
Role and Risk Factors involved at Middle Level Management in Sericulture in Andhra Pradesh

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Abstract

The services offered by the Department of Sericulture are mainly meant for the welfare of the entrepreneurs of On-farm and Non-farm sectors who directly and indirectly depend on the enterprise and for the overall development of the sericulture industry. For the purpose of organization and development of the industry, the Department of Sericulture has established different units in On-farm and Non-farm sectors and each of the units is looked after by middle level managers.

This study is mainly on the role of the middle level managers, their performance in organizational development, production and marketing systems and the risk factors involved in their jurisdiction. The study revealed that the main function being extension of technical guidance and providing other facilities to farmers, the managers have a role to play for the welfare of the Sericulturists. It also found that the unit manager's job is quite challenging in implementation of various schemes and also with a financial risk. Further the study also focused on the recommendations / suggestions for following a strategic approach in effective running of the units.

Introduction

Sericulture in India is a sustainable farm based economic enterprise positively favouring the rural poor because of its relatively low requirement of fixed capital and higher returns on investment. It consists of two main phases, one is mulberry cultivation which is basically agriculture in nature and the other one is rearing of silkworms for cocoon-silk production. Sericulture is a cash

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crop with a limited duration and the income per unit area is comparatively higher. The sericulture industry generates direct and indirect employment in varying activities upto the final silk products and their marketing and has great export potential. Each acre of mulberry cultivation, provides livelihood to 9 - 11 persons both directly and indirectly.

Andhra Pradesh is the second largest mulberry silk producing state after Karnataka and sericulture has been widely practiced in almost all the districts of Andhra Pradesh. Presently sericulture is one of the main occupations of the farming community in Anantapur and Chittoor districts. The Government of Andhra Pradesh has set up a separate department to promote the sericulture industry in both, on-farm and non-farm sectors through various schemes. In order to support the sericulture farmers and other entrepreneurs, the department has established various field units headed by middle level managers, who play a pivotal role. Middle level managers are answerable to the top management for achieving the targets with the support of the lower level staff. For achievement of targets, lower level personnel are to be properly guided and monitored by the middle level managers. Non-achievement of their targets by the lower level staff ultimately reflects in poor performance of the unit head. Hence, the middle level managers have to deal with both the live material on technical aspects and human resources available *i.e.* beneficiaries and the subordinate staff. In the sericulture industry, the ultimate yield is influenced by environmental factors *e.g.* rainfall, temperature, humidity and also on the policies of the Government / financial institutions/development agencies and other organizations. The present study was undertaken to know the role and risk factors at middle level management.

Objective

The main objective of the study was to identify and analyze the managerial challenges at middle level management while delivering the services to the beneficiaries of the sericulture industry. The specific objectives of the study were:

1. To review the duties and responsibilities of the middle level officers in cocoon-silk production and marketing of the services.
2. To identify the managerial risk factors involved at the middle level management while executing various activities of the organization.

Methodology

Comprehensive analysis of the study involved the usage of both primary and secondary data. The primary data was collected by administering a questionnaire to the 32 officers in-charge of the units covering both on-farm and non-farm sectors, asking them to express their opinions on various managerial aspects of the sericulture department and also on the entrepreneurs. Secondary data was collected from the records of the sericulture department, published books, journals and reports. Each of the respondents for the study was selected in the following pattern.

S. No.	Type of Field Units	Sample Size (No. of Units)
1	TSC (On-farm)	10
2	TSC (Non-farm)	3
3	TSC (Seed area)	4
4	Seed farms	4
5	Seed Grainages	2
6	CB Grainages	4
7	Seed Cocoon Market	2
8	Cocoon Market	3

The various units of the Sericulture Department with regard to their functions, production and marketing of services and the risk factors involved are as follows.

1. Technical Service Centres (TSCs)

A. (On-Farm): Following are the various activities of on-farm TSCs.

- Organization of Entrepreneurship Development Programme (EDP).
- To work as a Technical Information Centre by providing technical guidance to the farmers.
- Marketing of silkworm eggs produced by Government grainages.
- To facilitate finance to the farmers through various financial agencies.
- Providing certain facilities like mulberry cuttings, rearing equipment on subsidized rates, extending subsidy for various activities to the farmers.

- Management of diseases both in mulberry cultivation and silkworm rearing.
- Organization of training programmes on skill and technology up gradation for the Sericulturists.
- Implement various schemes for overall promotion of the sericulture industry and provide timely feedback to the concerned authorities.

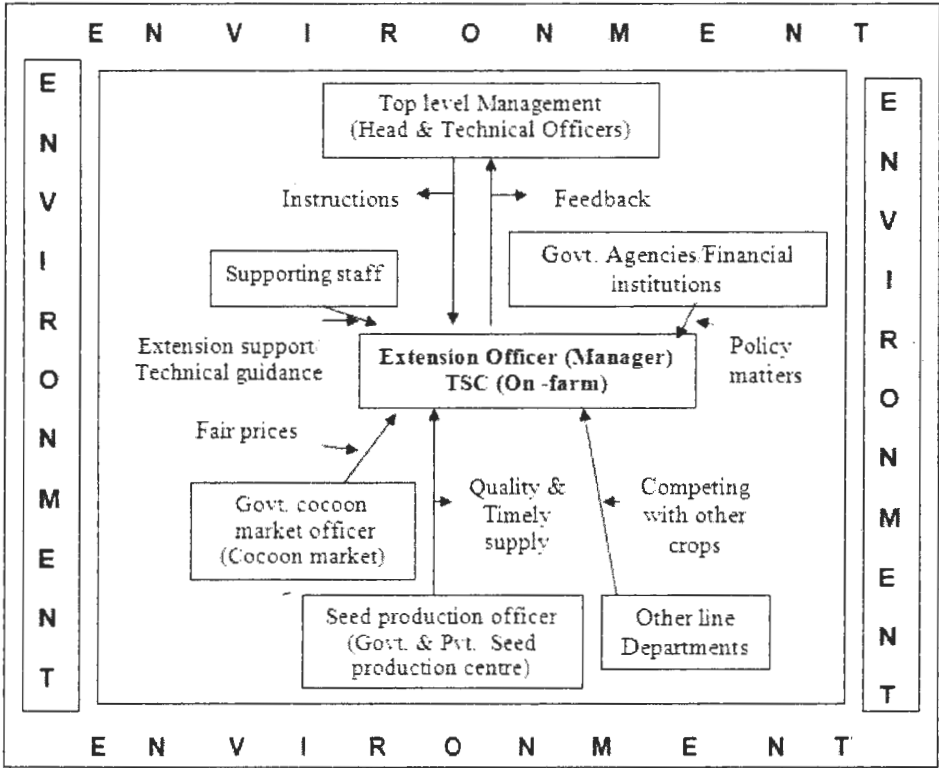
Opinion of the respondents: All the managers working with the units expressed that the activity of lifting of the layings is associated with a lot of risk. Seventy per cent of the respondents felt that sericulture enterprise has to compete with other cash crops. For effective transfer of technologies, extension staff is to be provided with a vehicle facility along with audio-visual support. Further sericulture is associated with various risk factors. Eighty per cent of the respondents expressed that the enterprise should be covered with insurance provision (Table 1).

Risk Analysis: The main risks (Fig. 1) of the Extension officer under on-farm sector include the selection of new beneficiaries under different categories as per the target fixed, grant and distribution of subsidies for mulberry plantation,, construction of rearing house and purchase of rearing equipment. The beneficiaries insist on the extension officer for sanction of loans and subsidies which are offered by different financial agencies. Any lapse during execution may lead to suspension and demotion of the extension officer. On the other hand, in case of delay or non-extension of these facilities, there is a risk of removal of mulberry gardens and total withdrawal by the farmer from the sericulture sector (Reddy et al., 2000). The head of the unit has to take care of the welfare of the farmers, convenience of supporting staff to compete with other agricultural crops for sustenance of sericulture in the field.

Table 1: Opinion of the Managers working with Technical Service Centre (On-farm)

Sl. No.	Description	Opinion of the respondents	
		Agreed (%)	Not Agreed (%)
1	Involved with lot of risk in lifting of the layings	100	0
2	Sericulture - Competition with other cash crops	70	30
3	Extension staff are to be provided with vehicle facility	100	0
4	Audio-visual support required for extension staff	80	20
5	Sericultural activities are to be covered with Insurance provision	80	20
6	Seed rearers are to be given support for developing infrastructure facility	70	30

Fig.1. Different Risk factors at Middle level Management in Technical Service Centre (On-farm)



B) **Non-farm:** The functions of non-farm TSCs are as follows:

- Providing technical assistance and training to the entrepreneurs on advanced machinery and new technologies of reeling, twisting & weaving, dyeing & printing.
- Organization of Entrepreneurship Development Programme (EDP).
- Providing marketing facilities to reelers and financial assistance to the needy people through Government and other financing bodies.

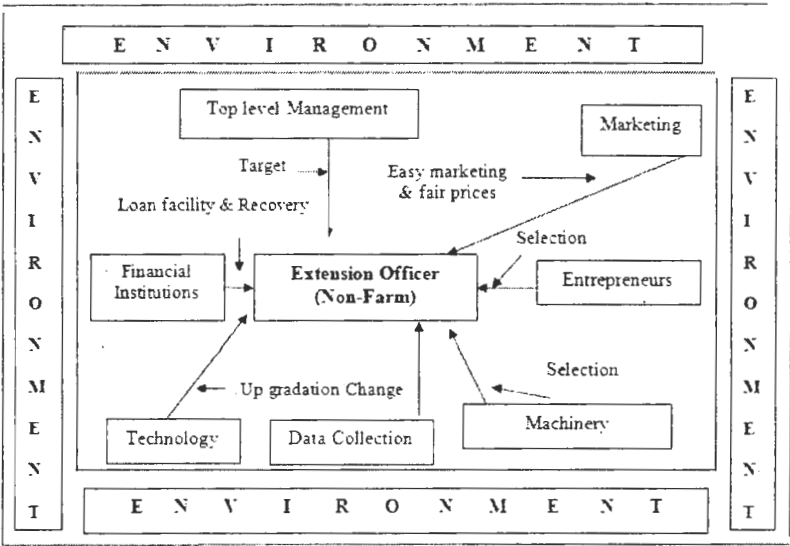
Opinion of the respondents: The technical services provided by the managers of the units to the entrepreneurs on advanced machinery and new technologies of reeling are of vital importance in developing the post cocoon sector. Seventy per cent of the respondents opined that refresher training is required for the staff working in the non-farm sector. Further 70 per cent of the respondents felt that, the entrepreneurs are also to be trained for skill upgradation. All the respondents felt that the working capital is to be provided for the beneficiaries. For the development of post cocoon sector, 100% of the respondents felt that proper planning and timely execution of the schemes is of vital importance (Table 2).

Risk Analysis: The Extension Officer has the risk of selecting the entrepreneurs to establish charka, improved charka, multi-end reeling, semi-automatic reeling machine, twisting units, dyeing and printing units including handlooms and power-looms for silk weaving. All the beneficiaries expect the facility of loans, margin money, subsidies and working-sheds. A great risk is involved in arranging credit/loans from different agencies and its recovery. Further, to motivate for upgradation of technology and arranging proper marketing facility that offers fair prices, requires skills to balance among various parties involved in reeling, twisting, weaving and marketing of the finished silk material. Whenever the produced goods are not sold for want of reasonable rates, it leads to inventory risk which slowly reduces the working capital on one side and accumulation of interest on the other side and slowly leads the units towards closure (Fig. 2).

Table 2: Opinion of the Respondents working with Technical Service centre (Non-farm)

Sl. No.	Description	Opinion of the respondent	
		Required (%)	Not Required (%)
1	Refresher Training is required for the staff working in non-farm sector	70	30
2	Proper planning & timely execution of the schemes is necessary	100	0
3	Entrepreneurs are to be trained for skill up-gradation	70	30
4	Working capital is to be provided to the beneficiaries	100	0

Fig.2. Risk factors at Middle level Management in TSC (Non-farm)



- 2) **Silkworm Egg Production Centre (Grainage):** The major activities of the silkworm egg production center are as follows:
- Procurement of raw material like Local Race (LR) & Foreign Race (FR) from seed cocoon markets and their preservation.
 - Processing of the raw material i.e. seed cocoons.
 - Proper utilization of male and female moths.

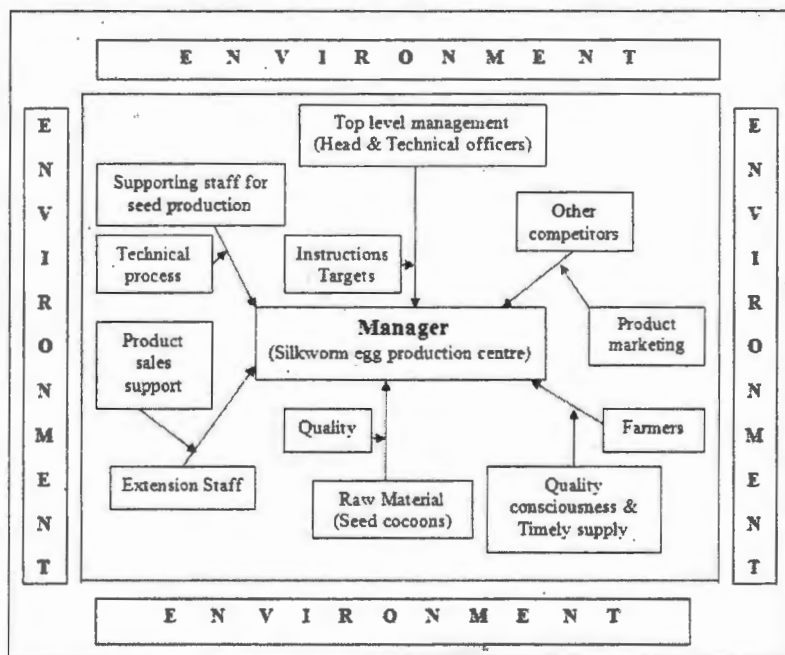
- Production of silkworm eggs (loose & sheet form) as per the norms.
- Total Quality Management (TQM) in production.
- Marketing of silkworm eggs.
- Testing for epidemic diseases like pebrine to ensure disease free seed.
- Book - Keeping
- Inventory management using Economic Order Quantity (EOQ) Technique
- Marketing of by-products
- Proper utilization of human resources i.e. unit work force
- Planning and execution for production and marketing of the product / eggs as per the targets fixed by the top management
- Payment of the seed cocoon cost and remitting of sale proceeds of the product into the bank.
- Responsible for answering the audit queries

Opinion of the respondents: Seventy per cent of the respondents have expressed that, to update the practical knowledge of the staff working with the units, refresher training is to be provided. Eighty per cent of the respondents expressed that a free hand is to be provided in purchasing the raw material (seed cocoons) where as 100% felt that there should be a policy consideration for write off for the excess / hatched layings and for the implementation of quality control measures (Table 3).

Risk Analysis: The silkworm egg production centre (Grainage) is headed by the Sericulture Officer/Assistant Sericulture Officer based on the production capacity, supported by Technical staff like Technical Officer, Technical Assistant and Full Time Contingent Employees. In the Silkworm egg production centre, the middle level managers have to deal with the farmers, other private silkworm seed producers, extension staff, procurement of quality raw material and the production staff. The unit in-charge faces a high rate of financial risk as the silkworm seed is of perishable nature, and has to be sold within a certain period of safe time limits. The unit officer has to follow the instructions issued by the top level management to achieve the set target production. Thus, during execution, while dealing with each factor, the middle level managers have to maintain their own strategy for overcoming the risks. Different risk factors and managerial challenges especially encountered by the middle level managers in silkworm egg production are given in Fig. 3.

Table 3: Opinion of the Middle level Managers working in Grainages

Sl. No.	Details	Opinion of the respondents (%)	
		Required	Not Required
1	Refresher training	70	30
2	Modification required against the present working system	80	20
3	Free-hand in purchasing raw material	80	20
4	Policy consideration for write off for the excess / hatched layings	100	0
5	Provision to write off is to be given for the excess / hatched layings	100	0
6	Performance oriented incentives are to be given	100	0
7	Quality control measures to be followed	100	0

Fig. 3. Different Factors of risk at Middle Level Management in Silkworm egg production centre

3. Basic Seed Farms: The various functions of seed farms are as follows.

- Procurement of various inputs for mulberry cultivation and silkworm rearing.
- Management of mulberry garden for qualitative and quantitative production of leaf.
- Management of silkworm rearing for production of qualitative seed cocoons.
- Maintenance of Silkworm racial characters and the vigour of the concerned race of the seed farm.
- Maintenance of records and accounts of the unit.
- Supplying of basic seed stock to linked units for multiplication.
- Management of men, material and machinery in running the unit on technical lines.

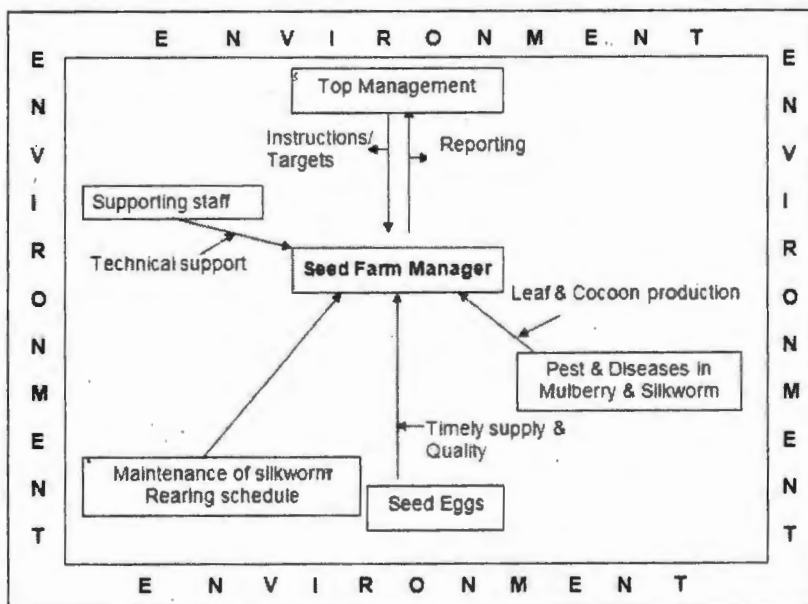
Opinion of the respondents: All the respondents (100 %) have expressed that, to update the practical knowledge of the staff working with the units, refresher training is to be provided. Sixty per cent of the respondents expressed satisfaction on the technical knowledge of staff working with units and 70 % felt that their job is quite challenging working with the Basic Seed Farms (Table 4).

Table 4: Response from the Respondents working in Basic Seed Farms

Sl.No.	Description	Opinion of the respondents (%)	
		Yes	No
1	Training for the staff working with basic seed farms is required	100	0
2	Staff possessing adequate technical knowledge	60	40
3	Nature of the Job is quite challenging	70	30
4	Present working system is to be modified	80	20

Risk Analysis: The unit is looked after by the Sericulture Officer and supported by the required technical staff and full time contingent workers. The manager faces the risk in the production of the quantity and quality of the leaf due to seasonal fluctuations, rainfall, water shortage, timely application of inputs, disease and pest attack, which also affects the quality of the leaf. On the silkworm rearing side, the quality of the basic seed; quality leaf production, maintenance of hygiene and rearing management are the major challenges and risks (Fig. 4).

Fig. 4. Different factors of Risk at Middle level Management in Seed Farm



4) **Cocoon Market:** The cocoon market plays a very important role in the sericulture industry. This is the place where farmers and cocoon producers sell their product and realize the returns. The reelers are the buyers who purchase the raw material *i.e.* cocoons for reeling activity. The following are the major activities at the cocoon market handled by the Market Officer.

- Providing marketing environment and facility to both sellers and buyers
- Organizing different elements for auction of cocoons
- Ensure fair trading and fair prices to the farmers as per their quality of cocoons
- Displaying the previous day's prices of the product of different markets
- Competing in bidding to ensure reasonable price to the farmer
- Providing facilities to women sericulturists
- Collecting the market fee both from sellers and buyers
- Management of day to day finance
- Management of the personnel in the unit
- Management of health hazards in the market

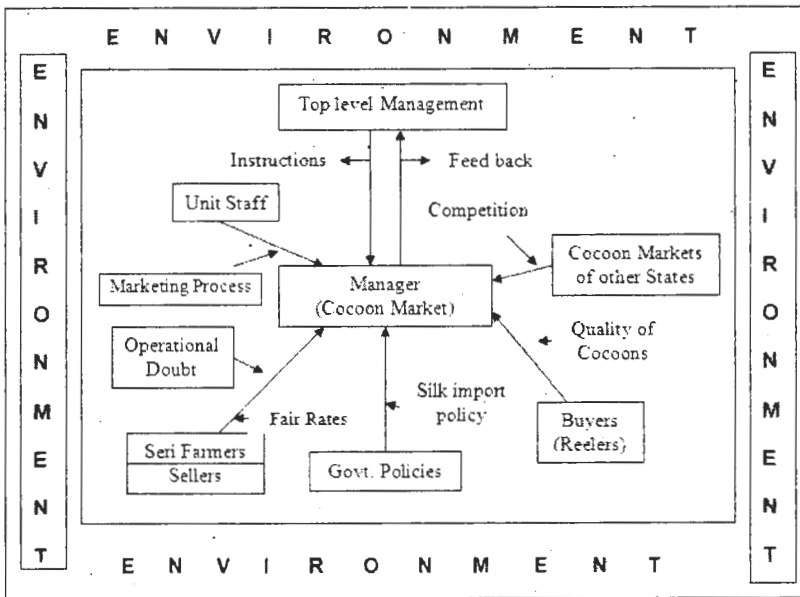
Opinion of the Respondents: The respondents felt that, as a manager, one has to ensure fair trading and fair price to the farmers and is also expected to work without any bias towards the sellers or buyers. All the respondents expressed that strategic decision making is needed on excess arrivals of cocoons to the market and regarding the allowances to be given to the staff working with the units. Eighty per cent of the respondents felt that seed farmers are to be educated on a timely basis on the technical norms (Table 5).

Table 5: Response from the Respondents working in Cocoon market

Sl. No.	Description	Opinion of the respondents	
		Required	Not Required
1	Strategic decision making to be followed on excess arrivals of cocoons	100	0
2	Women entrepreneurs are to be provided with separate facilities	80	20
3	Allowances are to be given for the staff working in the market	100	0
4	Introduction of fixed prices based on the quality	80	20
5	Modifications are to be made for the existing marketing system of seed cocoons	60	40
6	Seed farmers are to be educated timely on the technical norms	80	20

Risk Analysis: The Market Officer is the facilitator for the commercial cocoon transaction in the Government cocoon markets. He has to follow the procedures laid down by the top management. Before starting of the proceedings, the buyers i.e. Silk reeler or merchants should deposit the amount according to the level of their transaction for that particular day; otherwise, it will be a risk in effecting payment to the sellers i.e. Sericulturists. More the arrival of cocoons in the market; greater is the risk of the market officer. He has to ensure that all the cocoons are transacted and payments are made to the farmers on the same day. Further, the market being a public place with a lot of floating population with live products, there is a risk of health hazard which has to be taken care of, by the officer in charge. Hence, it is the ultimate responsibility of the officer to guide the subordinate staff to complete the marketing process without any complaint besides reporting back to the top management about the day's proceedings. Thus the market officer has to tackle public behaviour, transaction problems, financial risks, inventory and health risk (Fig 5).

Fig. 5. Different factors of risk at Middle level Management in Cocoon Market



In the Sericulture Department, middle level managers are performing their duties with a high rate of risk and they are shouldering a lot of responsibility. In the light of the above factors, this study points out the following findings and suggestions to have an effective and risk free environment in the department in the various units.

Findings

1. The job of Unit Officers of On-farm TSC's (Technical Service Center) is quite challenging in implementation of various developmental schemes including facilitating layings to the sericulturists.
2. The Unit managers of Non-farm TSC's opined that identification of beneficiaries for implementation of various schemes and further follow up is a risky affair.
3. The unit managers of Seed farm, Seed areas and Seed cocoon production are facing the problem of maintaining total quality management in seed cocoon production, due to certain external and internal environmental factors.

4. In case of seed (cross breed) production, over supply of raw material by the top management as per the annual plan leads to excess production of eggs.
5. The manager of the seed cocoon market faces a risk, while following technical norms in selection of the raw material, rejection of lots and ultimately makes the seed farmer unhappy, which may lead to non-acceptance of seed crop rearing by the seed farmer .
6. All the respondents expressed certain risks with regard to the excess production of eggs over the demand and also with the competitors in the field, like License Seed Producers (LSPs), seed agencies of Karnataka and other agents.

Suggestions for Risk Free Environment in the Organization

The respondents have given the following suggestions to minimise the risk factors for better organization of the unit on sound technical lines.

1. Presently, the seed cocoon market officer is supplying the raw material i.e. seed cocoons to the egg production centers (Grainage). Here, officers in-charge of grainages are not provided with the crop details of the cocoons supplied. The Grainage officer may also be involved in verifying the healthy seed crop for disease free raw material (cocoons) for egg production. Thus, grainage in-charge would be given a free hand in purchase of quality raw material.
2. At times, due to lack of demand in the field, the grainage in-charge is forced to preserve the layings in the cold storage. When the layings are not released within the safe period, the embryological development gets affected which results in poor hatching and ultimately poor crop performance at farmer level. This leads to loss of goodwill for the egg production centre. Hence, the production of silkworm layings may be planned after proper study of the future field requirement. Alternatively, the networking of the laying production centers may help to overcome this problem. Finally, grainage in-charge may be permitted to reject and write-off the over consigned layings in order to safeguard the interest of the farmer and goodwill of the production unit.
3. The extension personnel may be equipped with the latest equipment viz., audio-visual equipment, literature/brochures on latest technologies and CDs and their technical knowledge may be upgraded in order to transfer the same to the field level entrepreneurs.
4. The extension system may be supported with proper transport facilities to motivate the extension workers for frequent visits.

5. Poor management, environmental factors and/or disease occurrence leads to a failed or poor seed crop, for which field staff are held responsible. Whenever such seed crops, which do not meet the technical norms, are rejected, the seed farmers not only suffer due to losses but also intend to leave sericulture, which ultimately puts the field staff in trouble. Hence, certain strategies are to be framed to avoid the risk at Technical Service Centers of the Seed areas.
6. Knowledge up-gradation in the latest technologies and reeling machines may be provided to the reelers together with support for working capital. The financial bodies may be persuaded to come forward for extending financial assistance to the reelers, who may be blacklisted and not allowed to purchase the cocoons in the cocoon market in case of failure in repayment of loan.

The study has also brought out certain issues for policy decisions to be made for smooth functioning of the organization and optimising certain risk factors for strengthening the sericulture department, which in turn would extend the need based facilities for the success of the sericulture industry in the state of Andhra Pradesh.

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