

FINAL REPORT

EXECUTIVE SUMMARY

**EVALUATION OF CENTRALLY SPONSORED
SCHEME DURING XI PLAN**

CATALYTIC DEVELOPMENT PROGRAMME



SPONSORED BY

**CENTRAL SILK BOARD
MINISTRY OF TEXTILES
GOVERNMENT OF INDIA**



SUBMITTED BY

**ECONOMIC SERVICES GROUP
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EVALUATION OF CENTRALLY SPONSORED SCHEME – CATALYTIC DEVELOPMENT PROGRAMME DURING XI PLAN

EXECUTIVE SUMMARY

1.1 Preamble

Sericulture is an agro-based activity involving food-plant cultivation, developing silkworms, cocoons, reeling silk yarn from cocoon and weaving of silk products. Exquisite qualities like natural sheen, inherent affinity for dyes and vibrant colours, high absorbance, light weight, resilience and excellent drape etc., have made silk the undisputed Queen of Textiles. Around 75.6 lakh persons are currently engaged in various sericulture activities in the country. Women constitute over 60 percent of those employed in down-stream activities of sericulture in the country. This is possible because sericulture activities starting from mulberry garden management, leaf harvesting and silkworm rearing is more efficiently taken up by the women folk. Even silk reeling industry including weaving is largely managed by women. Vast tracts of forest based tasar food plantations are available in the country for rearing tasar silkworms and it offers supplementary gainful employment for tribal population. India is the only country in the world which produces all the five varieties of silk- Mulberry, Tasar, Oak Tasar, Eri and Muga.

Considering the importance of Sericulture activities in terms of employment and income generation in the rural areas for women, socially and economically backward communities, value addition and export earning potential, various developmental schemes have been initiated by Central Silk Board (CSB), Ministry of Textiles, Government of India. These initiatives are categorized into Centrally Sponsored Scheme and Central Sector Schemes. The centrally sponsored intervention namely Catalytic Development Programme (CDP) was initiated during the Ninth Plan for the development of the sericulture sector. Keeping in view of encouraging and substantially positive results during IX plan, the CDP has been continued during tenth and eleventh Five Year Plans as flagship programme of CSB with necessary modifications. The Catalytic Development Programme has been undertaken by CSB as Centrally Sponsored Scheme where the implementation is vested with State Departments of Sericulture (DOS) and NGOs. The CDP scheme has specific components focussed to increase productivity and quality besides providing marketing support for achieving the targets set for the Sericulture development in the country.

CDP covers almost all the stakeholders of sericulture sector viz. seed sector, cocoon sector post cocoon sector and support service sector. CDP has created a platform for transfer of technology, implementation of best practices, infrastructure development at farmers level, training to farmers, plugging market linkages between various stakeholders, promoting design and innovation, implementation of social security measures for women and publicity of the sector. During XI plan, CDP comprised of 57 components and was implemented on a project mode and it addressed all the important parameters of Sericulture development.

During XI Five Year Plan (2007-2012), CSB share of CDP was pegged at Rs 821.74 crores from the original outlay of Rs.661.62 crores. Besides, the scheme also included financial contributions from State Governments and Beneficiaries based on specific sharing pattern.

CDP scheme has been implemented with the following specific objectives:

- To focus on complete and holistic development of sericulture industry in the country involving States and beneficiaries for sustainability, and improvement of output in terms of quality, quantity and productivity.
- To provide a unique and effective platform for transfer of technologies evolved by the Research Institutes in the field.
- CDP aims at filling demand-supply gap through technology development and absorption, quality up-gradation, investment generation, productivity improvement and employment generation, especially to women, SC/ ST and below poverty line farmers.
- To bring horizontal and vertical growth in bivoltine silk cocoon and raw silk production in the clusters, improve managerial and technical skills for ensuring management of group activities through training and input support and provide need based infrastructure and technological support to silk industry.

Under CDP, particular sharing pattern has been followed which is component and state specific. According to this sharing pattern, CSB, State Sericulture Departments and Beneficiaries share the expenditure in the ratio of 50:25:25 for general states, while for special status states viz. North eastern states, Jharkhand, Jammu & Kashmir, Himachal Pradesh, Uttarakhand and Chattisgarh, the sharing pattern followed is 80:10:10.

Total Raw Silk production during the first year of XI Plan (2007-08) recorded at 18320 MT. By the last year of XI Plan (2011-12) the raw silk production increased to 23060 MT. Domestic demand for raw silk during 2011-12 has been estimated at about 29,000 MT. Of the total production of 23060 MT of raw silk, 18272 MT is of the mulberry silk variety (79%), 1590 MT (7%) is of Tasar silk variety, 3072 MT (13%) is of Eri silk variety and 126 MT (1%) is of Muga silk variety. It may be noted that 97% of Muga silk production has been reported from Assam and Meghalaya states. Major Tasar silk producing states are Jharkhand, Chattisgarh, Madhya Pradesh and Orissa. These four states together produce 93.5% of the total tasar silk production in the country.

1.2 Scope of Evaluation

Central Silk Board engaged National Productivity Council (NPC), an autonomous organization working under the Ministry of Commerce & Industry, Government of India, to undertake a third party evaluation of the Centrally sponsored scheme - Catalytic Development Programme (CDP) implemented during XI Five Year Plan.

NPC has undertaken the evaluation study of Catalytic Development Programme (CDP) during XI Five Year Plan with a view to ascertain its effectiveness towards sericulture development in the country and fulfillment of its objectives, issues, operational modalities and to suggest recommendations for improvement in the planning and implementation of CDP during XII Five Year Plan (2012-2017) so as to make the CDP scheme more effective and fruitful.

The study has been undertaken with the following Terms of Reference:

1.3 Terms of Reference

- i. To analyze the performance of CDP Scheme in the sericulture practicing states (physical and financial) – as per the achievements made end of the XI Plan.*
- ii. To make analysis on each component of the Scheme to understand the success rate/percentage of acceptability by states and beneficiaries,*
- iii. To suggest ways and means to implement the CDP under Private sector and strategy for implementation.*
- iv. To find out the implements' views on the components under CDP and CDP as a Scheme.*
- v. To ascertain the reasons for not availing the benefits of certain key components of CDP by states,*
- vi. To find out whether States are following the implementation guidelines/operational modalities suggested in the Plan document (Programme Approval & Monitoring Group (PAMG), State level purchase committee, mile stones etc.,)*
- vii. To suggest modifications if any, in the strategy of implementation of the components under CDP.*
- viii. To find out whether relevant stakeholders (including extension workers, District Officers, NGO's/SHGs, etc.,) are involved in implementation of the CDP components/Schemes.*
- ix. To undertake cluster-wise crop survey.*
- x. To study the State-wise impact of markets (cocoons and silk yarn) on the extent of area under mulberry, cocoon and silk yarn production.*

1.4 Approach and Methodology

*The Study has been carried out in **two broad phases**. During the first phase of the study, data on both physical and financial parameters of CDP have been collated at the states from the implementing agencies such as CSB and DOS for all the 57 components during XI five year plan.*

During the second phase of the study detailed field level interviews have been undertaken with all major stakeholder categories such as implementing agencies (DOS/CSB/NGO), beneficiary categories (Graineurs, Cocoon farmers and Reelers/weavers/wet processors), Co-operative societies/SHGs/Mobile Disinfection units, Cocoon Markets/Raw silk exchanges, Extension officers etc., drawn from the fourteen selected Sericulture States with the help of structured questionnaires.

NPC field survey covers 14 major sericulture states and a total of 1155 stakeholders drawn from implementing organizations and various beneficiary categories (14 State Department of Sericulture, 31 Graineurs, 256 Seed Cocoon Farmers, 447 Commercial Cocoon Farmers, 291 raw silk processors such as reelers, weavers and wet processors, 29 cocoon markets, 3 Raw silk exchanges, 1 Mobile Disinfection unit, 2 Co-operative societies and 81 Extension officers).

States taken up for field survey include five traditional States and 9 non-traditional states comprising of three North-Eastern states.

Distribution of traditional and non-traditional sericulture states included in NPC field survey

Region	Sl. No.	States	Sericulture Category Selected for Field Survey
TRADITIONAL STATES	1	Karnataka (Trd.)	Mulberry
	2	Andhra Pradesh (Trd.)	Mulberry
	3	Tamil Nadu (Trd.)	Mulberry
	4	West Bengal (Trd.)	Mulberry
	5	J&K (Only Jammu) (Trd.)	Mulberry
NON-TRADITIONAL STATES	6.	Maharashtra (N-Trd.)	Mulberry
	7.	Himachal Pradesh (N-Trd.)	Mulberry
	8.	Uttarakhand (N-Trd.)	Mulberry
	9.	Uttar Pradesh (N-Trd.)	Mulberry
	10	Assam (N-Trd.)	Eri, Muga
	11	Meghalaya (N-Trd.)	Eri, Muga
	12	Manipur (N-Trd.)	Eri, Mulberry
	13	Jharkhand (N-Trd.)	Tasar
	14.	Chhattisgarh (N-Trd.)	Tasar

The objective of carrying out field survey was to gauge Socio-economic impact of CDP on sericulture farmers, increase in the area of plantation, number of crops taken per annum, increase in productivity and quality due to technology transferred through CDP, availability of infrastructure with the sericulturists, impact of training inputs provided, infrastructure availability in the state for sericulture development, impact of cocoon markets and silk exchanges, level of technological upgradation in the field, SWOT analysis of Sericulture sector, stakeholders views about CDP scheme etc. The interviews have been carried out in order to gauge the views of beneficiaries and implementer's (extension officers) on the working of CDP scheme and also the modifications required in the implementation strategy during XII Plan.

1.5 THE GIST OF OBSERVATIONS/FINDINGS OF CDP EVALUATION DURING XI PLAN

Major findings of the evaluation of physical and financial targets and achievements of the Catalytic Development Programme (CDP) during XI Five Year Plan with respect to increase in area under plantation, quality, productivity and income generation, implementation guidelines followed by states, feedback received from implementing agencies, sericulture farmers and processors, effectiveness of various cluster promotion programmes etc., are summarized below. The study has come out with a number of recommendations for the effective implementation of the scheme during XII Five Year Plan. The Report has also come up with detailed component wise recommendations. The study also showcases certain successful case studies of CDP implementation.

An analysis of the production targets versus achievements of CDP during XI Plan reported satisfactory results. The target for mulberry raw silk production was set at 23,000 MT, out of which 5000 MT of bivoltine. The target for vanya raw silk production was set at 3000 MT. The target for bringing 2.18 Lakh hectares under mulberry cultivation was also planned.

The physical achievement during XI plan is as follows: Area under mulberry cultivation: 83%, Mulberry raw silk production: 79%; Total raw silk production (including Vanya): 89%. Overall mulberry raw silk production has reported an overall growth of 10.58% over terminal year of tenth plan i.e. 2006-07.

During the first two years of XI Five year plan i.e.2007-08 and 2008-09, the mulberry sericulture production had declined in the country as mulberry raw silk production declined from 16525 MT in 2006-07 to 15610 MT in 2008-09, afterwards due to the effective implementation of CDP on a project mode, the production levels increased to 18272 MT. The area under mulberry cultivation reported a decline from 1.92 lakh hectares during 2006-07 to 1.81 lakh hectares in 2011-12. Compared to X plan, the decrease in area is of 11000 hectares. During this period Indian economy witnessed unprecedented economic growth and many traditional farmers leaving sericulture for working in industrial sector. However, due to sustained efforts of CSB along with DOS, many new interior pockets have been brought under sericulture development and new farmers have been motivated to take up sericulture activities.

Bivoltine DFL production by National Silkworm Seed Organisation (NSSO) during 2011-12 reported at 125.05 Lakhs against the target of 190 Lakhs per annum at the end of XI plan. The production of bivoltine raw silk, which is the finest quality of mulberry silk, has not shown much growth in India. The bivoltine raw silk production during 2011-12 was only 1685 MT against the target of 5000 MT by the end of XI plan. One of the major objectives of Catalytic Development Programme is to increase the bivoltine silk production in the country which is very much essential to compete with China. China has the distinct advantage of producing bivoltine raw silk which is a superior quality silk due to its temperate weather conditions.

In North Himalayan states due to extreme weather conditions only two bivoltine crops (spring and autumn) are possible. In Karnataka and Andhra Pradesh, 2-3 crops of bivoltine are taken and the rest of the crops are taken for cross breed production. In Tamilnadu, in some of the clusters 5-6 crops of bivoltine are taken. During XII plan, CSB and DOS need to provide special incentives to proliferate the production of bivoltine cocoons in order to improve international competitiveness of Indian silk industry.

During the field surveys in Andhra Pradesh, NPC study team found that an incentive of Rs. 40/- per Kg was given by State Department of Sericulture under their state plan schemes towards bivoltine cocoon production which is encouraging farmers to take up bivoltine crops. Such incentives may be provided under Catalytic Development Programme as well. For augmenting the production of bivoltine DFLs, the capacity of National Silkworm Seed Organization (NSSO) needs to be enhanced. In order to increase the bivoltine cocoon production in the country, Research and Development efforts need to be focused on climate and region specific thermo tolerant silkworm races.

Vanya sericulture has reported substantial growth in the country as production of Vanya raw silk has achieved 160% with respect to the target. Category wise achievement of vanya silk reveals that Tasar raw silk production: 379%, Eri raw silk production: 129%, Muga raw silk production: 66%. Eri and Tasar silk production has shown much increase during XI Plan. Chattisgarh and Jharkhand have substantially increased Tasar production through their innovative schemes like Resham doot concept, host plant development, assistance to

tasar graineur groups, tasar commercial cocoon growers etc.. Tasar culture has lots of development potential as the vast tracts of host plants are naturally available in these states.

Vanya sericulture needs to be promoted as it arrests the deforestation and also provides gainful employment opportunities to tribal population and also utilization of vast tracts of natural forest resource. There is tremendous potential for enhancing Vanya silk since the silkworm food plants are naturally available in Jharkhand, Chhattisgarh and North-Eastern states. As mostly tribal families are involved in Vanya sericulture, it is also encouraging the tribal development and also inclusive growth. A Joint Forest Management System (JFMS) may be developed for Vanya farmers. The JFM would also promote the sustainable forestry.

Against the target for generating employment opportunities for 77.04 lakh persons, 75.6 lakh persons have been employed in sericulture sector during 2011-12. It may be noted that the employment opportunities have increased from 60 lakh persons during 2006-07 to 75.6 lakh persons during 2011-12. At the field level, it has been reported by extension officers and sericulture farmers that there is shortage of skilled workers. The young workforce prefers to work in industries rather than in sericulture. The employment guarantee schemes like MGNREGA have adversely affected the sericulture sector as it provides the employment benefits easily to the labours. In Southern region, because of the drought conditions, many farmers are moving towards other crops such as cotton, groundnut etc.

The export earnings from sericulture sector was targeted at Rs 4,500 crores by the end of XI Plan. However, the actual export earnings from silk products have reported at Rs 2285 crores by the end of XI plan.

1.5.1. Physical and Financial Targets and Achievements under Catalytic Development Programme – Sector wise and Component wise findings

Sector-wise and component wise target and achievements have been discussed below:

1.5.1.1 Seed Sector

In the seed sector, against the financial target of Rs 60.54 crores, Rs 72.94 crores have been spent during XI plan, out of which Rs 8.83 crores spent for mulberry seed, Rs 41.34 crores for Tasar seed, Rs 19.23 crores for Muga seed and Rs 3.54 crores for Eri seed.

Within the mulberry sub-components, support measures for upgrading existing seed grainages (scheme code: 111) reported financial achievement of 98% while the physical achievement reported at 105%; Assistance for mulberry silkworm seed production units to get ISO/BIS quality seed certification, financial achievement is 88% while physical achievement reported is 64%; Assistance for Seed Testing Facilities in Public/Pvt. Grainage, the financial achievement is 77 % while physical achievement is 81% (scheme code: 113); Support to establish large scale Bivoltine Seed production Grainages in Public/Pvt Sector, financial achievement is 100%, while physical achievement also reported 100% (scheme code: 112).

In the tasar seed sector, Assistance to Private Tasar Graineurs: Financial achievement reported at 174%, while physical achievement is 161% (scheme code: 151); Assistance to strengthening of Tasar seed multiplication infrastructure, financial achievement is 136%,

while physical achievement is 141% (scheme code: 152); Assistance to tasar seed rearers, financial achievement is 115%, while physical achievement is also 115% (scheme code: 154).

In Muga seed sector, Assistance to State Departments for Strengthening of Muga seed multiplication infrastructure, financial achievement is 82%, while physical achievement is 116% (scheme code: 172); Assistance to Muga private graineures, financial achievement is 99%, while physical achievement is also 99%.

In the Eri seed sector, Assistance to State Department for strengthening of existing Eri farm cum grainages including assistance to Seed rearer cum private graineurs, the financial achievement is 108%, whereas the physical achievement is only 58%. The physical achievement in this component also includes support for providing equipment to adopted eri seed rearers in which against the target for covering 2000 ASRs, 1154 ASRs were adopted.

During the first three years of XI Plan area under Mulberry plantation, Cocoon production and raw silk production have gone down in Southern India which has three traditional sericulture states - Karnataka, Andhra Pradesh and Tamil Nadu. However, during the last two years of XI Plan reported considerable increase in raw silk production. Mulberry seed sector financial achievement is only 76%. Moreover, the feedback received from the field survey shows that many private seed producers are closing down their grainages. Majority of the mulberry seed production lies either with the NSSO or the State government grainages. Majority of the Private Graineures or Licensed Seed producers (LSPs) are found in Karnataka, Assam, Madhya Pradesh and West Bengal only. In other states all the seed demand is fulfilled by Government units only. The number of Licensed Seed Producers (mulberry grainages) has been decreasing in both Karnataka and Andhra Pradesh. In Karnataka the numbers of LSPs have declined from 891 in 2001-02 to 212 during 2011-12. This decline is due to lesser demand of seed/DFLs among the farmers and declining sericulture activities in the pre cocoon sector. Also, the production of cocoons also decreased in southern states. Keeping in view of the decreasing number of grainages it would become very difficult to achieve the target set for raw silk production. There is a need to resume operations of closed grainages and more encouragement and support is required under CDP during XII Plan to strengthen the seed sector.

1.5.1.2 Cocoon Sector

Against the planned financial outlay of Rs 564.56 crores, Rs 565.93 crores were spent in cocoon sector. In Mulberry sector, the financial outlay was Rs 430.35 crores, in tasar sector financial outlay was Rs 24.07 crores, in Eri sector, the financial outlay was Rs 97.48 crores and in Muga sector, the financial outlay was Rs 14.02 crores.

Among the components for mulberry sector, support for mulberry plantation the financial achievement reported 163% while the physical achievement was 173% (scheme code: 211), assistance for drip irrigation, bore well and other irrigation systems the financial achievement was 89% while physical achievement reported at 90% (scheme code: 212), support for rearing appliances financial achievement is 100% while physical achievement is also 100% (scheme code: 213), assistance for Farmers Training financial achievement reported only 36% while physical achievement is 37% (scheme code: 222), assistance for

construction of rearing sheds of different models, the financial achievement is 92% while physical achievement is 91% (scheme code: 215,216 & 217), assistance for maintenance and construction of Chawkie Rearing Centres, the financial achievement is 101%, physical achievement is 122% (scheme code: 218), assistance for supply of quality disinfectants materials, the financial achievement is 112% while physical achievement is 101%, assistance for setting up of biological inputs unit, the financial achievement is 51%, while physical achievement is 57% (scheme code: 220), assistance for setting up door to door service agents for disinfection and inputs supply, financial achievement is 68% while physical achievement is 71% (scheme code: 221).

In Tasar cocoon sector, support to rearers for augmentation of tasar host plantation, financial achievement is 96% while physical achievement is 100% (scheme code: 251), assistance for construction of cocoon storage houses, financial achievement is 132% while physical achievement is 130% (scheme code: 253), assistance for raising and maintenance of systematic plantation of Oak tasar, the financial achievement is 133% while physical achievement is 130%.

In Eri cocoon sector, construction of rearing houses for Eri sector, the financial achievement reported at 106% while physical achievement is 107% (scheme code: 263), Augmentation of perennial Eri food plants with supply of start-up tools, the financial achievement is 109% while physical achievement is 108%, Support for castor/tapioca cultivators, the financial achievement is 88% while physical achievement is 85%.

In muga cocoon sector, raising and augmenting of Muga nursery food plants is very popular among Muga farmers and the financial achievement is 107% while physical achievement is at 112 % (scheme code: 271). More funds are needed to be allocated for this segment during XII Plan.

Although the financial achievement in the component "Support for mulberry plantation" is 163%, but the physical target set for bringing 2.18 lakh hectares of area under cultivation at the end of XI Five Year Plan is not met. Only, 1.81 lakh hectares could be brought under mulberry cultivation. Based on NPC field surveys, 88.7% of the sericulture farmers have either marginal or small land holding. Average land holding per cocoon rearer in southern states have been found at 0.85 hectares which is quite good. In other states, land holding per sericulture farmer is very low in the order of 0.25 hectares. In Uttarakhand and Jammu & Kashmir farmers grow mulberry silkworm food plants along the boundaries of their lands. Remaining land they use for growing other crops.

The component "Assistance for drip irrigation facility" has proved to be very useful especially in southern states where groundwater is available. But now a days, the ground water level is getting depleted which is a major cause of concern. In majority of the regions of southern states such as Ananthpur, Tumkur, Dharwad etc., sericulture is practiced under rain fed conditions. During the last few years the rainfall is decreasing which is also causing problems. During field discussions with DOS, Andhra Pradesh, it was reported that the drip irrigation facility is much in demand in the state.

In the Tasar cocoon sector, under the component "Assistance for construction of cocoon storage houses", 132% financial achievement has been reported. As reported by DOS, Jharkhand, 450 number of Tasar cocoon storage houses have been sanctioned during XI

Five Year Plan. But the constructions of the cocoon storage houses have not yet started and is expected to be commenced in October 2012. As per the CSB guidelines, the cocoon storage houses shall be constructed with locally available treated bamboo so that it can fit into the unit cost of Rs 50,000. DOS, Jharkhand reported that the tasar farmers are tribals and economically backward. Due to lack of space, farmers are forced to sell the cocoons to Mahajans, who do not give good prices. Cocoon storage house would help the farmers in getting reasonable prices.

1.5.1.3 Post Cocoon Sector

In the post cocoon sector, against the planned financial outlay of Rs 124.12 crores, only Rs 113.35 crores were spent. In Reeling & Spinning sector, the target outlay was Rs 78.03 crores whereas the financial achievement was Rs. 64.57 crores, in silk weaving components target outlay was Rs 35.63 crores and financial achievement was R.38.89 crores, and for Silk Wet Processing components, the target outlay was Rs 10.46 crores whereas the financial achievement was Rs. 9.90 crores.

Among the components for Silk Reeling & Spinning, support for Hot Air Driers-Electrical/Multi fuel/Ushankoties for Reeling Units for 50 kg capacity, the financial achievement is 99% and for 100 kg it is 90 % while the physical achievement is 106% for the 50 kg capacity and 91% for 100 kg, Assistance for Twisting Units, the financial achievement is 101% and the physical achievement is 102%, Support for Vanya Reeling/Spinning Sector for Reeling-cum-Twisting, the financial achievement is 96% while the physical achievement is 95%, for cocoon Spinning machine, the financial achievement is 124% while the physical achievement is 133.68%, Providing Services of master Reelers/Weavers/Dyers to reeling/weaving/dyeing units-through/for State Governments/NGOs/Coop Soc./SHGs the financial achievement is 90% while the physical achievement was 104%, Support for existing Charkha Reeling Units to dissuade child labour and introduce Motorized Charkhas, the financial achievement is 90% , whereas the physical achievement was 91% , establishment of Automatic /Semi automatic Reeling Units (Imported) both financial and physical achievement is 133%, Support for establishment of Spun/Spinning Mills, the financial achievement is 53% whereas the physical achievement is 50%, Quality linked price Support system for Cocoons and Raw Silk – for State Govts./Co-operatives/NGOs/SHGs the financial achievement is 101% and the physical achievement is only 88%, the Support for setting up of Certified Dupion Silk Reeling Units (10 KG/20 KG-Prorata basis) the financial achievement was 78% while the physical achievement was 94%,

Support for establishment of Certified Multi-end Reeling Machines (10 basins) both physical and financial achievement is 85% and for 20 basins the financial achievement is 69% while the physical achievement is 82%, however only 18 number of 20 basins machines were implemented. 10 basins machine has much more acceptability than 20 basins.

Establishment of Cocoon banks, the financial achievement is 62% and the physical achievement was 79%, Support for establishment of improved Cottage Basin Reeling Units, the financial achievement is 75% and the physical achievement is 72%, for Incentive for production of Bivoltine Silk, the financial achievement is 58% while the physical achievement is only 23%.

In Reeling & Spinning sector, Support for Handloom Sector for Loom Upgradation, under Computer Aided Textile Designing (CATD) the financial achievement is 152% and the physical achievement is 155%, Support for Certified handlooms is 104% and the physical achievement is 97%, Loom Upgradation through jacquards the financial achievement is 122% and the physical achievement is 119%, Support for establishing shuttle-less looms (each unit with 8 looms and 1 sectional warping machine) the financial achievement is 90% and the physical achievement is 89%.

Among the Silk Wet Processing Components, Support for setting up of Common facility Centre for yarn dyeing/fabric processing; for fabric Processing facilities, the financial achievement is 90% and the physical achievement is 92%, for yarn Dyeing : 25 Kg. capacity the financial achievement is 71% and the physical achievement is 69%, for Yarn Dyeing: 50 Kg capacity the financial achievement is 93% and the physical achievement is 92%, for Arm Dyeing : 50 Kg capacity the financial achievement is 133% and the physical achievement is 129%.

The component on providing “Assistance for 10 basin multi end reeling unit” has been very successful. CDP scheme has emerged as a very good platform for providing the multi end reeling unit to the reelers. 8 numbers of Automatic Reeling Machines (ARMs) were also sanctioned during XI Five Year Plan. Automatic reeling units have been much useful in increasing quality raw silk production in the country. ARM has encouraged farmers for producing good quality cocoons and in turn they also could fetch good prices for their produce. During field interactions with an ARM, established in Jangaon, Andhra Pradesh, which is producing 16 MT of mulberry silk annually, it was reported that the unit is providing employment to 50 persons. CDP assistance of Rs 1 crore has been provided in which CSB contributed Rs 50 Lakhs. The schemes under CDP for post cocoon sector have improved the quality of raw silk.

The component on providing incentive to the reelers has tried to motivate and compensate the decreasing profits of the Bivoltine raw silk reelers. Currently the reeling industry is facing problems of low profit margins. A multi end reeler in Southern States on an average has the cost of production of Rs 2275 per kg for Bivoltine raw silk production. For ARM it is estimated at Rs 2242 per kg. Moreover, there is an issue of getting uninterrupted supply of high quality bivoltine cocoons for the ARMs. The average rate of selling bivoltine raw silk is on an average around Rs 2300 per kg. As per this component Rs 50 as an incentive (CSB Share) is given on 1 Kg of BV raw silk production. In Andhra Pradesh a reeler is given an incentive of Rs 80 per Kg of which Rs 50 per kg is borne by CSB and rest (Rs 30 per Kg) is borne by state department. Department of Sericulture, Andhra Pradesh has been giving incentive of Rs 40 per Kg for reeling Cross Breed Silk too under their State Plans just to promote the interest of the reelers. The incentives need to be up-scaled for attracting more entrepreneurs into raw silk production.

The component on “Support for Hot Air Driers-Electrical/Multi- fuel/ Ushankoties for Reeling Units” is being given with “Multi end reeling units”. The hot air drier facilitates the uniform cooking of cocoon. The hot air drying associated with good cooking can improve the renditta by 0.3 to 0.7. That means 300-700 gm of lesser amount of cocoon shall be required to produce 1 Kg of raw silk.

It was also reported that due to R&D efforts of Scientists of CSB, the yarn dyeing has been made much easy because of the introduction of hydraulic yarn lifting mechanism. Because of this uniform yarn dyeing takes place and human drudgery got reduced and 30% of the labour could be reduced.

During XI plan emphasis was put on silk weaving components as the financial achievement is 109%. 42 shuttle less looms have been sanctioned during XI five year plan. Many of the shuttle less looms are either in the implementation stage or have just started operation and the production trials are going on. In the component “Support for certified handlooms” financial achievement has been 104%, while the physical achievement is 97%. But weaving industry has been facing serious problems due to costlier raw silk yarn. However the components like “Certified handloom” and “Loom upgradation” is taking CSB’s R&D efforts towards introduction of pneumatic lifting mechanism onto field.

CSB had planned to establish 19 cocoon banks under CDP with a view to provide necessary marketing support to cocoon farmers to minimize exploitation by the Mahajans/ Middlemen during XI Plan, however, by the end of the XI Plan only 15 cocoon banks have been sanctioned.

Fabric Plus, Assam, which was opened with the assistance under CDP scheme, is engaged in manufacturing customized designer fabrics for Fashion and Home Fashion, including made-ups like Stoles, Shawls, Sarees, Ties, Curtain Panels Cushions, Corporate Gifts etc. Products are customized to match up-market demands, with pure natural silks and silk-mixed with natural fibres like linen, wool, cotton etc. The company is promoting the Golden Muga, Eri and Pat silk from the North-East to the International Arena.

1.5.1.4 Corporate Participation in Sericulture

No expenditure has been incurred on the component corporate participation in sericulture. Against a provision of Rs.6.13 crores, spending has been nil during the XI plan. During field visits to various states, the NPC study team was informed that corporate participation in sericulture is not forthcoming because NGOs / corporate sector are not interested due to low profitability of the sericulture sector.

1.5.1.5 Support Services

This sector is basically meant for marketing and promotion of silk products through exhibitions and innovative product design, awareness through campaigns, pamphlets and audio visual aids, training of CSB official and entrepreneurs, Beneficiary empowerment programme and consists of other women development component for social upliftment of the women. In the support services sector against the target outlay of Rs 66.39 crores, Rs 69.52 crores were spent during XI five year plan.

A large quantum of money of Rs 32 crores were spent on Beneficiary empowerment Programme (BEP). During XI plan much emphasis was given on training of sericulture farmers through various Regional Sericulture Training Institutes owned by State Government and through CSB Regional offices. The initiatives for training of sericulturists have also been taken up under the other Central Sector Schemes of CSB like R&D/Training/IT initiatives and Seed Organisation & HRD schemes under which the R&D

institutes and National Silkworm Seed organisation of CSB provide the training. These training components in both CDP and other Central sector schemes may be merged so that a much focussed attention may be given. The training should focus on new technology/package of practices oriented toward better productivity and quality.

The expenditure on “Women Development Components” is Rs 25.58 crores. The component includes Health insurance for women workers and creating toilets, restrooms and crèches in the cocoon market. ICICI Lombard has been given the task of implementation of the Health insurance scheme. The scheme covers the women worker’s family of four i.e. self, spouse and two children. The scheme provides cover to people between the age group of 1 day to 80 years. The scheme has covered 3,59,259 beneficiaries. Though the Health insurance is provided, during the field survey it was reported that 98% of the beneficiaries could not receive any insurance benefits so far. Department of Sericulture, Maharashtra reported that beneficiary’s insurance claims have not been settled by the insurance company.

1.5.1.6. Impact of Cocoon markets and Raw silk exchanges

Almost all sericulture practicing states have established Government owned cocoon markets except Meghalaya. These markets have created a solid platform for transaction of cocoons. During the field survey it was observed that both cocoon growers as well as the reelers are quite aware of Government Cocoon Markets and are transacting through these markets. Over the years transactions through these markets have increased. Cocoon prices have increased substantially in the Southern states because of the presence of cocoon markets, but at Uttarakhand, the increase in cocoon price was reported at 36% only. Cocoon price fluctuations create problems for the farmers. In order to overcome the problem, a system on minimum support price on the basis of its quality need to be put in place, so that the farmers could get better prices for their produce on the basis of quality. Similarly, Seed cocoon rates have also not increased much as they increased by 21% only.

It has been reported by many farmers from Andhra Pradesh that they sell their cocoons in the Government Cocoon Market, Ramanagaram in Karnataka, though Andhra Pradesh is having 17 cocoon markets of its own. This is because Karnataka has a strong reeling community and more reelers participate in the auction process. As the demand for the cocoon is more, farmers get good prices for their cocoon. Same is the case with the raw silk exchange in Andhra Pradesh where not much transaction takes place as the raw silk production is marginal in Andhra Pradesh and weavers, twistors in Andhra Pradesh visit silk exchanges in Karnataka for meeting their raw material requirements.

In order to sustain sericulture, new areas need to be identified from rural areas for establishing small cocoon markets. These small cocoon markets shall be linked to the main cocoon market which is centrally located at the regional level. It is imperative that CSB/DOS should fix floor price based on the previous day average transaction price at the regional cocoon centres and procure the cocoons from the farmers and preserve it and transact it at the regional/major cocoon centres. Government agencies may collect the cocoons from small farmers and transport it in bulk to nearby cocoon markets. Since the area under mulberry cultivation at the major sericulture belts have either declined or saturated due to urbanization, farmers from remote areas need to be encouraged to take up sericulture for increasing the domestic production of raw silk.

Similar kind of strong marketing network is not available for Vanya Sector. In Meghalaya Muga reelers reported that the uncontrolled prices of Muga cocoons are adversely affecting their profitability.

Silk exchanges have been created as a marketing platform for reelers and weavers to transact. Silk exchanges are located in major weaving clusters like Kancheepuram, Dharmavaram etc. But Banaras which is the biggest weaving cluster in the country has no silk exchange. Overall these kind of marketing platforms are very essential for competitive pricing especially in an unorganized sector like sericulture.

In order to eliminate the role of middlemen in the raw silk trading, various Co-operative societies and federations like TANSILK of Tamil Nadu, SERIFED of Andhra Pradesh, Karnataka Silk Marketing Board limited (KSMBL) etc., have been set up. These societies/federations procure silk yarn from reelers and sell it to the weavers at a controlled price. The Government of Tamilnadu has directed that all the silk handloom weavers co-operative societies in Tamilnadu should purchase their silk requirement only from TANSILK. TANSILK is also expected to buy all the silk coming to the Anna Silk Exchange that is not bought by the regular buyers. Thus it provides support to the reeling industry of the State. Similarly Government of Andhra Pradesh is also providing incentives to the weavers who procure raw silk from SERIFED. The incentive is Rs 150 per Kg subject to the maximum of Rs 600/- per month.

1.5.1.7. Impact of Cluster Promotion Programmes (CPP)

The CPP programme was commenced in the year 2008-09 after obtaining the concurrence from the participating States. CSB-DOS have jointly organized 45 model sericulture clusters in pre-cocoon sector during 2008-09 and 2009-10, in 16 States viz., Karnataka (7), Tamilnadu (6), Andhra Pradesh (6), Jammu & Kashmir(4), West Bengal (3), Maharashtra (3), Orissa (2), Uttarakhand (2), Uttar Pradesh (1), Himachal Pradesh (1+1), Chhattisgarh (1), Assam / BTC (4), Meghalaya (1), Mizoram (1), Nagaland (1), and Manipur (2), covering Mulberry (31), Tasar (3), Oak Tasar (4), Muga (4) and Eri (3) sectors. Besides these clusters, CSB along with the States have organized 5 Post-Cocoon clusters, one each in Tamilnadu, West Bengal, Andhra Pradesh, Maharashtra and Assam. The proposal to set up one post cocoon cluster in Karnataka is under consideration.

The silkworm rearing has been conducted in all the 31 mulberry clusters covering 9 States, 4 muga clusters in 3 States, 3 Eri clusters of 3 States, 3 tropical clusters of 2 States and 4 oak tasar clusters in 3 States. In mulberry sector, 36.79 lakhs DFLS of bivoltine, multi-bivoltine and multivoltine hybrids have been reared by 6137 farmers. The crop performance in Southern States has been satisfactory with an average yield of 65 kg /100 DFLS. Seven clusters were developed in Karnataka which yielded 65.2 Kg cocoon/100 DFLs. In Tamilnadu, six clusters were developed during XI plan. The farmers of these clusters got an average cocoon yield/100 DFLs is of 73.65 Kg. In Andhra Pradesh six clusters were developed in which 60Kg of cocoon per 100 DFLs was achieved. In J&K the average cocoon yield /100 DFL is around 43 kg and the cocoon yield/100 DFLS is around 40 kg/100 DFLs in West Bengal, 56 kg/100 DFLs in Assam and 33 kg/100 DFLs in Mizoram.

In Vanya Sector, 41,480 muga DFLs have been reared by 530 farmers and there is significant improvement with around 48 muga cocoons/ DFL as compared to the benchmark

production of 30 cocoons / DFL. In Eri sector, 58054 DFLs were reared by 483 farmers and average yield is around 6.6 kg cut cocoons / 100 DFLs. The tropical tasar clusters have reared 41,480 DFLs involving 550 farmers and the average yield is around 42 cocoons / DFLs. In oak tasar, Himachal Pradesh has conducted commercial rearing with 3000 DFLs and the average yield is around 15 cocoons / DFLs. The cocoon yield reported in vanya sector is higher than the average benchmark production.

1.5.1.8 Operational Modalities

Southern states such as Karnataka, Andhra Pradesh and Tamilnadu have contributed their share as per the scheme guidelines. Jammu & Kashmir being a special status state, state government contribution is 10.57%. Among the other states, fund sharing data was provided by only six states of which two states are general category states. In the case of Chattisgarh state almost the entire amount was contributed by Central as well a State Government as the beneficiary contribution was just 0.96%.

All the States have been following the tendering procedure for the procurement of equipments and machineries under Catalytic Development Programme (CDP), however, Department of Sericulture of Assam, Manipur, Andhra Pradesh and Jharkhand states reported that the procurement of equipments and materials through tendering process is quite tedious and is taking a lot of time leading to delays in the implementation of CDP scheme.

Moreover, due to the cost escalations, State Departments are not able to procure equipments/machineries at the Government of India approved unit cost rates. Actual cost of machines, construction material, equipments have gone up substantially in the recent years.

In order to make the Catalytic Development Programme (CDP) much more effective and successful, some flexibility of implementation needs to be built within the scheme. Since the crop pattern, agro-climatic conditions, sectoral priority, input requirements are different for different zones of the country, zone based interventions would be introduced for effective implementation of CDP. CSB should consult each State Department of Sericulture and prepare the sericulture development plan and implementation guidelines for each financial year on a project mode depending upon the local conditions and the economic status of sericulturists in the state.

Many State Departments of Sericulture reported that delays in the release of CSB share causes delays in implementation of CDP scheme. Money from CSB is received during the last quarter of the financial year. This leads to delay in implementation of various components of the scheme on project mode.

Many non-traditional state Department of Sericulture reported that Beneficiary's contribution of 25% is very high. In southern states the beneficiary's contribution of 50% towards construction of rearing sheds is discouraging many farmers from adopting sericulture. Department of Maharashtra reported that the beneficiary share may be reduced to 10 to 15%.

Non-conformity with Government of India approved unit cost with actual cost is one of the major bottlenecks in the implementation of CDP. Department of Sericulture Assam reported that there is disparity between unit cost with actual cost of post cocoon machineries. Due to rising cost of building materials the cost of construction of rearing sheds have also gone up while Government approved unit cost has not seen any improvement.

Department of sericulture, Assam and Andhra Pradesh, suggested that project monitoring and administrative cost also need to be incorporated for the effective implementation of the CDP scheme. At least 2.5% of total project cost may be earmarked for the project administration and monitoring expenses.

In many sericulture practicing states the post cocoon machineries are not available locally hence the transportation, packaging and installation costs are quite high for the machineries procured from outside which the beneficiaries find difficult to meet thus adversely affecting CDP implementation. Moreover, mechanics for repairing the machines also need to be brought from outside the state which involves extra expenditure.

1.5.1.9 Implementers' Views about CDP Scheme

Officials of State Department of Sericulture reported that CDP scheme have been beneficial and successful and should be continued during XII five year plan as it is one of the important schemes that is providing livelihood options and gainful employment opportunities to a large segment of socially and economically backward population including women.

1.5.1.10 Farmers' views about CDP scheme

All the beneficiary farmers whom the NPC study team interviewed were of the view that CDP schemes have been quite beneficial for them. Their production and productivity levels have improved substantially after the implementation of CDP scheme. NPC study team found that many sericulture farmers are aware of various components of the Catalytic Development Programme. Farmers reported that the beneficiary's contribution of 25% (10% for Special status states) is quite high as many of them belong to economically and socially backward categories. Moreover, they also requested the upward revision of Government approved unit cost for various sub components of CDP.

1.5.1.11. Technology Transfer

Research stations have developed many technologies for the Seed, Cocoon and Post Cocoon activities. Though mechanical equipments like power tiller, motorized cum hand operated deflosser, silkworms separator etc., are available in cocoon sector, still majority of the farmers carry out operations manually. Even the sericulture farmers of the southern sericulture traditional states also did not fully adopt the technology. Technology transfer in non-traditional sericulture states has also been very low.

The technology transfer in the post cocoon sector has also not been impressive. However, in southern traditional sericulture states post cocoon sector is undergoing development phase. Many reelers are accepting 10 basin multi-end reeling machines under CDP, which has improved their productivity level by 20%. CSR & TI unit at Dharmavaram, Andhra Pradesh,

has been implementing CDP component on shuttle-less looms. Tamilnadu and Andhra Pradesh have got automatic reeling units under CDP scheme. In these states dyeing units are established in major clusters under CDP scheme. In non-traditional states the reeling sector is not fully developed. Cottage basin reeling units are very limited. Majority of the farmers are still using charkhas. In Meghalaya people are still using traditional Takli for Eri cocoon spinning instead of automatic Eri spinning machines which were provided under CDP.

Major reason behind poor adaptation of new technologies depend to a large extent to the mindset of the farmers as they think they would be more comfortable with traditional ways of work. Pre cocoon sector involves rearing which is understood as a traditional practice and they feel comfortable with this. They are resistant to adopt new technologies. Illiteracy among the rearers may also be seen as one of the major cause of poor adaptation.

1.5.1.12 Manpower requirements for CDP Implementation

Majority of state Department of Sericulture offices face shortage of Extension officers, Technical officers and Assistants who can go to the field for regular monitoring of CDP implementation. Recruitment for Sericulture officers, Extension officers etc., have not been conducted for a long period at many sericulture states. Sericulture activities are spread over a large geographical area in a scattered manner whereas the availability of manpower resources is limited. Moreover, the age of the employees is going up and many employees shall retire within the next 6-7 years and no recruitment plan is also put in place. Same is the case with Central Silk Board where the average age of the employees have been reported more than 50 years.

1.5.1.13 Involvement of NGOs/SHGs in CDP implementation

State Department of Sericulture from Uttarakhand, Manipur, Jharkhand, Maharashtra and Karnataka has reported the involvement of NGOs/SHGs in CDP implementation. Department of Sericulture, Uttarakhand has involved two NGOs namely A.T. India Ukhimath district Rudraprayag and Grameen Avam Krishi Vikas Sansthan (GKVS), Haldwani, Nainital. In Manipur two NGOs are involved for CDP implementation in each sericulture districts. GKVS reported that even after making so many follow ups to CSB and DOS, they have not received the sanctioned funds for the financial years 2010-11 and 2011-12 till date. In Jharkhand and Orissa an NGO named “PRADAN” has been actively involved for Tasar development in a very effective manner.

2.0 SECTOR, CATEGORY & REGION WISE RECOMMENDATIONS

2.1 Seed Sector

2.1.1 Mulberry

2.1.1.1 Southern India

- Utilization of grainages/ LSPs capacity in the state of Karnataka, Tamilnadu and Andhra Pradesh may be reviewed and these grainages may be suitably upgraded under CDP.
- Demand for DFLs needs to be estimated well in advance for better linkages and supply chain across various sericulture clusters.
- Shortage of trained manpower and also the dearth of suitable training/refresher courses are negatively affecting the grainage operations. Regular refresher training along with suitable skill upgradation is essential to produce quality seeds.
- Under the component “Support to establish large scale Bivoltine Seed production Grainages in Public / Pvt. Sector” bivoltine seed production of NSSO Bangalore grainage or Zonal grainages may be enhanced. The scheme may be extended to the Cross breed seed production units depending upon the feasibility. Few good existing grainages may be identified in southern states on the basis of infrastructure availability and ensure optimal use of facilities. These grainages may be supported under CDP scheme.
- There is a requirement of a comprehensive Quality Certification System across seed production units under State & Private Sector. It is recommended that strict regulatory role needs to be played by CSB.
- Seed testing should be made mandatory for all seed grainages both LSPs as well as State owned. The LSPs should be encouraged to avail these testing facilities. In order to support them to establish testing facility in the grainage, support may be provided for modernizing/developing seed testing labs, procuring equipments.
- State owned basic seed farms lack infrastructure and technical support. Most of them lack requisite facilities for basic seed multiplication. The Seed Act prescribes for adhering to certain quality norms in seed farms for ensuring disease freeness in the next multiplication level. These seed farms need to be strengthened.
- Support to upgrade State and private commercial seed production units.
- Under the Seed Act, there are strict norms for the production of commercial seed in all the seed production centres, including private units. However, it was observed that most of the grainages in State and private sectors are not logistically equipped to take this onerous task nor they have the resources to equip with additional facilities. Under these circumstances, it is proposed to support the State and private grainages to up-grade their facilities to produce seed in conformity with the quality norms prescribed under the Seed Act.
- All seed producing agencies need to be motivated to go for ISO certification as a part of quality seed production.

2.1.1.2 North Himalayan Region

- *The existing bivoltine seed grainages may be strengthened and their capacity may be augmented under CDP scheme. There is a need to renovate the cold storage plant at SSPC Dehradun. These grainages may be equipped with adequate testing facilities along with ISO certification.*
- *Infrastructure upgradation is required at Basic seed farms.*
- *The state owned grainage is not operational in Himachal Pradesh. The operations may be resumed in the grainage.*
- *The non availability of requisite manpower along with suitable training/refresher courses adversely affects the grainage operations. Regular refresher trainings along with suitable skill up gradations are essential for scientific management of grainages.*

2.1.1.3 Northern & Central India

- *In Maharashtra, SSPC Gandhilaj, was upgraded under CDP scheme in 2008-09 which has started the production of Kolar Gold and Bivoltine hybrid DFLs. The centre has now been successfully producing 8 Lakh Kolar Gold and 2 Lakhs Bivoltine DFLs. For the purpose, centre has selected 20 progressive seed rearers. Demand of DFLs in the state is around 26 Lakhs has shown an increasing trend. The farmers of Maharashtra are buying DFLs from NSSO Karnataka. Another SSPC with higher capacity may be established in Pune district, which is the biggest sericulture cluster in Maharashtra.*
- *Infrastructure upgradation is required at Basic seed farms.*
- *For addressing Quality Certification System in practice in the seed production units under State & Private Sector, it is recommended that Strict regulatory role needs to be played by CSB. Also the seed testing should be made mandatory for all seed grainages. All seed producing agencies need to be motivated to go for ISO certification as a part of quality seed production.*
- *Support to get ISO / BIS Quality Seed Certification for Silkworm seed units (P1 and P2 Grainages) are initially meant for state sericulture department of southern states like Tamilnadu and Karnataka. These facilities need to be extended to other needy states to derive the benefit of the CDP component.*

2.1.1.4 Eastern Region

- *West Bengal has a good infrastructure for Seed production. The state has more than 200 grainages for seed production. There is a lack of technical know-how among graineurs resulting in poor detection of diseases.*
- *Infrastructure upgradation is required at Basic seed farms.*
- *The Private Graineurs in the state are to be trained and supported to produce quality seed. They also need to be encouraged by way of providing equipments.*
- *It is recommended that the graineurs with good infrastructure may be identified and promoted.*

2.1.2 Vanya

2.1.2.1 Tasar Seed

2.1.2.1.1. Jharkhand, Chattisgarh, Orissa

- *There is a need to involve more private participants in this activity for meeting the higher seed requirement during XII Plan. Potential entrepreneurs may be trained in seed production and support may be provided for the construction of Grainage building, insurance & maintenance of building/ equipment, purchase of grainage equipments, consumables, seed cocoons etc.*
- *In Jharkhand, Chattisgarh and Orissa, cellular seed testing facilities and practices need to be further encouraged among Private Tasar Graineurs, if need be, additional equipments may also be provided.*
- *More allocation for components Assistance to strengthening of tasar seed multiplication infrastructure & Assistance to Tasar seed rearers may be sought as these components have high acceptability in Jharkhand, Chattisgarh and Orissa. The units which have already received assistance require continuous support and need to be optimally utilized.*
- *Disease free seed cocoons are the prime source for quality tasar production. To ensure disease freeness of the seed crops, Mobile testing units (4/3 wheelers) with necessary material and manpower may be engaged. These mobile testing units may be well equipped with laboratory equipments, chemicals and consumables.*

2.1.2.1.2. North Himalayan Region (Oak Tasar)

- *The component Assistance for strengthening of seed multiplication infrastructure for Oak Tasar may be continued. Assistance may be provided for creating basic facilities like infrastructure, development for farm, equipments etc.*

2.1.2.2. Eri Seed (Assam, Meghalaya and Manipur)

- *There is a need to strengthen existing State Department owned Eri farm cum Grainages and to establish new grainages in the states of Assam and Meghalaya. It is recommended that more financial allocation may be sought for Eri sector under CDP.*
- *Private Graineurs may also be considered for providing support under Eri sector on the lines of Muga and Tasar sector.*
- *Eri private graineurs may be identified and trained on processing and production of disease free layings. The graineurs may be assisted with necessary technical support, grainage building, improved moth testing by centrifugal (Fujiwara) method and consumables.*
- *In Eri sector, majority of the seed is being produced by farmers themselves in an unhygienic manner resulting very low productivity. The involvement of seed rearers in the seed production chain need to be introduced and strengthened for the establishment of systematic Eri seed production Scheme in the country. Therefore, Eri seed rearers may be assisted towards plantation maintenance and equipments for rearing.*

- To develop systematic Eri Seed production and multiplication system in the country, it is necessary to involve State units in the basic seed multiplication process. During X and XI Plan period, 93 Eri farm cum grainages have been supported at State level. Some of these Farm cum grainages need to be converted into full fledged basic seed production units. These units will receive the nucleus seed from CSB and undertake two levels of seed production process to produce P_1 DFLs required for the commercial seed production units.
- There is a need to develop organized Eri seed supply system.
- As majority of Eri seed is produced in private sector, it is necessary to undertake surveillance of Eri seed production areas to ensure disease freeness of seed cocoons.

2.1.2.3. Muga Seed (Assam and Meghalaya)

- In Muga sector, inadequate supply of quality silkworm seed is one of the major constraints. The existing Muga private graineurs are not producing the DFLs at the expected level due to poor economic conditions prevailing in NE region. If continuous support is not provided, these private seed production units will not be able to produce DFLs on sustainable basis, which may affect the muga seed production and supply process. It is therefore proposed to support these existing Muga Private Graineurs for upgradation of seed production capacity.
- There is a need to revise the assistance provided to Muga Private Graineurs under CDP scheme. Cost of Muga seed cocoons is very high. It has been observed that Graineurs in Meghalaya buy Muga seed cocoons at uncontrolled high prices of Rs. 3-5 per Seed Cocoon. Under CDP a revolving capital of Rs 20,000 for buying seed cocoons is provided to Muga Graineurs but it has been reported that the same is not enough. Therefore, it is recommended that the assistance to Graineurs for buying seed cocoons may be increased to Rs 30,000/-.
- Department of Sericulture, Assam and Meghalaya have reported increase in Muga silkworm food plants acreage due to CDP interventions. However corresponding requirement of Muga seeds could not be supplemented due to shortfall in seed production to utilize entire effective plantation. The capacity of existing Government owned Muga seed production centre may be assessed and strengthened suitably for optimal production in Assam and Meghalaya. If there exists any further gaps the scheme may be utilized for establishing new grainages.
- More Muga seed zones may be established in cooler areas due to change in climatic conditions.
- Most of the Muga seed rearers produce seed cocoons in unhygienic conditions with poorly maintained plantation, without separate shed for cocooning and spinning and other equipments for quality seed cocoon preparation. Hence, it is proposed to assist Muga adopted seed rearers for undertaking cultural operations, plant protection inputs, and construction of mounting hall cum watch and ward shed, nylon net and other equipments so as to produce quality seed cocoons.

2.2 Cocoon Sector

2.2.1 Mulberry

2.2.1.1 Southern India

a) Support for Plantation Development

- Department of Sericulture may approach the State Governments for inclusion of the mulberry food plant nursery raising activities under MGNREGA projects for raising mulberry saplings.
- Currently unit cost for the component “Support for Mulberry Plantation” is Rs 5500/- per acre towards preparation / Cost of Cuttings, Inputs (FYM, chemical fertilizer, irrigation and pesticides) for raising saplings / direct plantation / Transportation cost. Since this amount is not sufficient, the cost may be revised upwardly.
- Most of the farmers prefer saplings for plantation instead of propagation through cuttings. The saplings also could be used for replacement of old mulberry plantations, gap filling etc. To facilitate large scale production of saplings on commercial scale as an economic enterprise, it is proposed to introduce establishment of Kissan Nurseries. Department of Sericulture, Karnataka, is already supporting it in their annual state plan schemes.
- “Vermicompost”, promotes faster growth of plants, increases crop yield, increases water-holding capacity of soil, easy to produce and low cost, reduces salinity, acidity, induces resistance to pest and disease attack, enhances soil productivity, increases crop yield with less irrigation, lowers risk of crop loss due to pest attack resulting in better crop. This component was approved by Govt. of India as additional inputs to CDP during the X Plan, but was not continued in XI Plan. There has been good progress under this component in X Plan and many State DOS have requested for its re-introduction in XII Plan.

b) Drip Irrigation

- Drip Irrigation scheme need to be promoted in the states such as Karnataka, Tamilnadu and Rayalaseema and Chittor regions of Andhra Pradesh where there is an acute problem of water shortage.
- Presently, under CDP, assistance is provided for an area of 1 Hectare for drip irrigation system. Because of this constraint on the area coverage, the farmers who are having more than 1 Ha of land limits their sericulture host plant cultivation to 1 Hectare only. A subsidy of Rs 37500/- per Ha is given under this component. It is recommended that the area limit may be revised upwardly so that big farmers who have large area under their disposal also would be incentivized to practice sericulture in their farm lands.
- It is suggested that the allocation in the component may be enhanced and a suitable proportion of the funds may be earmarked for big rearers.
- Majority of the sericulturists in Southern states cultivate mulberry in rainfed conditions. With the increasing scarcity of water in many areas, it is critically important to introduce innovative technologies to enhance the water conservation ability of the soil.

c) Supply of Rearing Appliances for Bivoltine Farmers

- *The CDP component “Supply of rearing appliances for Bivoltine farmers” may include farm mechanization equipments like mini power tillers, matured silkworm seed separator, weed cutter, branch cutter along with proper training facilities etc. The unit cost of the component may be enhanced suitably. The targets and allocations for supplying of rearing appliances need to be substantially enhanced in a phased manner.*
- *It is also recommended that the scheme on supply of rearing appliances may be extended to Multivoltine and Cross Breed farmers too as most of the farmers in southern states are depending on these crops.*

d) Supply of Quality Disinfecting Materials

- *The component on supply of quality Disinfecting Materials and other crop protection measures for Bivoltine Seed farmers may be extended to commercial cocoon farmers too. There is a need to ensure timely availability of quality disinfecting material and other crop protection measures with the farmers.*

e) Assistance for construction of rearing sheds

- *Farmers are hesitant to avail this component as beneficiary share is quite high. Micro-financial institutions or other financial institutions may be encouraged to provide loan in order to reduce the beneficiary’s burden and to ensure better construction of rearing sheds.*
- *Due to increase in price of raw material and labour component, the unit cost of rearing sheds has gone up in southern states. The unit costs for the rearing sheds were revised after the midterm evaluation, but farmers reported that this is still not adequate. The unit cost of Rs 75,000 for rearing shed was revised to Rs 1 Lakh. Assistance for construction of rearing sheds may be further increased to Rs 1.25 Lakhs. During field surveys, it was reported that it takes Rs 2.75-3.00 Lakhs for construction of rearing sheds while Government provide Rs 75,000.*
- *In Andhra Pradesh many new farmers who have land holding of less than one acre are showing interest in adopting sericulture. The CDP scheme may be extended to those farmers who have less than one acre mulberry plantation. These farmers may be considered for sanction of Type-III (Mini) rearing sheds with a size of 20x18x13 (360 sqft.) with unit cost of Rs 50,000/-.*
- *Since the maintenance cost is a major concern for the farmers, it is recommended that a new component on “Maintenance of rearing sheds” may be included under the CDP scheme.*

f) Assistance for maintenance of Chawkie gardens, construction of Chawkie rearing Centre (CRC) building and procurement of chawkie rearing equipments

- *The implementation of this component may be continued more vigorously. More number of CRCs needs to be established in Southern states. Big farmers having land of more than 5 acre may be selected for establishing chawkie rearing centers. Formal induction training may be provided to them and refresher trainings also need to be organized to keep them updated with technology and scientific management practices.*
- *Targets for CRCs should be planned in such a way that adequate number of chawkie Rearing Centres may be opened in all commercial cocoon clusters.*
- *Chawkie reared worms are very delicate worms. They should be transported to the farmers under controlled temperature conditions. Southern states especially Andhra Pradesh and Tamilnadu generally have high levels of humidity and temperature. Therefore, it is recommended that a suitable vehicle having temperature and humidity controlling equipments may be given to chawkie rearing centers under CDP.*

g) Insurance Support

- *Lack of interest shown by the Insurance companies towards sericulture sector is hampering the implementation of this component.*
- *Currently there is no coverage under insurance for crop loss due to pest attack. Two years back due to Papaya Mileau bug a significant portion of crop was lost in Tamilnadu. The crop insurance part of the scheme, if given, shall be of much respite in such cases. It is recommended that crop loss due to pest attack may also be covered under Insurance support.*

h) Setting up of Production units for Biological inputs

- *The R&D Institutions have made a number of innovations where microbes have been isolated and cultured which can be used either to enrich the soil fertility or control the diseases or Bio-pesticides / Bio-control agents and other plants / animal products used in sericulture. It is proposed to commercialize these innovations through qualified entrepreneurs, through collaborative efforts, if required.*
- *Training of target group needs to be undertaken on this CDP component.*
- *Since it is a very important component of integrated nutrient management, where state departments may not have sufficient knowhow there is a requirement of strengthening the bondage between state departments and research institutions.*

i) Door to Door Service Agents for Disinfection and input supply

- *It is proposed that Mobile Disinfection units may be established. Progressive farmers owning a minimum mulberry plantation of 5 acres may be allotted a Mobile*

Disinfection unit consisting of one four wheeler (Mini Tractor/Mini Van) and two disinfectant tanks with two high pressure sprayers and other essential accessories.

- *At least one Mobile disinfection unit should be located in the clusters based on the requirement. The total cost has been estimated at approx Rs 4 Lakhs. & 70 % of the cost may be shared equally between DOS and CSB at 35% each and the rest 30% to be borne by the beneficiaries. Similar kind of four units are already in operation in Andhra Pradesh.*

j) Assistance for Lead Farmers Training

- *This component needs to be encouraged for better technology transfer.*
- *Remuneration/stipend may be provided to the lead farmers as an incentive to attend the training.*
- *The training modules and implementation of the training programmes by the lead farmers should be continuously monitored to harness the benefits of the scheme.*

k) New component on giving incentives on Bivoltine Cocoon production

- *To encourage the farmers of southern states for taking Bivoltine crop, an incentive of Rs 30 per Kg for bivoltine cocoon produced may be provided.*

2.2.1.2 North Western Himalayan Region

- *Department of Sericulture, Himachal Pradesh, may approach the State Government to integrate the raising of mulberry saplings under MGNREGA projects to raise mulberry saplings.*
- *In Himalayan regions Co-operative societies may be established for cocoon production. State Department of sericulture may identify suitable land for host tree plantation and obtain these lands on lease. DoS may identify farmers and encourage them to take crops.*

2.2.1.3 North Eastern Region

- *The mulberry plantations in NE States are far away from the dwelling houses and there is a problem of grazing by cattle and other animals resulting in destruction of mulberry plantation. Regular watch and ward is not practical for the farmers. If support is provided for low cost fencing of the mulberry plantation it can sustain the plantation for higher leaf yield and increased cocoon production.*
- *Mounting of silkworms for cocoon formation is one of the crucial phases in silkworm rearing. The rearing houses may be constructed nearer to the plantation, where there is no facility for indoor mounting. Therefore, the NE States have requested for support for extending the existing rearing houses constructed in X and XI Plans for silkworm mounting. This will increase the production & productivity of cocoons, which is presently much below the national average in NE region.*

2.2.2 Vanya Cocoon Sector

2.2.2.1 Tasar Cocoon

2.2.2.1.1. Tasar (Jharkhand, Chattisgarh, Uttarakhand and Orissa)

a) Support to rearers for Augmentation of Tasar host plantation

- After mid term evaluation the unit cost of the components was revised. Earlier Rs 16,000/- per hectare towards augmentation of tasar host plantation used to be given which has now been increased to Rs 40,000.
- Eco Race development projects should be taken up to promote production of natural tasar on forest plantation.
- In order to enhance the survival percentage and reducing the gestation period, raising tasar food plantation through saplings was found to be very effective. In order to encourage this method among the new farmers, support may be extended to raise saplings in their own backyards for self use.
- During XI plan, about 20,000 hectares were raised under systematic Tasar host plantation. The farmers need further support to maintain the plantation for optimum utilization.

b) Assistance for raising and maintenance of systematic plantation of Oak Tasar

- In Jharkhand, Chattisgarh, Uttarakhand and Orissa, there is a need to promote the raising and maintenance of systematic plantation of Oak Tasar.

c) Assistance for Construction of Cocoon Storage Houses in Tasar Sector

- Farmers of Jharkhand reported that they face problems in handling and transporting of the cocoons. Currently they travel either by bus or by cycle which spoils a significant portion of their cocoons. In view of their requests, it is proposed that a suitable provision may be included for buying a four wheel vehicle may be included under this component of CDP for the cocoon storage house which will collect the cocoons from the farmer's doorstep.

d) Assistance to Tasar commercial rearers for development of Chawkie garden.

- Chawkie rearing concept in tasar sector needs to be promoted as it reduces larval mortality and improves the cocoon quality and productivity. The rearers need to have well maintained chawkie garden with quality foliage for conducting chawkie rearing.

e) Transfer of Technology developed by CTR&TI Ranchi

- CTR&TI, Ranchi has developed Leaf Surface Microbes (LCM) for control of viral and bacterial diseases in Tasar Silkworm. The field results indicate about 44% improvement besides improvement in production to the tune of 12 cocoons per dfl. Hence, it is proposed to popularize this method in a large scale during XII Plan period.
- The CTR&TI, Ranchi has developed an effective medicinal formulation named "Jeevan Dhara" for controlling the deadly virosis disease. Field trial proved that

application of the Jeevan Dhara could reduce the disease level significantly and improve productivity.

2.2.2.1.2. Tasar Cocoon (Andhra Pradesh)

- *Start up tool kit like (prunning m/c, seekature, sickle, etc. may be introduced/given under CDP.*
- *After Bessel formation, fertilizer and manure may also be given under the scheme.*
- *Bird trapping nets to be provided.*
- *Currently Tasar cocoon rate for Bivoltine is Rs. 1/cocoon. Incentive @ Rs.0.20/cocoon may be introduced for motivating Tasar cocoon farmers.*
- *Systematic plantation of Tasar should be encouraged.*
- *Reeling/weaving of Tasar raw silk may be introduced in the Warangal district. Tasar culture should be made like a household activity having complete chain starting from DFL production to raw silk production.*

2.2.2.2 Eri Cocoon (North Eastern States)

a) Support for Castor/Tapioca cultivators with Start-up tools

- *This component has started picking up now. Eri culture practicing states have started showing interest in it. Altogether the target for covering 125000 units under CDP during XI plan seems to be very high. Accordingly financial allocations may be reworked under this component and state government may initiate steps to take up the schemes.*

b) Augmentation of perennial Eri food plants with supply of Start-up tools

- *The augmentation of perennial Eri food plants may be encouraged in North Eastern States to reduce the dependence of the rearer on the forests and better risk management in the case of failure of seasonal food plants.*

c) Construction of Rearing Sheds

- *This component has high demand among farmers of Eri culture following states and may be continued during XII plan. The unit cost of the component needs substantial revision due to rise in the constructions of cost and the raw material prices.*

d) Raising Kesseru food plant saplings (New component)

- *Eri rearing undertaken in naturally grown food plantation reported low productivity. Adoption of systematic plantation could change this situation because the improved techniques have significantly contributed for higher leaf yield. For raising the systematic plantations, some farmers have started raising saplings in their own land for developing the main plantation. Since, this technique has been found to be very useful and effective for raising the garden, it needs to be popularized.*

2.2.2.3 Muga Cocoon Sector (Assam and Meghalaya)

a) Assistance to beneficiaries for raising Som food plant saplings.

- The muga rearing conducted in systematic plantation is found to be more productive and hence economical. In order to raise more systematic plantations, planting saplings need to be encouraged.
- During XI Plan, about 8280 acres have been raised under systematic muga host plantation. It is necessary to support for further maintenance of the plantation as the farmers are very poor to meet such expenses.
- As the rearing takes place in open environment and muga silkworms are reared directly on the host plants, sometimes birds feed on these silkworms which lead to crop loss. It is proposed that bird prevention nets and a torch may be provided under this component of CDP scheme.
- According to the Sericulture Department of Assam, a new component on providing assistance for mounting hall may be incorporated under CDP scheme for Muga cocoon growers.

2.3 Post Cocoon Sector

2.3.1 Silk Reeling and Spinning

2.3.1.1. Southern Sericulture States

a) Popularization of New Slow-Speed Certified Multi-end Reeling Machines (18 basins - equivalent to 360 ends)

- The reelers are not accepting this component and CSB may review the economic viability of the scheme in Southern Sericulture states. The main reason for component failure is the requirement of large beneficiary share of Rs 10 Lakh (for General State). In comparison to this for 20 basin multi end reeling machine the share amount is Rs 4.25 Lakhs.

b) Support for establishment of certified Multi-end reeling machines 10 basins and 20 basins

- This component has very high acceptability in southern States where production of raw silk is relatively higher and there is availability of cocoon throughout the year.
- The unit cost needs upward revision.
- Beneficiary should have the choice to choose the components of the machine some components such as cocoon sorting table, the long skein silk making machine etc., are not used by all, however, the cost burden of the components which are not in use also is to be borne by the beneficiary.
- A new component on construction of shed/building and working capital may be introduced for setting up multi-end reeling units. DoS Andhra Pradesh has started constructing reeling sheds under their state scheme.

c) Establishment of Automatic / Semi automatic Reeling Units

- The component has proved to be very successful. There is a requirement of more number of Automatic Reeling units to be established in Southern states. The component should be continued with additional funds. The component may include the cost of construction of the working sheds and other storage space. Working capital also may be included as part of the component.

d) Support for Hot Air Driers-Electrical/Multi-fuel Ushankoties (50 Kg and 100 Kg) for reeling units

- Hot Air Driers-Electrical/Multi-fuel Ushankoties are widely accepted by reelers of Southern States.

e) Assistance for Twisting units

- Assistance given for twisting units under CDP has high acceptability in southern Sericulture practicing states.
- This CDP component has contributed substantially towards improvement in the quality and acceptability of Silk yarn. The reelers of Andhra Pradesh reported that these twisted silk yarns have resulted in fetching an additional Rs 60-75/- per Kg due to value addition.
- It is recommended that this component may be continued with additional funds during XII plan so that more number of units can get assistance under this component.

f) Incentive for production of Bivoltine Silk

- This CDP component has high acceptability among the bivoltine silk reelers. The incentives given for bivoltine silk production has contributed towards compensating the decline in profits of the reelers.
- The incentive of Rs 50 per Kg for BV raw silk production is being given by CSB. In Andhra Pradesh, the bivoltine raw silk reelers are given an incentive of Rs 80 per Kg out of which Rs 50 per kg is borne by CSB and the remaining (Rs 30 per Kg) is borne by state department.

g) Providing services of Master Reelers to Reeling units:

- One of the major constraints for sustaining silk reeling industry in non-traditional states and non-traditional areas of traditional States is the absence of skilled reelers. To overcome this problem, under X & XI Plan, Master Reelers were deputed to existing silk reeling units identified by the States to train the workers engaged in the units and to develop confidence among reelers to manage and run the units satisfactorily. Similarly weavers and dyers were also engaged in disseminating innovation. Considering the good feedback, demand and request from the States, it is proposed to continue the component.

- *In majority of the states, the technicians/mechanics for repairing of post cocoon machineries are not available. On the same lines the master technicians could be developed and can provide services at various states.*

h) Support for existing Charkha Reeling Units to dissuade child labour

- *Majority of the reelers (including cottage basin unit and multi end reeling unit reelers), have charkha unit for reeling of inferior quality of cocoons. The motorization and mechanization of Charkha under this component has improved the quality of life for the charkha reelers. Beneficiary share may be reduced for encouraging reelers to avail this component.*

i) Support for Setting up of Automatic Dupion Silk Reeling Units

- *The double cocoons and inferior quality cocoons are converted into dupion silk yarn on a dupion reeling unit. The Indian dupion yarn which is manufactured in Charka is characterized by the presence of prominent slubs and is used as weft on handlooms. The imported dupion yarn which is manufactured on automatic dupion reeling machine is uniform with less prominent slubs and is used as weft on powerlooms for export fabric production. Good quality dupion yarn is in great demand for export fabric production and commands prices at par with that of raw silk. With a view to provide better value addition to inferior quality cocoons, it is proposed to support the establishment of automatic dupion reeling units with imported machinery.*

j) There is a need of implementing Minimum Support price system for overcoming the effect of price fluctuations.

k) Interest subsidy on Working Capital to Reelers:

- *Reeling is the weakest link in the entire sericulture chain. The cost of the raw material i.e cocoons constitutes around 80% of finished product making the requirement of working capital a critical component. Added to this is the relatively poor flow of credit to the silk reeling sector. In order to encourage the credit flow to the reeling sector and to meet the working capital requirement of the reelers, it is proposed to introduce a scheme to provide interest subsidy to reelers on working capital loan availed by them. It is proposed to provide 50% of the interest charged by the financial institution as subsidy subject to an upper limit covering Cottage basins, Multiend and Automatic Reeling units established under CDP.*

2.3.1.2 North Eastern States

a) Quality linked price Support system for cocoons and raw silk - for State Govts. / Co-operatives / NGOs / SHGs

- *Quality linked price Support system under CDP for cocoons and raw silk component has been found to be quite useful and should be continued further. Government may consider establishment of silk yarn banks in the lines of Raw material banks to facilitate small weavers.*

- *There is a requirement of establishing Eri and Muga cocoon markets in Meghalaya state.*
- *For constituting SHGs/NGOs/Co-operatives, the assistance of District Rural Development Agency may be sought.*

b) Support for establishment of Improved Cottage Basin Reeling Units

- *Emphasis should be laid on providing cottage basin units in the North Eastern states especially in Assam and Manipur.*

c) Motorized machine for Eri Cocoon spinning

- *For Eri cocoon spinning most of the farmers of Assam and Meghalaya are still using old traditional Takli. It was reported that the yarn obtained from hand spinning has much more wider acceptability than yarn obtained from this machine. This needs to be further looked into.*

2.3.1.3 Northern Central States

a) Quality linked price Support system for cocoons and raw silk - for State Govts. / Co-operatives / NGOs / SHGs

- *There is a need to establish adequate number of cocoon markets in Maharashtra and Uttar Pradesh.*
- *In Banaras, Uttar Pradesh there is a need to establish raw silk exchanges.*

b) Support for establishment of Improved Cottage Basin Reeling Units

- *Emphasis should be laid on providing cottage basin units in North central states.*

c) Support for establishment of certified Multi-end reeling machines 10 basins and 20 basins

- *In non-traditional states like Maharashtra and Uttar Pradesh reelers are still relying on cottage basins. There is a need to promote multi end reeling machines in northern central states.*

2.3.1.4 Northern Himalayan Region

- *There is a need to establish cottage basin units in Himachal Pradesh, Uttarakhand and Jammu and Kashmir.*
- *The capacity of hot air drier to be given under CDP needs to be increased for the reelers as they have to store the cocoons for the long duration.*

2.3.1.5 Eastern States (West Bengal)

- *Post Cocoon sector is quite weak in West Bengal. Reelers are still using traditional charkhas for raw silk reeling. Cottage basins and multi end reeling machines need to be established in West Bengal.*

2.3.1.6 Establishment of Pupae Oil Extraction and Bye - product utilization Units

- *This component has no acceptability. No southern sericulture practicing states have accepted it.*
- *The reelers of traditional sericulture states do not find any market problem for selling mulberry pupae. They get the competitive prices for it.*
- *In North Eastern states people eat Eri Pupae for better health.*

2.3.2 Silk Weaving Components

a) Support for establishing shuttle-less looms

- *This component has high acceptability in major silk weaving clusters of India viz. Banaras, Kancheepuram, Dharmavaram, Mysore etc. Keeping in view the demand of the component and the demand of Indian woven silk fabrics in foreign market, more number of shuttle less looms may be established in big silk weaving clusters during XII plan.*

b) Support for Handloom Sector

- ***Certified Handlooms:*** *CSTRI has developed an improved handloom wherein special features like parallel beat up, five wheel take up mechanism etc have been incorporated to give the handloom weavers the distinct advantage to produce quality fabrics with better productivity. There is a need to take this technology to the field by incorporating region specific requirements in the loom.*
- ***Loom up-gradation through Jacquards & other equipments:*** *The existing handloom units are not having financial capacity to upgrade their handlooms for producing diversified products and for adopting small improvements required for better operation. In this direction, support may be provided for upgrading existing pit or frame or improved handloom units through installation of attachments like additional jacquards, doobby, pirn winding machine, Asu machine, dyed yarn winding machine etc.*
- ***Pneumatic Lifting Mechanism for Handlooms:*** *The use of three to four jacquards for weaving intricate designs result in considerable the strain on the weaver and the weavers report severe joint ailments leading to arthritis. This is probably one of the reasons for the younger generation to move away from traditional handloom weaving. The use of pneumatic lifting mechanism on handloom is a step in the right direction to reduce the strain on the weaver. Support has been provided for attaching pneumatic lifting mechanism on handlooms during the XI Plan period and it is proposed to continue the scheme during the XII Plan as well.*

c) Computer Aided Textile Designing

- *More CATD designers are required in the country where the weaving base is quite strong. Additional allocation of funds is required for this component under CDP. Training of these designers may also be undertaken under the CDP component.*

d) Providing services of Master Weavers / Master Designers to Weaving units:

- *Each handloom cluster is known for its unique product and design. However, there is very little effort to incorporate design changes to suit the changing market demands. The main reason cited has been the non availability of skilled manpower to handle this task. In order to address this issue under XI Plan, Master Weavers were deputed to silk weaving clusters to train the workers engaged in the cluster on various aspects of weaving and to develop confidence for the weavers to manage and run the units satisfactorily. Considering the good feedback, demand and request from the States, it is proposed to continue the component.*

d) Support for setting up of Common Facility Centre for yarn dyeing / Fabric processing

- *This component is very successful and popular among weaving clusters of traditional states like Kancheepuram, Dharmavaram, Hindupur etc. More number of such centres needs to be set up. There is a need to include washing tub under the package to be given under CDP.*

2.4 Support Services

- *Enhanced subsidy to SC/ST/Women beneficiaries to take up sericulture in General Status States to avail benefits in line with the subsidy extended to the Special Status States farmers.*
- *Health insurance for women sericulturists is a highly useful component but the implementation needs to be looked into since they face a number of problems in availing the benefits.*
- *Training programmes needs to be enhanced.*
- *Assistance may be provided to NGOs / SHGs & other Agencies for meeting administrative expenditure towards Project Implementation in the Vanya sector and in the Mulberry sector.*

2.5 Price Support Mechanism for cocoon

High levels of price volatility is experiencing for mulberry cocoons across the country. The price realization of the cocoons is not in conformity with the input cost and inflationary trends. As a result, mulberry cocoon farmers resort to distress sale and many of them are turning to other crops for stable income. The recent reduction in import duty on raw silk has compounded this problem, resulting panic selling in the cocoon markets. There must be some mechanism to face such distress situations so that the farmers need not face heavy

financial losses. It is also critically important to insulate the industry from such distress situations as more than 7 million people are depending on sericulture for livelihood.

Seed Cocoon rearing involves higher input cost and intensive care. It is necessary to provide incentive to seed cocoon Rearers. Those cocoons declared as fit for seed are sent for reeling for want of demand.

2.6 Convergence activities for sericulture development

There is a need for developing a convergence mechanism with various institutions for funding and effective monitoring of sericulture development initiatives. In vanya sector there is a need to integrate other livelihood components so as to bring in income generating opportunities throughout the year to achieve the inclusive growth. This warrants flexibility in funding pattern and shall include alternative livelihood opportunities like improved agriculture, vegetable cultivation, animal husbandry, horticulture etc. Such initiatives are expected to lead into mutual learning and bring down the project monitoring costs due to presence of another funding agency/ agencies viz., State Rural Livelihood Mission (SRLM), NABARD etc., who have a well defined project monitoring system at field level, which would be handy in view of shortage of manpower with Departments of Sericulture.

Various State Governments and funding channels viz., Rashtriya Krishi Vikas Yojana (RKVY), National Rural Livelihood Mission (NRLM), Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS), Tribal Welfare Commission (TWC), Integrated Action Plan (IAP), NABARD, ATMA, District Administration, State Special Schemes etc., are evincing interest to support sericulture sector.

Due to increasing electricity outages, installed capacities for conversion and processing are severely affected. This warrants the need for utilizing solar power and lighting dovetailing available schemes from the Ministry of Non-Renewable Energy (MNRE).

Price fluctuations and large scale volatility of cocoon prices in the market often severely affect the silk industry resulting in large scale uprooting of mulberry. It is necessary to take appropriate measures to tackle the issue by providing price support incentive to the sericulturists whenever the price goes below the production cost.

2.7 Flexi Funds

To address the critical requirements, which may arise while implementing various developmental programmes including CDP, lump sum provision may be made under the head **flexi funds**, where CSB share from CDP may be up to 15% of the project grant.

2.8 Involvement of Community based Organisations (CBOs)

Most of the implementers of the Rural development projects accept and understand the need to fully involve all members of a community in the planning and implementation of a rural development policy. It is only through participation that communities get a sense of ownership and feel motivated to operate and maintain the system.

This concept has been implemented successfully among the tasar farmers of Jharkhand under a different nomenclature; Resham Doot and Resham Mitra. The programme aims to resolve the major problems of sericulture industry like dissemination of new findings and technology, group activity among the beneficiaries, popularization of bivoltine, training, extension, synchronizing the various activities of the sericulture to produce uniform quality cocoons, credit facilitation etc.

The silk industry by its very nature is a network of many on farm and off-farm activities, and has strong need for many forward and backward linkages. The heterogeneous activities in the entire silk production chain of silk industry calls for group approach and support systems in the areas of training, extension, infrastructural support, information support, technology support, credit availability, timely raw material availability, market tie-up, availability of skilled persons etc.. The Central and State Govts are providing all the support required for the overall development of sericulture. However the Govt. system has certain limitations such as limited staff, weak extension machinery, lack of mobility, knowledge gap etc. This is where the CBO system can play an important role and significant contribution supplementing the Govt. system, by raising the level of technology to suit local needs, by offering a better platform for the transfer of superior technology and training and also organizing the farmers for activities like technology absorption, narrowing the gap between lab and land, acting as trouble shooters at the field level at proper time.

2.9. SUCCESSFUL CASE STUDIES OF CDP IMPLEMENTATION

This section provides diagnostic case studies based on the success stories of 17 CDP beneficiaries (sericulture farmers, reelers, weavers, processors etc.) interviewed from different parts of the country. The case studies have been undertaken with a view to highlight their socio-economic status, success factors, technological issues, benefits accrued from CDP scheme, problems faced by them and suggestions for better implementation of the CDP scheme in future. The CDP beneficiaries are drawn from Seed sector, cocoon sector and post cocoon sector. A brief summary of these success stories are given here.

2.9.1. Graineurs

Muga Graineur, Dolakhoria Village, Golaghat, Assam

The farmer is a beneficiary of CDP scheme and got financial support for constructing a rearing house. The beneficiary has reasonably well off socio-economic condition with an average annual income of Rs. 1.5 lakh from Sericulture activities and around Rs. 2.5 lakhs from other activities like agriculture, horticulture. He is mostly involved in Grainage activities; however, he undertakes commercial rearing as well. Apart from assistance received for construction of grainage house and revolving funds, the beneficiary has also received equipments required for grainage activities under CDP such as Microscope, Inspection and examination Table, Thermometer, Hydrometer, Formaldehyde, Egg Laying Kharika, Potassium hydroxide, Steel Rack etc.

The Graineur has been appreciated by the officials of CSB and DOS for his dedication in work and productivity. He was also awarded for his activities in sericulture. The Graineur suggested that the amount provided to construct grainage house with the current financial

support under the CDP scheme need to be enhanced sufficiently as it is becoming difficult to construct a good grainage house due to higher labour charges and materials costs. Monetary assistance in the form of annual maintenance cost of the grainage building may also be provided.

2.9.2. Seed Cocoon

Seed Cocoon Farmer, Krishnagiri District, Tamil Nadu

The beneficiary has 6 years of experience in sericulture activities and is producing Bivoltine Cocoon. He owns 3 acres of irrigated land on which he cultivates mulberry plants. During XI five year plan, he has received sprayers, subsidy of Rs. 50,000 for rearing house, 100 nos of mountages, hygrometer, wet and dry bulb thermometer and room heater/humidifier under CDP Scheme. In addition to these, he also received Rs. 4000/- for mulberry plantation, rearing appliances/ farm equipments, quality disinfectant and other crop protection measures, as well as training from state government.

He admits that due to the assistance received he is now able to take seven crops in a year. He suggests that assistance may be extended to renovate/replace the old appliances. He also suggests that special incentive should be given for seed cocoon farmers.

2.9.3. Chawkie Rearing

a) Chawkie rearer, Chitradurga District in Karnataka

The beneficiary is a woman sericulturist. She along with her husband is doing sericulture activity for the past 35 years. They have attended many training programs, seri tours to Tamilnadu, Kolkata and other places conducted by DOS and have benefited a lot by acquiring knowledge on various operations of sericulture.

The beneficiary has started a cooperative society and given employment to 12 women in sericulture activities. They are updating themselves regularly with new technology which is the main reason for the increase in quality and quantity of cocoons in their Chawkie rearing centre (CRC). She has received subsidy for Rearing house (45'*22' sq ft), Drip irrigation (4-30 acres), Chawki rearing house as well as other equipments under CDP.

She has visited European countries in 2008 with Karnataka State Raita Sangha and has given speeches there. She got Best award for her 'Chawki Rearing House' in 2004 and 'Best Rearer' award in 2005. In 2008-09 she got Central government 'Baladev das' award and a cash prize of Rs.12,500. On 1st January 2012 she was awarded 'Best Woman Sericulturist' award by Gujarat Horticulture College.

b) Chawkie Rearer, Tirupur-District, Tamilnadu

The beneficiary has 10 years experience in CRC activities. The New technology developed by the Research Institute i.e., thermostatic and humidifier have been extended to the CRC. It is giving very good impact and getting good quality eggs. The beneficiary has received Rs. 1.5 Lakhs for construction of CRC building under CDP scheme during 2007-12. He admits

that after receiving technology and technical inputs from the Govt agencies, the productivity and cocoon yield has increased .

The beneficiary says that due to decrease in labour supply and increased labour and transportation cost, it is becoming difficult to carry on the CRC activities smoothly. He suggests that incubator and Moisture free resistant silk worm should be provided under the scheme. He also suggests that some provision should be made for transport of laying through air-conditioned vehicles.

2.9.4. Commercial Cocoon

a) Commercial Cocoon farmer, Chitradurga District in Karnataka

The beneficiary is a progressive Sericulturist and is a role model among the youth. He has shown that educated youth can lead a prosperous life by practicing sericulture. Now Baladare village is called '**Silk Village**'. In this village, every house is having irrigated agriculture land and has the facility of bore well for sericulture.

Whenever he faces any problem in rearing the seeds, he contacts the Department of Sericulture and gets his problems solved. In Hassan District all the DOS officers are working very hard to provide the technology and the government benefits to the doorsteps of sericulturists. The beneficiary is updating himself regularly with new technology which is the main reason for the increase in quality and quantity of cocoons. In 2011-12, he bought montages under CDP by getting a subsidy of Rs.14,609. In 2005-06, the beneficiary got Second Prize in Bivoltine cocoon production. He got a certificate and a cash prize of Rs.10,000. In 2008 he was honoured by a local organization for his achievement in Channarayapatna Taluk on the occasion of Republic day. In 2008-09 he was honored in 'Vidhana Soudha, Banquet Hall' for producing good quality of cocoons (District level).

b) Commercial cocoon farmer, Mandi district Himachal Pradesh

The beneficiary is a 32 year old woman of village Dhatoli Khudla of district Mandi. The family's monthly income is low hence, her husband runs a small business. Her family is undertaking sericulture activities for the last 25 years. She has now about 9 years experience in this field and earning a good income to meet her needs.

Under CDP she has been provided four rearing stands, 20 rearing trays, 100 bed cleaning nets, 50 Mountages and one with wet & dry bulb thermometer and room heater. She has been given financial assistance for construction of rearing house, Rs. 67500/- by the CSB and DOS. In addition to this, she has received assistance of Rs. 4850/- for mulberry plantation and Rs. 1800/- for farm equipments. She has also been given financial assistance under the components of service support schemes. With this assistance, her income from cocoon farming has increased from Rs. 1800/- in 2007-2008 to Rs. 5800/- in 2011-2012.

c) Sericulture Farmer/Rearer Cum Reeler (Mulberry) in Beed, Maharashtra

The beneficiary has 5 years of experience in the sericulture field with irrigated land holding of 0.80 hectare. He has received a sum of Rs.1,87,500/- as assistance for establishment of

Cottage Basin Reeling Unit, Rs 30,000/- for supply of Rearing Appliances/farm equipments and Rs. 75,000/- for construction of Rearing House. The assistance and training received under CDP schemes, has helped the beneficiary in increasing the raw silk yarn production from 1 MT to 2.6 MT over the years.

The beneficiary has also received equipments under CDP such as sprayers, rearing house, rearing stand, rearing trays, mountages etc. After having training in Reeling & Twisting and acquiring the latest technology to improve productivity, the beneficiary is now making efforts to strengthen the backward linkages and develop forward market network.

The beneficiary is of the opinion that the government contribution towards construction of rearing house may be disbursed to the beneficiaries after they have put their share in it rather than after construction of the shed and minimum two crops is grown. Moreover, CDP Scheme training may be imparted to local people in order to eliminate acute shortage of skilled manpower for reeling activities. Further, a list of equipment /machinery should be provided to the beneficiaries before availing the financial assistance under CDP Scheme so that they can select the item as per their requirement. The market for cocoon sector needs to be developed through CDP.

2.9.5. Private Muga Rearer

Muga Rearer, Dolakhoria Village, Golaghat, Assam

The beneficiary has reported impressive growth in socio-economic condition with an average annual income of Rs. 1.8 lakhs since 2007-08 mostly from Sericulture Activities and also from other activities like agriculture, horticulture etc.

Under the CDP schemes the beneficiary was assisted with Rs. 2500 for Raising SOM Plantation and augmentation of SOM. Apart from this assistance, he has also received various farming tools and rearing equipments, nylon nets, Bamboo baskets, Polythene covers, Disinfectants, fertilizers etc. The beneficiary has also received trainings in Plantation Management techniques, Improved Rearing techniques and Vermi-compost under the beneficiary empowerment programs and other Transfer of Technology programs.

The beneficiary has been considered as one of the very effective commercial rearer of the Muga. After becoming beneficiary under the CDP scheme, he has not only been able to increase his production but also shared his knowledge with fellow farmers and in the process helped them to improve their Socio- economic conditions. He suggests that monetary assistance given to the beneficiaries should be enhanced and component should be added to cover the transportation costs incurred by the beneficiaries.

2.9.6. Muga Seed cum Commercial Rearer

Rearer Jaljori Village, Golaghat, Assam

The beneficiary has an experience of over 15 years in sericulture activities. He has reasonably well off socio economic condition with an increase in average annual income (net income) of Rs. 80000 from Sericulture Activities as compared to Rs. 56000 in 2009 –10.

Under CDP schemes, the beneficiary received an assistance of Rs. 4500 for augmentation of SOM plantation and rearing equipments. He has also been received extensive training on improved technologies of silkworm and seed rearing activities by CMERT&TI, Lahdoigarh on improved technologies in Muga culture for a period of 15 days. Apart from these, continuous monitoring and visits of on-field demonstrators from CSB and State sericulture officials help the beneficiary to carry out the activities in a smooth and efficient manner

Due to the assistance received from CSB, the production of cocoons has increased to 32000 numbers in the year 2010-11 from 20000 numbers in the year 2009-10. The beneficiary has applied the best practices and rearing technologies taught to him in an efficient manner and it has resulted in good quality seed cocoon. This has also earned him laurels among the local private granieurs as his quality is the best among all.

2.9.7. Resham Doot, Block Masliya, Dumka District, Jharkhand

The beneficiary is around 40 years old. He has one acre of own land and 2 acres of land on rent from forest. He had been living mainly on Agriculture and doing only one crop of tasar plantation in traditional ways in forest areas. Due to absence of marketing network he was not able to realize any major gains from tasar activities. But after becoming Resham Doot, he is taking two crops of tasar and has been able to market his produce regularly and his income from tasar has increased many folds.

He has been enrolled by Department of Sericulture, Jharkhand as one of the Resham Doot around four years back. He has not been given any cash but has been given training and various equipments like microscope, net, wooden table, stool, sprayer, plastic bucket etc along with consumables like chemicals, soaps under Catalytic Development Programme. He is also being trained for seed rearing and over the years has become very efficient in the field of seed rearing. He has developed expertise in getting samples from seed rearing cocoons for identifying the diseases with the help of microscope. Over the last 3-4 years, his income has been continuously increasing because of his involvement as Resham Doot.

2.9.8. High Yield Mulberry Plantation

Mulberry plantation, Nagram Block, Berhampore, West Bengal

The beneficiary is a traditional sericulture farmer, 33 years old and is a Honors Graduate in History. He was inducted as one of the beneficiaries under the Nabgram, Cluster, and Monitored from CSR & TI Berhampore. His qualification and his flexibility on adopting and inducting the new technologies that was being provided under the cluster Promotion Programme, earned him a place as one of the members under the cluster. As a result of his urge for betterment by using modern scientific technology for Sericulture cultivation he increased profitability of Rs. 85,000/

He has a land holding of 0.66 acre of land, exclusively for cultivation of S1635 mulberry (2'X2') and thus sericulture is the only source of livelihood for his family. Under the cluster Promotion Programme he was provided with a rearing House, Plastic rearing trays, Rearing Nets, Mountages, foam Pads, Knapsack spray, Pump set, etc. i.e. he is having all

the basic requisites which has helped him in becoming a successful sericulture farmer and a projection model under CPP. He admits that due to his association with Central Silk Board and knowledge updation received, he has been able to increase his productivity in a small land holding.

2.9.9. Post Cocoon Category

a) Computer- Aided Textile Designer, Dharmavaram, Ananthpur, AP

CATD has given tremendous scope and opportunities to the beneficiary to showcase their talent and create innovative designs which has brought in better market acceptability for the weavers particularly handloom weavers. This has significantly developed the business of silk woven fabrics. Case study reveals that after getting the CATD machine installed in 2009-10 under CDP scheme, his income has become thrice. The use of CATD has facilitated him with ease and quickness of operations besides making available innumerable options.

The beneficiary sells these punched cards at Rs 2.40 per card with a profit of around Rs 0.70 per card. The beneficiary keeps a large library of predefined patterns. As already stored patterns are used repetitively, a lot of time and labour is saved. Variety can be in the form of same design with different colours or altogether different kind of designs. Also he creates the designs on the conceptualization of master weavers. Design consultations, workshops, seminars, Exhibitions etc., should be organised for the designers so that they can get idea for creating innovative designs.

b) Reeling & Weaving Unit, Srinagar Division, District Badgham (J & K)

The Silk Weaving & Reeling Unit established by the beneficiary in Maschu Th. Chadera village, from Badgham District of Jammu & Kashmir is a model among the entire Post Cocoon sector. The beneficiary is presently 47 years old and had learnt sericulture during his early childhood from his ancestors. The company undertakes both the activities of reeling as well as weaving.

The unit is a regular beneficiary of Rs. 100/- per kg. of raw silk for a total of 1500 kg of raw silk produced as Incentive for production of Bivoltine Silk (physical MTs) under CDP scheme. All the equipment and machines procured by the company have been self financed.

The owner has attended various training programs, conducted by Department of Sericulture and Central Silk Board which has disseminated information regarding the new developments in the sector. The Weaving & Reeling Unit has been a pioneer entrepreneurial venture steering its way through the volatile condition in the valley and acting as a role model to the entire post cocoon community in J&K.

c) Post Cocoon Category (Twisting Of Silk Yarn), Varanasi, Uttar Pradesh

The beneficiary has around 22 years experience in various sericulture post cocoon activities such as reeling, twisting and weaving. He was given assistance to establish a twisting unit for silk yarn by CSB office, Varanasi after judging his knowledge and experience in sericulture activities. An amount of Rs. 4.5 lakhs for buying a twisting unit was provided to him under CDP Scheme and his own contribution was Rs. 4 lakhs.

As per the beneficiary experience, Catalytic Development Programme (CDP) is an excellent scheme and is of great use for the people involved in sericulture related activities. According to the beneficiary, Zari thread making machine should also be included in the CDP scheme so that Zari making could also be taken up by the entrepreneurs of Varanasi.

d) Handloom Weaving, Paithan, Aurangabad

Marhati Paithani Centre (MPC), Paithan is a production-cum-training centre under MSSIDC. MSSIDC has received a subsidy of Rs.21,00,000/- towards CSB and State under 11th Plan scheme for purchase of 100 nos. of Handlooms for Marhati Paithani Centre. Because of this, Corporation has reached a position to enhance its production capacity and also numbers of trainees. The technical support for finalization drawing and design of the Looms was received from Central Silk Board and DKTE Textile & Engineering Institute located at Ichalkaranji, Maharashtra.

With assistance of Government grants MSSIDC had organized various training programme and obtained various expert weavers for this training. Moreover, as a result of various MSSIDC training programme related to Paithani Saree, there are about 700 to 800 female weavers in and around Paithan Region and employment opportunity has been generated in Paithani Weaving at the centers or outside the centre.

MSSIDC has been awarded ISO 9001-2008 Certification from TUV authority for Marhati Paithani Centre, Paithan and also awarded SILK MARK for the Marhati Paithani Centre, Paithan by Government of India during the year 2007-08. For futuristic growth, MSSIDC has purchased the Improved Handlooms and made plans to increase efficiency of weaver and reduce production cost and time for weaving. They have also planned to purchase new improved loom with able guidance of Central Silk Board.

e) Mulberry / Eri Reeler in Imphal West, Manipur

The beneficiary is having 5 years of experience in sericulture field his socio economic condition has shown an impressive growth with an average annual net income of Rs. 80000 in 2011-12 as compared to around Rs. 40000 in 2007-08 mainly from Sericulture Activities supplemented by other activities like agriculture, horticulture etc.

Assistance received in terms of training and subsidized reeling machine has helped the beneficiary in improving his production both quantitatively and qualitatively. The beneficiary has also been appreciated by the officials for his contribution to sericulture sector as an effective reeler.

The beneficiary suggested that the amount of assistance provided should be enhanced and component of transportation should also be added. Moreover, there is a need to increase awareness regarding CDP schemes among other farmers in order to improve their socio economic conditions. There is also need for extensive training of sericulture for the farmers.

2.9.10. NGO

PRADAN Interventions in Tasar Sector in Dumka, Jharkhand

PRADAN (Professional Assistance for Development Action) is an NGO which has a range of activities from nursery raising to silk production including pre-cocoon, seed and post-cocoon sectors in the State of Jharkhand since the year 2003-04 with a holistic approach under Swarnajayanti Gram Swarozgar Yojana (SGSY).

There are two locations of PRADAN in Dumka district of Jharkhand State namely Dhaka and Sahritola. In Dhaka, there are large scale block plantations of tasar host plants in private lands of tribals. They collect eggs from CSB, these eggs are reared in this isolated area. There are around 100 families who rears this crop and supply the cocoons produced from these area to the preservation unit i.e Masuta Cooperative floated by PRADAN. In Sahritola area, there is a big preservation unit of PRADAN (having 250,000 cocoon preservation capacity) used for seed rearing. It is a two storey building having two halls. Each hall has capacity of 1,25,000 lacs cocoons. The families of nearby areas are producing reeled and spun yarn.

On the similar lines of Swarnajayanti Gram Swarozgar Yojana (SGSY) special Projects model, PRADAN has now undertaken new project from NABARD, whereby they are raising large scale block plantations of tasar host plants in ten hectares of private lands of tribals. Although PRADAN has sufficient number of seed rearers with them but does not have sufficient number of commercial rearers. They are increasing the number of commercial rearers by imparting training, handholding, exposure etc in collaboration with CSB. From 550 families to 1950 families in 2010, they are planning to include 2500 families in the co-operative venture by the end of 2012.

2.10 OVERALL IMPACT OF CDP

Overall analysis suggests that CDP scheme has been very successful in the country. During the XI plan period, production, productivity of sericulture sector and income of sericulture families have improved. The production of mulberry raw silk per hectare has gone up from 86.07 kg/hectare in 2006-07 to 92.75 kg/hectare during 2011-12, and renditta has improved as the kgs of cocoons required to produce one 1 kg of raw silk declined from 7.42 to 7.22 during 2007-08 to 2011-12.

Seed productivity has shown remarkable improvement in the traditional southern states in the range of 53-67 Kg per 100 DFLs during 2011-12. The seed productivity in non-traditional states reported in the range of 25-55 kg per 100 DFLs.

Over the years the employment in sericulture sector has increased. Because of CDP interventions and profitability of sericulture sector during XI plan, additional employment opportunities for 15.6 Lakh persons were created in the sericulture sector. During field visits across sericulture practicing states, it was observed that many new farmers are coming forward to take up sericulture activities. Many new farmers have just joined sericulture in the year 2010-11 and 2011-12 who are yet to take crops. Therefore, the exact impact of Catalytic Development Programme would be known only after 2-3 years.

It has been noted that, transfer of technology is not adequate. For effective transfer of technology, extension work needs to be carried out vigorously especially at the upcoming centres of sericulture activities. Moreover, NGOs/SHGs need to be encouraged to get involved in CDP implementation.

2.11. CONTINUATION OF CDP DURING XII FIVE YEAR PLAN

CDP has contributed substantially to the growth and development of sericulture sector in the country. During the XI Plan, employment in the sector has grown by about 15.6 lakhs and has reached the level of 75.6 lakh people. This indicates that considerable interest in sericulture activities has been generated in the recent years through the intervention of CDP scheme. Moreover, many non-traditional sericulture practicing states have already taken up sericulture activities as a source of income and employment generation.

Sericulture income has been increasing for traditional states such as Karnataka, Andhra Pradesh, Tamilnadu, West Bengal and Jammu & Kashmir. In Southern sericulture traditional states the income estimated per sericulture farmer has been reported to be more than the per capita income of the state.

In non-traditional states the contribution of sericulture towards State Domestic Product (SDP) is not significant (in the order of 0.003%). In non-traditional states sericulture is practiced as a secondary activity and the income of these farmers from sericulture activities are relatively less.

During XII Plan, special emphasis needs to be given for the development of the seed sector. There is a need to encourage and develop Private Graineurs in the seed sector. Sericulturists refrain themselves for taking up seed sector components as it involves huge financial contribution from the beneficiaries. Moreover, they need to have a suitable grainage house. In order to motivate them, contribution of Central Government may be increased so that more graineurs would find it attractive to join the seed production. There is a need to implement Seed Act much more extensively so that quality of seeds could be ensured. More allocation in the seed sector may be sought in order to develop this sector.

Special attention needs to be given to Vanya sector development during XII plan as it arrests the deforestation and also provides gainful employment opportunities to tribal population and also utilization of vast tracts of natural forest resource. There is tremendous potential for enhancing Vanya silk since the silkworm food plants are naturally available in Jharkhand, Chhattisgarh, Orissa and North-Eastern states.

There is a need to encourage corporate participation in sericulture sector through rigorous promotional efforts by Central Silk Board and State department of sericulture. Emphasis should be given for effective transfer of technology to the farmers.

Emphasis should be given to promote rain-fed sericulture since there is scarcity of irrigation facilities. For sustenance of sericulture and for overcoming the negative effects of urbanization and industrialization on sericulture, new interior pockets need to be developed for sericulture activities.

Catalytic Development Programme has been broadly found successful and has been well received by the sericulture practicing states. CDP scheme has been able to maintain and sustain the sericulture sector and silk manufacturing to a large extent. However, during XII plan, much more need to be done for the development of this sector.

In view of the success of the CDP scheme during the XI Plan substantial scope exists for further improvement and development of the sericulture sector in the country and thus the CDP scheme need to be continued under XII Five Year Plan with certain modifications in the existing components and by adding a few new components as suggested above along with certain flexibility options.

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