CHAPTER - 6

FINDINGS AND SUGGESTIONS

6.1 Findings

1. The agricultural aspect of sericulture consists mainly of two activities (a) cultivation of mulberry plant to produce leaf as food for the silkworms and (b) rearing of silkworms which produce cocoons. The cocoons are the raw material for reeling silk. The end result of all these activities is natural silk.

2. Mulberry cultivation is comparatively simple, whereas the worm rearing is a more complicated activity which calls for greater skill, management and understanding of various details.

3. The growth of the silkworms and, hence, the quality of the cocoons produced depends to a remarkable extent on the quality of mulberry leaf.

4. Mulberry is a quick growing plant and its leaves can be harvested many times a year.

5. Mulberry cultivation plays an important role in the economics of sericulture in as much as 60 per cent of the cost of the cocoon is accounted by mulberry leaves.

6. Mulberry can be grown in a variety of climatic conditions.
7. Groundnut and cotton are the predominant cash crops in the selected districts. Therefore, groundnut and cotton are the main competing crops in the study area.

8. There is considerable variation in the size of cultivation as between sericulture and the non-sericulture crops.

9. The size of cultivation in the case of sericulture is very small. The minimum size is as small as 0.2 acre in the Bellary district and 0.50 acre in Bijapur and Gulbarga districts.

10. The maximum size in sericulture is 5.50 acres in the Gulbarga district.

11. The modal size of sericulture is extremely small which is just one acre in all the selected districts. Therefore, sericulture is ideally situated to the small and marginal farmers in the drought-prone areas.

12. In contrast to sericulture, there is a wide variation in the size of cultivation among the non-sericultural crops. The minimum size of cultivation is around 0.50 acre to 5 acres in the different districts and the maximum size varies considerably from district to district. The maximum size is the lowest in Raichur district (23 acres) and the highest in Gulbarga district (84 acres).
13. The modal size in respect of non-sericulture can not be traced. However, the model size varies between 4 and 8 acres in the non-sericultural plots in the selected districts.

14. Sericulture is practiced mostly by the small and marginal farmers.

15. Negative trend in the growth of annual gross income is observed in the case of sericulture than in the case of groundnut and cotton during the period, 1990-99.

16. The growth of annual gross income is not stable both in the case of sericulture and groundnut and cotton crops.

17. Over the period 1990-99, variation in gross annual income is comparatively more negative in the case of sericulture than in the case of groundnut and cotton. During the period the downward trend in the gross income of sericulture has varied between 5 and 3 times. Bellary district registered a maximum of 5 times negative growth in gross income, while Gulbarga and Bijapur districts recorded a minimum variation of 3 times. The negative variation in the gross income of sericulture in all the districts combined was 5 times over the period.

18. As contrasted to the variation in annual gross income of sericulture, groundnut and cotton crops in all the districts as well as for all the districts taken together have registered less number of decline.
19. The annual variations in gross income in groundnut and cotton crops around the rising trend are more prominent. The index numbers (1990-91 = 100) of gross income for sericulture, groundnut and cotton have risen to 104.90 (Bijapur district), 695.00 (Dharwad district) and 1871.65 (Bellary district) respectively in 1998-99.

20. Wide changes in the annual gross income are common in groundnut and cotton crops. But the annual gross income from sericulture has varied within very narrow limits.

21. The index number changes in the annual gross income both in the positive and negative direction are quite pronounced in the case of groundnut and cotton than in the case of sericulture. A decrease to the extent of 30 per cent in the annual gross income in the Gulbarga district and an increase of more than 1700 per cent in the annual gross income from groundnut is observed; while cotton in the Dharwad district records a maximum increase of 1900 per cent (1990 = 100) during 1990-99. In the case of sericulture the variation in the yearly gross income from one year to the next over the period is negligible.

22. The range of variation between the highest and the lowest per acre gross income is more marked in the case of groundnut and cotton than in the case of sericulture. The range as a percentage of average gross income has exhibited considerable variability in the case of
groundnut and cotton crops in all the districts, but is markedly less in sericulture. The range is comparatively less and narrow in sericulture and varies between 2.73 per cent (Dharwad district) and 9.22 (Bellary district) and its average for all the districts is 3.31. In contrast to sericulture, the range is considerably wide for cotton and groundnut crops; it varies between 192.44 per cent for groundnut and 391.23 per cent for cotton in the Dharwad district.

23. The inter-district variation in standard deviation for annual gross income in respect of sericulture is too small. The standard deviation of annual gross income varies between 0.47 (Dharwad district) and 1.01 (Bijapur district). The average standard deviation for all the districts in respect of sericulture is just 0.45. This reveals that annual gross income from sericulture has low instability. In contrast to sericulture, the annual gross income in groundnut and cotton crops exhibits higher standard deviations and hence, higher instability. There is inter-district variation in standard deviation which ranges between 2.49 (cotton in Raichur district) to 5.74 (groundnut in Dharwad district).

24. Groundnut and cotton are 4 times unstable as that of sericulture in respect of annual gross income.
25. The variability in annual gross income in the case of sericulture, on the whole, is considerably lower as compared to that of groundnut and cotton crops.

26. The coefficient of variation in the case of sericulture is markedly less in all the districts. The non-sericultural crops – groundnut and cotton – exhibit a very wide variation in their annual gross incomes and hence are highly unstable as compared sericulture. The range of coefficient of variation in annual gross income in sericulture is less than 1, while it is around 70 to 80 in the case of groundnut.

27. Judged from the point of view of coefficient of variation, sericulture has low instability while groundnut and cotton crops have high instability in respect of gross annual income.

28. The year-to-year variability in the annual gross income in the case of sericulture is markedly lower than that of groundnut and cotton for individual districts as well as the average of all the districts.

29. There is a negative correlationship between prices and yield in the case of sericulture. The index numbers of gross income for sericulture show that annual gross income has varied between very narrow limits resulting in negligible instability. The upward and downward movement in yield from sericulture is associated with a reverse movement the prices. Both yield and price variability in sericulture is low and around 7. Yield and price variabilities moving against each
other in equal degree are equally responsible for stabilizing gross income from sericulture.

30. Groundnut and cotton crops exhibit a very high degree of variability in their annual gross income indicating a positive correlation between yield and price. There is a consistent annual increase in the prices of groundnut and cotton which have more than doubled over a nine year period, 1990-99. Barring for two or three years during the period, the annual rise in price is associated with an increase in yield in the case of groundnut and cotton individually and collectively in all the districts and all the districts taken together revealing, on the whole, a positive relationship between yield and price.

31. The yield variability for groundnut and cotton is relatively lower than their price variability. Hence, the most important factor contributing to gross income variability of groundnut and cotton is the variability of their prices.

32. For all the years from 1990-91 to 1998-99 and in respect of all the districts and all the districts taken together it is observed that the annual net income from sericulture has varied within narrow range while it has varied in large magnitude in the case of groundnut and cotton and groundnut and cotton taken together.

33. Net income in sericulture is always positive. But in other crops – groundnut and cotton – negative net income for a year or two is
observed. This indicates that non-sericultural crops have suffered losses for some years.

34. In the case of sericulture per acre gross income and costs are absolutely and relatively much higher than groundnut and cotton. The result is that the net income from sericulture is absolutely and relatively much higher than the other crops (groundnut and cotton).

35. The net income of sericulture over groundnut and cotton crops is absolutely, relatively and substantially much higher.

36. The highest incremental income (1040.92 per cent) from sericulture over groundnut is recorded by Gulbarga district followed by all districts, Bijapur, Raichur, Bellary and Dharwad districts. Raichur district records the highest incremental income (237.36 per cent) from sericulture over cotton and is followed by the districts of Gulbarga, Dharwad, all the districts and Bellary.

37. The incremental income of sericulture for all the 5 districts put together is the highest with regard to cotton and higher with regard to groundnut and average net income of groundnut and cotton.

38. The employment generated in the case of establishing the mulberry garden under rainfed conditions is 30 man-days per acre.

39. The man-days contributed by mulberry cultivation and silkworm rearing per acre are more or less the same. The labour utilization per
acre for sericulture is 360 man-days, whereas it is 78 and 51 man-days for groundnut and cotton cultivation per acre respectively.

40. The employment generated in mulberry cultivation and silkworm rearing is more than 4½ times the employment created in groundnut cultivation and more than 7 times the job opportunities in cotton cultivation.

41. Sericulture absorbs more women labourers in absolute terms and as a share in the total labour force involved in sericulture.

42. In the matter of the establishment of the mulberry garden the share of women in employment is very slight (4 per cent).

43. The majority of the farm-women were involved in almost all the sericultural activities. The share of labour contributed by women in the maintenance of the mulberry garden is as high as 93.3 per cent.

44. Even in respect of silkworm rearing, the contribution of women to man-days is as high as 77.27 per cent.

45. The total labour component of women in sericulture (maintenance of mulberry garden and silkworm rearing) works to 304 man-days and a share of more than 84 per cent in the total working days.

46. Women's share in the work-days in groundnut as well as in cotton cultivation is almost same as that of in sericulture. But, however, the contribution of women to work-days in sericulture is higher than both
the groundnut cultivation (70.51 per cent) and cotton cultivation (70.58 per cent).

6.2 Suggestions

1. Since the small and marginal farm sector is becoming increasingly important in terms of the number of holdings as well as the area held, there is a necessity of increasing output per unit of land for increasing output in a stable manner and for raising the purchasing power of the poor.

2. Policies must be designed not only to reduce instability in crop production but also to stabilize income/employment in drought and dry areas.

3. The per acre land should ensure productivity which permits income per head to be raised to the poverty line or above it. This is possible in the case of sericulture since it is a high value crop.

4. Sericulture should be adopted as a substitute crop to other crops (either to groundnut or cotton or both together) to raise per acre net income substantially.

5. A strategy that minimises the use of land and maximises the use of labour is the need of the hour in the context of the population-pressed-economy.
6. Improved technology and agronomic practices should be applied to sericulture to enhance its income generating capability and reduce farm income instability.

7. Development of dry-land technology is essential to achieve growth with equity and stability.

8. Disease and drought-tolerant and high yielding varieties of mulberry plant should be adopted by the farmers.

9. New strains of mulberry meant to increase leaf yield which are evolved in the research institutions should be tried in the field.

10. High-yielding and disease-tolerant silkworm-breeds must be chosen to obtain bumper crops of quality cocoons.

11. Water-harvesting techniques should be used to advantage in dry areas to conserve the available rainwater.

12. Priority in dry farming research should be accorded to the various water-harvesting techniques so that the limited rainfall in the dry regions is conserved and put to better use.

13. Judicious water-management by the sericulturists for mulberry both under the rainfed and irrigated conditions is advocated.

14. Supplementation of water through irrigation is recommended to achieve higher leaf yield.

15. Water should be properly managed in summer to harvest good crops.
16. Practices such as repeated inter-cultivation operations and mulch applications either by growing suitable green manure crops or through stalks of various other crops should be adopted to minimise the loss of stored moisture in the soil.

17. Under dry land farming techniques during the post-rainy dry spell stored water in ponds should be used to provide well timed protective irrigation to increase yield.

18. All necessary steps should be taken to avoid water loss and evaporation.

19. The reeling cocoons produced in the rural areas should be marketed at remunerative prices and the cost of transporting them should be held low enough.

20. There must be proper marketing linkage to assure remunerative prices to the sericulturists.

21. Arrangements should be made to open more purchase centres in rural areas within the reach of small farmers or to pool their output and transport it to the purchase centres.

22. In dry areas, small and marginal farmer-sericulturists should be given opportunities and facilities to adopt the new technology by providing them with preferred access to inputs, credit and extension as a package.
23. Apart from the risk of drought which is common to all farmers, a sericulturist faces a number of other risks as sericulture consists of operations which are technical in nature demanding constant and continuous attention. Therefore, it is recommended that the training programmes be arranged more frequently not only to the existing and prospective sericulturists, but also to the prospective labourers. This will greatly reduce the risk element in sericulture.