CHAPTER IV

CAUSATIVE FACTORS FOR THE DEVELOPMENT OF SERICULTURE IN ANANTAPUR DISTRICT
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Sericulture is being practised in the entire district of Anantapur, but it is mainly concentrated in Hindu-pur, Kadiri, Madakasira, Penukonda, Dharmavaram and Anantapur divisions. Anantapur district has suitable loomy soils for mulberry cultivation. Moreover, majority of the farmers are vexed with traditional crops because of their frequent failures due to drought. Though sericulture needs more investment in the initial stage for its establishment and maintenance, yield would be sufficient for sustenance even in severe drought conditions. It not only gives more income but employment. In view of the potentialities the area under mulberry is bound to increase in the near future. The demand for silk is also increasing every year both in India and abroad. Anantapur has already reached first place in the State in producing mulberry raw silk. Under these favourable conditions, there is a better scope for the development of sericulture in Anantapur district.

To meet the raising demand for silk (both in domestic and abroad) the Government of India is implementing a five year project to develop sericulture with the financial assistance from World Bank. In this context Anantapur district is given priority in the allotment of funds. Necessary amount will be provided for sanctioning loans, subsidies and incentives to the sericulturists.
In order to provide necessary infrastructure to the sericulturists, additional facilities such as seed farms, markets and reeling units are proposed to be created. This include establishment of one reeling industry and grainages under private sector, two twisting units and establishment of silk exchange in public sector and Research and Training Institute at Rachepalli of Hindupur mandal.

Regarding incentives, 10 per cent of unit cost irrespective of the size of the land holdings is proposed to sanction under IRDP. Moreover, the sericulturists are provided with necessary monetary assistance for drilling of surface bore wells and deepening of open wells and for purchasing of pumpsets to lift water from wells. The seed rearers also be given benefit with 50 per cent of subsidy on shed and equipment.

The growth of sericulture in Anantapur district would accelerate with the assistance from the World Bank project and help in improving the standard of living of a number of small and marginal farmers in the district.

1. Adaptable to different environments:

In Andhra Pradesh, sericulture is practiced mostly in the districts of Anantapur and Chittoor, that too in the
elevated hilly regions. Of late, it has been noticed that mulberry is a hardy plant that can survive even in drought prone and warmer regions. As a result, the activity is gaining importance in these areas and also in the hot coastal plains where temperatures remains around 100°F in summer. It has also been realised that the risk of crop failures is less in the case of sericulture. To reduce the incident of the high temperature on the silkworm some indigenous cooling systems like improvised running perforated hoses at the top of rearing sheds to facilitates dripping of water, installation of fans to blow cool air through wet gunnies and even air coolers are adopted in the district.

2. **Quick returns:**

To start with mulberry crop takes only 6 months to mature and thereafter four to six crops can be had in a year. The leaves can be sold to silkworm rearers if the grower himself can not rear silkworm and sell the cocoons with better profits. Crops like sugarcane of jute take a year to give the yield and cotton about eight months. Paddy can be raised twice in a year. Even in the case of non-mulberry sericulture, the number of yields in a year are many, depending upon the type of silkworm and the food plant. Thus, sericulture is a source of recurring cash returns in the district, which enables the agriculturists to finance their operations without much recourse to debt.
3. **Returns per acre:**

The Rayalaseema survey also reveals that per acre net return from sericulture is more than \(2\frac{1}{2}\) per cent times than that of sugarcane. Even in the case of double cropping of groundnut or paddy, gross returns will be less than that of the sericulture.

The returns are comparatively low from sugarcane, paddy and groundnut crops require on valuable inputs of water and land. Sericulture makes an economic use of these two valuable resources and ensures for higher returns than any of the present uses of water namely, paddy, sugarcane and groundnut. The net return per acre in from sericulture is higher by five times over paddy, four times over sugarcane and two one-third times over groundnut, shown in Table 4.1.

The above analysis shows that an acre of mulberry yields comparatively high returns to the farmers and provides full time employment throughout the year. Sericulture thus, raises both the income and employment. **Comparison with high competing crops:**

An analysis of comparative advantages of sericulture requires a comparison of the employment generation per acre, with the competing crops in the district. However, in analysing labour units required for a particular crop, due to consideration must be given the differences in the soil and
<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Net return per acre</th>
<th>Water requirement of crops in inches</th>
<th>Net returns per acre inch of water (times)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Paddy</td>
<td>1,383</td>
<td>70</td>
<td>20</td>
</tr>
<tr>
<td>2. Sugarcane</td>
<td>2,168</td>
<td>80</td>
<td>27</td>
</tr>
<tr>
<td>3. Groundnut</td>
<td>657</td>
<td>15</td>
<td>44</td>
</tr>
<tr>
<td>4. Sericulture</td>
<td>6,770</td>
<td>65</td>
<td>104</td>
</tr>
</tbody>
</table>

Source: Economics of Sericulture in Rayalaseema, p. 90.
agricultural practices. To be scientific, a special enquiry into labour inputs in fields of uniform soil fertility as well as agricultural efficiency, customs and practices under homogeneous conditions - is necessary to evaluate correctly the labour inputs for judging the employment potential of different crops. Scientific studies under homogeneous conditions may not be necessary what is needed is an exercise which would give broad indication of the quantity of employment generation under different crops in the district.

Data relating to labour input required, per acre in the cultivation of major crops of Anantapur district such as paddy, sugarcane and groundnut are taken. Cropping pattern in the district reveals the wide differences in labour input among the crops. The Table 4.2 shows representative data on employment potential of groundnut, paddy, sugarcane and sericulture crops (raised) in the district. Among all crops sericulture provides maximum employment and groundnut with least employment.

The table shows that the input of labour, per acre of sericulture is more than three times that of sugarcane which is an annual crop. Even in the case of double cropping of paddy or groundnut, labour requirements are less than sericulture. Indeed, the labour requirements in mulberry gardening per acre, is nearly 2½ times that of paddy and
### TABLE NO. 4.2

**LABOUR (MAN-DAYS) REQUIREMENT OF IMPORTANT CROPS PER ACRE**

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Crop</th>
<th>Per crop employment</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Groundnut</td>
<td>52</td>
</tr>
<tr>
<td>2.</td>
<td>Paddy</td>
<td>98</td>
</tr>
<tr>
<td>3.</td>
<td>Sugarcane</td>
<td>141</td>
</tr>
<tr>
<td>4.</td>
<td>Sericulture</td>
<td>120*</td>
</tr>
</tbody>
</table>

Note: * A minimum of four crops were raised in agricultural year.

Source: D.V. Ramana, *Economics of Sericulture and Silk Industry in India*, p. 35.
4½ times that of groundnut under double cropping. Further, in the cultivation of these crops the employment of labour is periodic and fluctuating, thereby resulting in seasonal unemployment. But sericulture provides employment throughout the year to the family labour, hence, sericulture provides stable and more employment opportunities to rural people.

In a country like ours, where 80 per cent of the population live in rural areas, largely dependent on agriculture, the vital role played by sericulture which is an agro-based employment oriented industry needs hardly emphasised. As a result of the improvements effected in recent years, the sericulture industry has established its economic superiority over other competing crops with a highly satisfactory cost benefit ratio. Pursuit of sericulture in one hectare of irrigated land will provide full employment to ten persons (2 families - a family of 5 each) and provide them a net earning of around Rs.8,000 to Rs.9,000 per annum at the current costs of production and sale value of products. Besides, the sericulture industry is particularly suited to small and marginal farmers who grow their own mulberry and undertake rearing of silk worms.

Employment effects:

Further sericulture basically engages women and also the old and handicapped members of the cultivators
families. In fact, while rearing, the entire family of the sericulturist is involved. Hence, rearing generates less paid employment, though available farm servants are used for mulberry cultivation as for any other work and extra labour is hired for three or four days of picking at the period in the cycle of rearing when demand for leaves is at its maximum and household labour resources tend to become inadequate. As it is possible to raise five to six crops in a year, the family employment is distributed evenly over the year. In otherwords, sericulture activity has a most signific­ant effect on the employment of family labour. Thus, farm labourer is able to find employment all year round by combining work in mulberry cultivation with silkworm rearing. To be precise, development of sericulture creates employment opportunities at the rate of not less than 1½ persons, per acre of mulberry cultivation and rearing, assuming 300 working days per farm labourer for a year.

It is very interesting to note that mulberry cultivation and silkworm rearing provide employment throughout the year to the farmer. Yet another noteworthy feature of sericulture activity is that nearly fifty per cent of the cultivators practising it are small and marginal farmers and the average size of the land holding, under mulberry is hardly 1.04 acre.¹ Sericulture is, thus, a most suitable and productive

¹. D.V. Ramana, Economics of Sericulture and Silk Industry in India, p.34.
Indirect employment effects:

The whole area of raw silk industry, in the broadest sense, will also provide new employment. In silk reeling activity, there is a considerable scope for employment generation to the artisans and unskilled workers of rural areas. A reeler, with a unit of 10 basins, provides employment, to 21 persons including the reeler. The organisation of silk reeling and silk weaving can also help a lot many handloom weavers who have formed a vulnerable sections of the society in the rural areas with the introduction of cheap and attractive mill made cloth. Mulberry cultivation and associated activities will provide full employment not only to the small and marginal farmers but also to village artisans. The silk waste and pupae, the by-products of silk industry, open yet another sector of economic activities keeping people busy in processing and spinning of silk waste, producing pupae oil and pupae meal. The return from by-product adds to the profits of the primary producers besides giving jobs to many.

For the better yields from sericulture, the quality silkworm are the most essential. Silk spinning, weaving, dyeing and marketing etc., and by-product sector go on creating jobs. And there will be a further multiplier effect throughout the rest of the economy. If the job opportunities

occupation for small and marginal farmers.
created in the construction of irrigation wells, rearing houses, rapaid and replacement of rearing equipment, reeling, marketing, transport, extension research etc., with all their forward and backward linkage are considered, the employment potential of sericulture will be enormous. Finally, if the increased rural incomes from the sericulture industry are distributed fairly and evenly, they should increase the demand for kinds of consumer goods that can be produced domestically furniture, utensils, bicycles etc. These goods have the additional advantage that they can be made in relatively labour activity at each stage of production process is evaluated taking into account all its ramifications and linkages - the result would surely be helpful in setting appropriate employment and output goods.

One of the factors responsible for concentration of sericulture is the favourable climatic condition conducive for silkworm rearing and cocoon breeding in Anantapur district.

The second reason is that the district is close to the State Karnataka where sericulture has made rapid strides, with frequent visits to neighbouring places in Karnataka where sericulture is prospering the people of Anantapur have acquired skills required to raise sericulture in the district.
Absence of scope for alternative crop enterprise is another factor for the farmers in the district to go in for sericulture. It is only since the completion of Tunga-bhadra irrigation project, crop diversification and intensive cultivation have been taking place in some mandals of Anantapur district. However, the benefits of canal irrigation are not found in the mandals where the sericulture is presently concentrated in the district.

Above all a more powerful factor accounting for the accelerated growth of sericulture was due to additional finances made available under five year plan programme for the improvement of drought prone district like Anantapur.

It is noted earlier that the acreage under mulberry cultivation was very much accelerated in the district since 1970.