activities for the remaining period :

Verification of the bivoltine silk reeling technology will be continued for the next two years.

12 demonstration programmes will be continued for the next three years.

Twenty multiend reeling units will be adopted during the remaining period.

One programme on bivoltine silk reeling technology package will be conducted exclusively for extension officers of DOS, Karnataka.

9 batches of training programmes (3 per year) will be conducted for the technical staff of DOS and for the reelers of Karnataka respectively.

6 propagation of bivoltine silk reeling technology programmes and 6 interaction meets will be conducted.

7 enlightenment programmes will be conducted.

5. SILK REELING.

NAME OF THE INSTITUTE : CSTRI, BANGALORE.

Items as per TDIP	97 98 99 00 01	Goal of achievement	Grade	Present Status And Attainment	Activities in the remaining period
a) Verification and Demonstration of Bivoltine Silk Reeling Technology.	-----	To verify the bivoltine silk reeling technology developed under phase I of the project in the institute.	A	CSR/race bivoltine cocoons produced by identified farmers were utilised for verification of reeling technology. So far 106 lots of cocoons have been procured from identified farmers and verified for reeling performance and quality of raw silk. From the studies, it has been observed that the renditta of the lots were found to be in the range of 5.5 to 6.5 and the grade of the raw silk is A to 3A grade.	Verification of the bivoltine silk reeling technology would be continued for the next two years
ii. Demonstration of Silk Reeling Technology.	-----	Bivoltine silk reeling technology developed will be demonstrated in the field in order to disseminate the technology.	A	Demonstration of Bivoltine reeling technology package were carried out for five batches (30 reelers/batch) of reelers from Vijayapura, Ramangaram, Kolar, Kanakapura and Sidlaghatta. Reelers expressed that the programme was quite useful in understanding the CSR race cocoon quality and reeling technology.	Demonstration programmes will be continued for the remaining period of the project as per TDIP.
iv. Transfer of technology to selected multiend filatures.	-----	Progressive multiend reeler's will be adopted for continuous transfer of technology to produce gradable raw silk.	A	2 multiend filatures viz. M/s. Lakshmi filature, KGF, and M/s. Eshwari silk filature, Angathatti, Kolar dist. were selected for transfer of Bivoltine silk reeling package for producing quality raw silk using CSR-race bivoltine cocoons.	Twenty multiend reeling units will be adopted during the remaining period of the project for transfer of technology.

Items as per TDIP	97 98 99 00 01	Goal of achievement	Grade	Present Status And Attainment	Activities in the remaining period
<p>c). Training and guidance of technical staff and reelers.</p> <p>i. Training of Officers/Management personnel.</p>	-----	<p>To train the CSB and DOS officers in Bivoltine silk reeling package for production of gradeable quality raw silk.</p>	A	<p>Six training programmes on bivoltine silk reeling technology have been conducted for the Officers of DOS, Karnataka and CSTRI extension centres. 66 Officers have been trained for 3 days/ batch in 6 batches to cover raw silk quality testing and grading. Theoretical aspects of Bivoltine cocoon reeling & demonstration of Bivoltine reeling package. In the feedback Officers have expressed that the training programmes were well organised and conducted and quite useful in understanding the bivoltine silk reeling technology for the production of gradeable quality silk.</p>	<p>One programme on bivoltine silk reeling technology package will be conducted exclusively for extension officers of DOS, Karnataka.</p>
<p>ii. Training of Technical/Supervisory staff.</p>	-----	<p>Detailed practical training on bivoltine reeling technology will be imparted to the technical/supervisory staff for effective adoption of the technology.</p>	A	<p>Detailed practical training on Bivoltine silk reeling technology have been imparted to the technical/ supervisory staff of DOS, Karnataka. Three programmes were conducted for 53 technical staff of Kolar, Bangalore rural, Mysore, Mandya and Chamrajnagara districts. The duration of each programme was 5 days with one day field visit to adopted reeling filature. The staff expressed that the programmes were quite useful in understanding practical bivoltine silk reeling technology for production of gradeable raw silk.</p>	<p>9 batches of training programmes(3 per year) will be conducted for the technical staff of DOS, Karnataka during the remaining period of the project.</p>

Items as per TDIP	97 98 99 00 01	Goal of achievement	Grade	Present Status And Attainment	Activities in the remaining period
<p>iii. Training and guidance of reeler/s/ new Entrepreneurs.</p>	-----	<p>Detailed practical training on bivoltine reeling technology will be imparted to the existing reelers and new entrepreneurs for effective adoption of the technology in their filatures for producing superior grade raw silk.</p>	A	<p>Reelers / new entrepreneurs were trained on practical bivoltine silk reeling technology at the institute. Three programmes were conducted for 54 reelers from Kolar Bangalore rural, Mysore, Mandya and Chamrajnagara districts. The duration of each programme was 4 days with one day field visit to multiend reeling filature. The reelers expressed that they understood how to produce gradable quality raw silk.</p>	<p>9 batches of training programmes(3 per year) will be conducted for the reelers of Kamataka during the remaining period of the project.</p>
<p>d) Enlightenment programmes / Reeler's interaction meetings.</p> <p>i. Propagation of Bivoltine Silk reeling Technology with special reference to yarn quality.</p>	-----	<p>Bivoltine reeling technology will be propogated in the field to motivate reelers to take up bivoltine silk reeling.</p>	A	<p>One programme has been organised for the reelers from Kanakapura. This programme was conducted along with demonstration programme. About 30 reelers attended the programme. They expressed that they could understand the importance of raw silk quality by seriplane boards.</p>	<p>6 programmes will be conducted during the remaining period of the project.</p>
<p>ii. Reeler's interaction meet in the institute and field.</p>	-----	<p>In order to arrange discussions between farmers, reelers and weavers to understand each others, reeler's interaction meet is organised</p>		<p>In order to arrange discussions between farmers, reelers and weavers to understand each others, reeler's interaction meet will be organised in the institute. One programme is planned for March 99.</p>	<p>2 interaction meets will be organised in the institute and 4 programmes in the field during the remaining period of the project.</p>

Items as per TDIP	97 98 99 00 01	Goal of achievement	Grade	Present Status And Attainment	Activities in the remaining period
iii. Enlightenment programmes in different reeling clusters.		Enlightenment programmes will be organised to introduce bivoltine reeling technology / equipments in different clusters for production of high quality raw silk.	A	Five Enlightenment programmes on Bivoltine silk reeling technology were organised in the different reeling clusters for the reelers of Ramnagaram, Kolar, Vijayapura, Chintamani and Siddalaghatta. Duration of the programme was for one day and 500 reelers attended the programmes. Reelers expressed that they have understood CSR race cocoon quality and bivoltine silk reeling package for the production of gradable quality raw silk.	7 enlightenment programmes will be conducted during the remaining period of the project.

PROGRESS REPORT

TRAINING

PROGRESS DURING 1997-1998 & 1998 - 1999

At CSRTI, Mysore, during 1997-1998 the training programmes were started late i.e. during August-September 1997. A total of 71 DOS officials/ staff were trained during 1997-1998 under different training programmes. At CSTRI, Bangalore, training on silk reeling was given in 3 batches to DOS officials/ staff and reelers. A work shop was also conducted on 23.3.1998 with all the counterparts including DOS counterparts to improve their work plan.

One field day was conducted at CSRTI, Mysore after successful demonstration of CSR hybrids reared at farmer's places. In addition, eight enlightenment programmes were conducted in different places to create awareness among sericulturists in bivoltine sericulture. CSTRI, Bangalore also has conducted three enlightenment programmes to create the awareness among the silk reelers.

During 1998-1999 at CSRTI, Mysore training programmes were started during May 1998 itself and a total of 69 DOS officials/ staff 36 farmers were trained under various training programmes. Under Trainers training programme Assistant Directors of 5 DOS training schools were trained in preparation of course curriculum, training schedule and training calendar for different training courses for DOS officials and farmers. Under farmers training programme more emphasis was given on shoot rearing techniques for late age silkworms and method of mounting in rotary mountages. SSSL and NSSP has conducted 3 training programmes to the officials/staffs of P3, P2 and P1 farms and CSTRI, Bangalore has conducted 3 training programmes for the DOS officials/staffs and reelers.

A workshop was also conducted on 20.3.99 with all the counterparts including DOS counterparts to improve their work plan. During 1998-1999 2 field days and 8 enlightenment programmes were conducted in various places selected for demonstration of CSR hybrid rearing and in other places by CSRTI, Mysore, NSSP/ SSSL has conducted 2 enlightenment programmes and 3 enlightenment programme was conducted by CSTRI, Bangalore.

During the year a survey was also conducted to collect the information from the trained farmers as well as DOS officials to analyse the training impact on the development of bivoltine sericulture. Further improvement will be made in the training programmes based on the analysis of the survey report.

ACTIVITIES FOR THE REMAINING PERIOD :

The training programme will be continued for the remaining period also in the JICA identified areas. Course materials and booklets in the regional language will be prepared and issued to the DOS officials and farmers. Evaluation of the training programmes will be done to further improve the quality of the training.

The bivoltine technologies developed under BSTD for phase for bivoltine sericulture will be demonstrated in selected places after discussion and finalization with development of sericulture of different state. Field days and enlightenment programmes are also to be arranged for proper dissemination of the technologies in the remaining period (1999-2002).

6. TRAINING

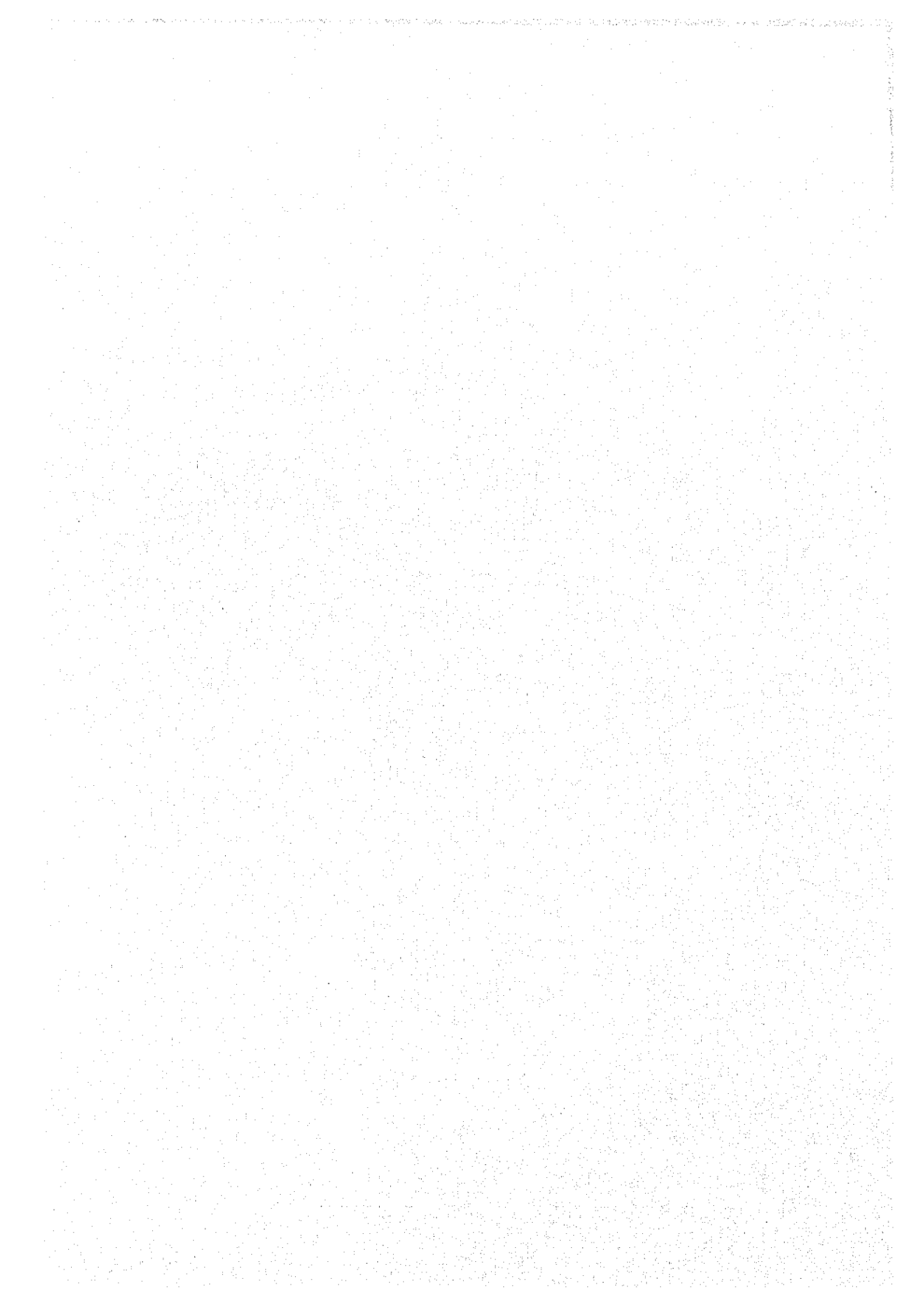
Item of work	97	98	99	00	01	Goal of achievement	Score	Present status and attainment	Activities in the remaining period
<p>a. Arrangement and management of training plan for technical staff (CSB & DOS), reeler & selected farmers in each activity of the field of the phase II project (CSRTI, NSSP, SSTL, CSTRI & DOS)</p> <p>i. Arrangement of training plan</p>						To prepare need based training programmes	A	<p>The areas such as chawki rearing, late age rearing, complete bivoltine rearing, silkworm race maintenance were identified as need based training.</p> <p>1. Training schedules were prepared for the following courses :</p> <p>(a) Short term training on chawki rearing.</p> <p>(b) Short term training on late age rearing (shoot rearing) & mounting</p> <p>(c) Long term training on silkworm rearing.</p> <p>(d) Silkworm race maintenance.</p> <p>(e) Farmers training programme</p> <p>(f) Complete bivoltine rearing.</p> <p>(g) Trainers training programme.</p> <p>2. Curriculum was prepared for each course in consultation with subject specialists and training co-ordinators.</p> <p>Suitable subject specialists in each field such as mulberry cultivation, silkworm rearing technology, silkworm breeding, silkworm pest & diseases were identified for conducting the courses.</p>	<p>Need based training schedules will be prepared based on the survey analysis and for new areas.</p> <p>Based on the training programme scheduled, curriculum will be prepared in consultation with subject specialists.</p> <p>Suitable subject specialists will be identified based on the training programmes</p>

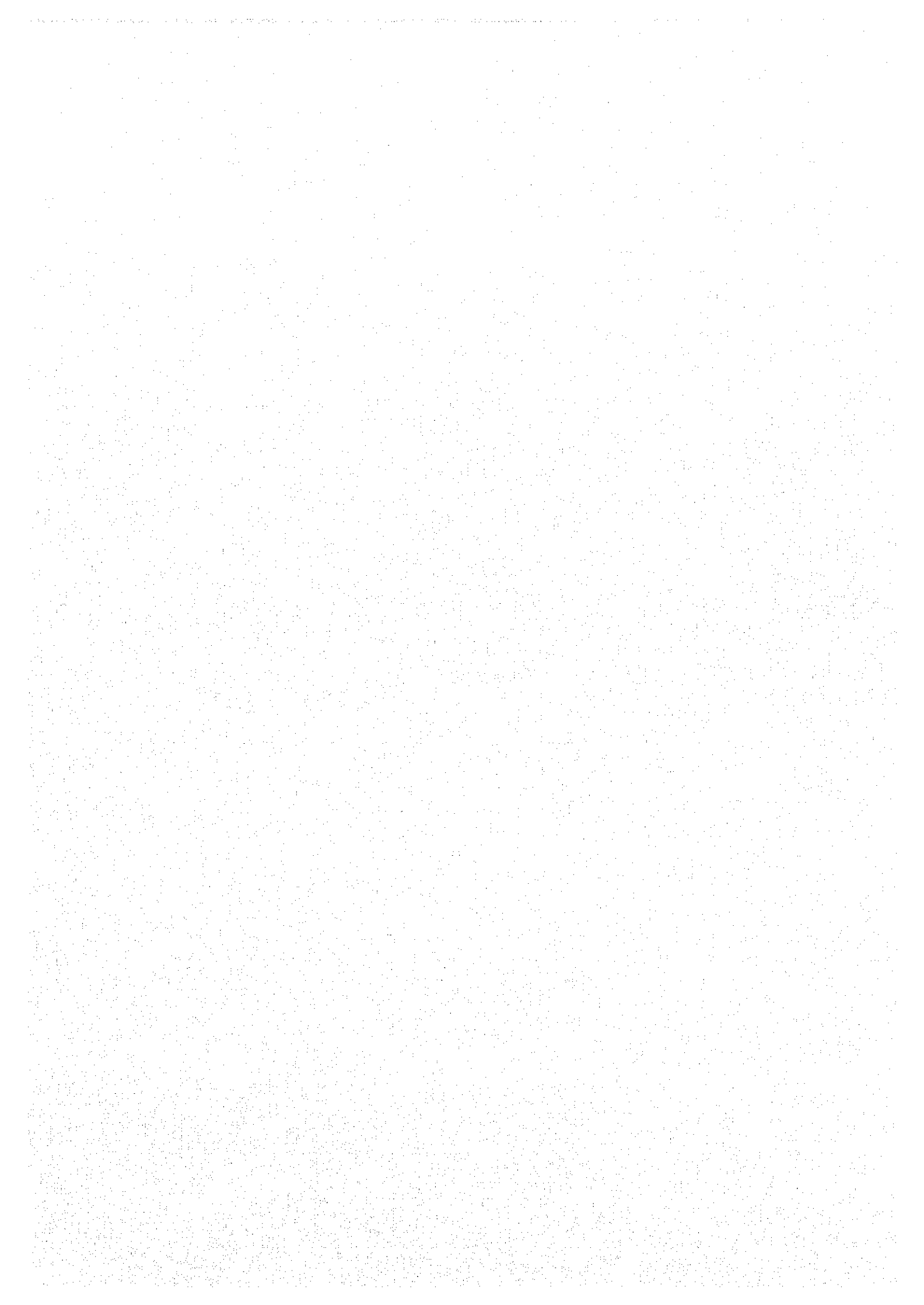
Item of work	97	98	99	00	01	Goal of achievement	Score	Present status and attainment	Activities in the remaining period
ii. Management of training programme & implementation						<p>3. Identification of staff in consultation with DOS</p> <p>To implementation of the following training programmes during 97-98 7 98-99 as per the scheduled dates :</p> <p>a. Long term training on silkworm rearing 17 days 19.08.97-04.09.97</p> <p>b. Short term training on chawki rearing 06 days 03.10.97-09.10.97</p> <p>c. Short term training on late age rearing 06 days 15.09.97-20.09.97</p> <p>d. Silkworm race maintenance 19 days 20.10.97-07.11.97</p> <p>e. Chawki rearing 21 days 28.02.98-20.03.98</p> <p>f. Late age rearing 12 days 12.05.98-23.05.98</p> <p>g. Bivoltine rearing 28 days 14.07.98-10.08.98</p> <p>h. Trainers training programme 06 days 23.11.98-28.11.98</p> <p>i. Silkworm race 20 days 05.11.98-24.11.98</p> <p>Maintenance 40 days 01.02.99-12.03.99</p> <p>j. Farmers training prog. 06 days 01.06.98-06.06.98</p> <p>05.08.98-10.08.98</p> <p>27.11.98-01.12.98</p>	A	<p>In co-ordination with DOS & CSB a total of 71 officials were trained during 1997-1998, 69 officials (DOS & CSB) & 36 farmers were trained during 1998-1999.</p> <p>During the period all the training programmes were successfully implemented. A total of 50 CSB officials, 89 DOS officials and 36 farmers were trained during 1997-1998 & 1998-1999 under different training programmes.</p>	<p>The officials and farmers will be trained during the remaining period of the from the JICA identified places.</p> <p>All the proposed training programmes will be implemented as per the schedule.</p>
iii. Evaluation of training programmes.						To evaluate the training programmes for further improvement in the training programmes	A	Information have been collected by personal visits and questionnaire schedules and the evaluation report is under progress.	The training programmes of the remaining period will also be evaluated.

Item of work	97	98	99	00	01	Goal of achievement	Score	Present status and attainment	Activities in the remaining period
b Organize and co-ordinate trainers training programme									
i. Organize and co-ordinate trainers training programmes per the annual plan.						To train the instructors in the training schools of DOS.	A	Course curriculum were prepared. Training school staff were identified and were trained on the teaching on the teaching methodology & preparation of calendar schedule for different training programmes for demonstrators, inspectors, operators and farmers.	Further all the staff of training schools will be trained, so that in future these training schools can train many officials and farmers effectively.
ii. Training activity of the programme at different places.						To train the staff at different places.	A	Training were conducted at CSTRI, NSSP & SSTL	Further programmes will be conducted at these places.
iii. Evaluation of training programme.						To assess the impact of the training and to further improve wherever necessary.	A	In other places evaluation has not been done.	Further evaluation will be done in different places.

Item of work	97	98	99	00	01	Goal of achievement	Score	Present status and attainment	Activities in the remaining period
d. Guidance for the preparation on the training curriculum for training in each subject and technology of extension activities to Indian counterparts.						Before starting the training programme to give guidance for Indian counterparts in the preparation of the training curriculum.	A	Guidance was imparted to Indian counterparts by organizing a workshop on 23.03.1998. During 98-99 Dr. Mawa, short term silkworm rearing expert guided 9 Indian counterparts of CSRTI, Mysore in chawki rearing, late age rearing & mounting techniques by jobrai method. He also presented a scientific paper during October 1998 on the above subject. Dr. Harā, short term expert on extension placed a report on extension system of sericulture technology in Japan and transfer of technology from lab to land as guidance to all the Indian counterparts.	Time to time guidance will be given to Indian counterparts in each subject and technology of extension activities.
i. Preparation of the training curriculum based on the analysis of the farmers survey.						To identify the need based training programme.	A	A workshop was organized on 20.3.1999 and guidance will be given to all the Indian counterparts for presentation of field data in the form of report to chalk out the future improved working plan. For the year 1997-1998 & 1998-1999 survey was done. Officers and farmers were identified for training after the survey.	Survey will be conducted for new areas, new staff & officers and later suitable curriculum will be prepared.

Item of work	97	98	99	00	01	Goal of achievement	Score	Present status and attainment	Activities in the remaining period																																																
c. Management and co-ordination of enlightenment activities for expansion of PPP bivoltine sericulture technology						Demonstration & field days (interactions) to popularize the technologies	A	<p>During 1997-1998 & 1998-1999 demonstrations were conducted in selected places with the help of scientists of CSRTI, Mysore and DOS staff and three field days were arranged</p> <table border="1"> <thead> <tr> <th>Place</th> <th>Date</th> <th>No. of staff/ farmers Attended</th> </tr> </thead> <tbody> <tr> <td>S.R.Patna</td> <td>10.12.97</td> <td>49</td> </tr> <tr> <td>Sira</td> <td>16.09.98</td> <td>88</td> </tr> <tr> <td>Hosakote</td> <td>22.09.98</td> <td>57</td> </tr> </tbody> </table>	Place	Date	No. of staff/ farmers Attended	S.R.Patna	10.12.97	49	Sira	16.09.98	88	Hosakote	22.09.98	57	<p>Demonstrations and field days will be conducted in the newly selected area.</p>																																				
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ii. Enlightenment activity for farmers						Enlightenment programme to bring awareness about new technologies in sericulture, developed under BSTD I phase	A	<p>Following enlightenment programmes were conducted during 97-98 & 98-99</p> <table border="1"> <tbody> <tr> <td>Halagur</td> <td>11.09.97</td> <td>175</td> </tr> <tr> <td>S.R.Patna</td> <td>26.09.97</td> <td>129</td> </tr> <tr> <td>Sira</td> <td>04.11.97</td> <td>111</td> </tr> <tr> <td>Baragur</td> <td>05.11.97</td> <td>142</td> </tr> <tr> <td>C.R.Patna</td> <td>23.12.97</td> <td>159</td> </tr> <tr> <td>Pune</td> <td>20.01.98</td> <td>87</td> </tr> <tr> <td>Belagaum</td> <td>24.02.98</td> <td>31</td> </tr> <tr> <td>Ramanagaram</td> <td>19.03.98</td> <td>144</td> </tr> <tr> <td>CSRTI, Mysore</td> <td>20.07.98</td> <td>52</td> </tr> <tr> <td>J.N.Kote</td> <td>15.09.98</td> <td>83</td> </tr> <tr> <td>Dehradun</td> <td>15.10.98</td> <td>118</td> </tr> <tr> <td>Hassan</td> <td>28.10.98</td> <td>191</td> </tr> <tr> <td>Kudige</td> <td>12.11.98</td> <td>126</td> </tr> <tr> <td>K.R.Nagar</td> <td>10.12.98</td> <td>159</td> </tr> <tr> <td>Marayur</td> <td>11.01.99</td> <td>103</td> </tr> <tr> <td>Kolar</td> <td>25.02.99</td> <td>137</td> </tr> </tbody> </table>	Halagur	11.09.97	175	S.R.Patna	26.09.97	129	Sira	04.11.97	111	Baragur	05.11.97	142	C.R.Patna	23.12.97	159	Pune	20.01.98	87	Belagaum	24.02.98	31	Ramanagaram	19.03.98	144	CSRTI, Mysore	20.07.98	52	J.N.Kote	15.09.98	83	Dehradun	15.10.98	118	Hassan	28.10.98	191	Kudige	12.11.98	126	K.R.Nagar	10.12.98	159	Marayur	11.01.99	103	Kolar	25.02.99	137	<p>Enlightenment programme will be initiated in the selected area in consultation with DOS of different states.</p>
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