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Sericulture - A Potential Agro Based Enterprise

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ABSTRACT

Sericulture is an ancient and important rural agro-based industry per excellence with agriculture base and industrial super structure. India's economy is largely depends on the success of agriculture and associated farm activities, as more than 70 percent of the people's livelihood is depending on this sector. Sericulture industry with its rural based on-farm and off-farm activities and enormous employment generation potential has been recognized as one of the most appropriate avenues for socio-economic development. The industry covers different on-farm and non-farm activities involving various groups of people. This sector offers gainful employment for the rural masses aswell as for the educated youth in semi-urban and urban areas. Sericulture growth will certainly improves rural economy, by creating income generating entrepreneurial opportunities. In view of the significance of sericulture industry for the economy of the country, the paper enlightened the entrepreneurial opportunities in agricultural based activities of sericulture.

Keywords: Agro-based, Enterprise, Sericulture

I INTRODUCTION

Silk is a natural fiber and was amongst the earliest fibers discovered by man with others being wool, hemp, linen and cotton. Silk has several natural properties that make it distinct from all other fibers both natural and manmade. It has a natural luster, and inbuilt affinity to rich colors, high absorbance, light weight yet stronger than a comparable filament of steel, poor heat conduction that makes it warm in the winter and cool in summer, flexibility and an excellent drape.

Sericulture is a comprehensive agro-based cottage industry, which aims at uplifting the socio-economic standards of people who are engaged. As a dynamic small-scale industry the employment potentiality of the silk industry is extensive. The major activities of sericulture comprises of Establishment of Mulberry, Cocoon production, Raw silk production and fabric production. The broad-based development of the agro-based industry will improve both the social and physical infrastructure of India.

Sericulture is the art and technique of silk production. It is an ancient industry in India dating back to the second century B.C. India's economy is largely dependent on the success of agriculture and associated farm activities as more than 70 percent of the people's livelihood depends on this sector. Sericulture being an agro-based enterprise fits very well in India's rural structure, where agriculture continues to be the main industry. Strengthening of sericulture research and extension systems is one of the most important needs for sericulture growth. Sericulture industry provides employment to approximately 8.25 million persons in rural and semi-urban areas in India.

India is the second largest producer of silk in the world after China and the largest consumer of raw silk and silk fabrics. Among the four varieties of silk produced, as in 2016-17 Mulberry silk accounts for 70% (21205 MTs) and Vanya silks (Tasar,Eri and Muga around 30% (9060 MTs)out of the total raw silk production of 30265 MT. In total production of mulberry silk, around 75% percent of silk coming from traditional crossbreed silkworms and 25% silk is bivoltine silk (5205 MTs). (Source: CSB reports).

Sericulture industry with a broad agricultural base is an excellent avenue for providing employment with various entrepreneurial opportunities for the rural development. The cultivation of mulberry plants and rearing of silkworm are agro based, while the post cocoon activities are industrial. The various entrepreneurial opportunities in sericulture industry are Raising of Mulberry Nurseries, Preparation and supply of Silkworm eggs (DFLs),Chawki Rearing units (Young Age Silkworm Rearing),Cocoon production, Silk reeling, Silk twisting, Silk yarn and fabric dyeing, printing, Silk weaving, Silk fabric finishing and Cocoon and silk based handicrafts etc., Sericulture and silk production have an enormous potential in our country provided it is made available to rural people, especially women, and its marketing is organized independently. It can serve as an excellent mode for employment generation and augmentation of income.

In view of the significance of sericulture industry for the economy of the country hereunder enlightened the entrepreneurial opportunities in agriculture based activities of sericulture i.e. Raising of Mulberry saplings, Preparation and supply of Silkworm eggs (DFLs), Chawki Rearing units (Young Age Silkworm Rearing) and Cocoon production.

II RAISING OF HIGH YIELDING MULBERRY SAPLINGS

Mulberry leaf is the only food for silkworm larvae; hence cultivation of mulberry is an essential activity to takeup silkworm rearing. Though mulberry plantation can be established by planting cuttings directly in the field, using saplings for the establishment of the garden has got many distinct advantages over the direct plantation of cuttings, majorly higher survival rate due to development of root system. Saplings get established quickly and grow vigorously. Realizing the importance of the initial establishment of garden by using saplings, farmers are preferring saplings for the establishment of the mulberry garden. Hence, the production of saplings in a large scale can be taken

up as one of the income generating activities. Annual income of small to medium land holders between Rs.12000-15000/ ha was too little to provide livelihood to their families. Most important fact is that the family members who used to go outside in search of wages can be engaged in their own farm nursery. Nursery is on a small scale, helps in creating an assured employment and raising social value of the rural youth farmers and farm women in the community. By following standard nursery techniques from one acre of nursery, about 1.20 lakhs of good saplings can be raised taking into account of 20% loss, with the cost of production of Rs.2/-sapling. A net profit of approximately Rs. 2,40,000/- can be obtained by raising saplings in one acre considering the selling rate of four rupees per sapling. Saplings can be raised and sold for every 4 months. So for 12 months excluding 2 months for various reasons saplings can be raised and sold two times per year. Hence from one acre of land one can expect income around Rs.4,80,000/- per annum.

III PREPARATION AND SUPPLY OF SILKWORM EGGS (DFLS)

A key factor for success of Sericulture industry depends not only on food plants but timely supply of superior quality of silkworm seed (Silkworm eggs) to the farmers should also be ensured. The establishments where the disease-free commercial seeds are produced in mass to be supplied to rearers are called Grainages. Success of silkworm rearing largely depends on careful grainage operations. Therefore, management of seed production plays an important role on overall returns. To produce quality seed, it is very important to adopt scientific methods of egg production process, right from the seed crop rearing to egg incubation. There are not only government grainages, but also licensed seed producers under private sector to meet the existing demand of silkworm seed production. The venture is highly profitable; each rupee of investment will fetch one rupee or even more as net profit.

IV CHAWKI REARING (YOUNG AGE SILKWORM REARING)

The first and second instars of the silkworms are considered as infant or young age silkworms are also known as chawki worms. Scientific rearing of young silkworms is critical for a successful harvest of cocoon crops, since they are delicte. Hence, they have to be reared with extreme care on scientific lines. Chawki silkworm rearing plays a vital role in sericulture industry by providing robust chawki worms for the production of quality bivoltine cocoons with improved yields (Siva Prasad *et al*, 2015). The young age larvae occupy 8-10 days of the larval period. Careful rearing at this stage is crucial for the health and hardiness of latter instars. Successful chawki rearing reduces infant mortality and increases total cocoon yield. Efficient maintenance of chawki centres and the supply of healthy worms after completion of 2nd instar will fetch high dividends, improve the cocoon crops and reduce the hard work to the sericulturists. As an enterprise it will provide remunerative self-employment to the rural and educated women and youth.

Chawki rearing of mulberry silkworms has become a chief entrepreneurship in the sericulture industry in sericulture

track of India.15,000 DFLs can be reared/month in 3 batches @ 5000DFLs/ Batch. By disposal of chawki worms of 100 DFLs one can get net profit of around Rs.500.00 and by disposing chawkie worms from 15,000 DFLs profit would be around Rs.65,000-75,000.00/month.

V COCOON PRODUCTION

Silkworms are reared for the production of cocoons with meticulous coordination of many activities such as maintenance of mulberry garden, preparation and disinfection of the rearing room and appliances, procurement of DFLs or chawki worms, young and late age silkworm rearing, general hygiene, moulting care, spinning, harvesting etc., the basic raw material for the silk industry. Under ideal conditions the silkworm completes cocoon formation in 25 to 30 days from the day of hatching. If the chawki worms are used in place of silkworm eggs, the rearing can be completed in 20 days. At the end of 5^{th} instar it ceases its feed and spins a golden cocoon. By marketing the cocoons the farmers earn money. Many farmers see it as a profitable activity that they take up simultaneously with regular crop cultivation, particularly in regions where the ecological conditions are favorable.

By following scientific package of practices in mulberry cultivation using chawki worms and by practicing advanced sericulture techniques good cocoon yields can be obtained. Farmers can produce five or ten crops (by dividing one acre into two plots) per year; many farmers continue to use this as a main or additional source of income. On an Average 70 - 80 kg of cocoon yield can be obtained from 100 DFLs. The price of silkworm cocoons are between Rs 400 and Rs 450 per kg(Bivoltine). Per one acre around 1800 DFLs can be reared per one year and from 1800 DFLs expected cocoon yield will be around 14,400.00 kgs. Gross income would be around Rs.5,76,000.00 and net income would be around Rs.4,00,000.00/year/acre. So farmers are able to earn around Rs 4 lakh per acre in a year.

VI CONCLUSION

At present sericulture is very much profitable venture. Cocoon prices in the market are very attractive and there are many government schemes to provide financial assistance for drip irrigation, to set up Chawki rearing centres, for construction of rearing sheds and for other facilities. As there are supporting systems for the price of cocoons, all efforts should be made to increase cocoon production and also steps should be taken to expand sericulture in non-traditional areas also. One should have the knowledge of economics of any activity before its establishment. It has different angles which reflect on the net returns. It requires efficient management of human and natural resources to produce the best at lowest possible cost.

Mulberry Saplings

Chawki Silkworm rearing Centre

Silkworm rearing shed

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