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RESEARCH ARTICLE :

Technological gap in adoption of recommended sericulture cultivation practices

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SUMMARY : The study was conducted in Vijayapur and Bagalkote districts of Northern Karnataka in 2019-20, which comes under non-traditional areas of sericulture. The sample size selected was 120 and the study revealed that 40.00 per cent of sericulture farmers belonged to high technological gap category. The major contributors in technological gap of sericulture production technology were soil pH management, disease control measures and chawki silkworm rearing methods. Keeping those above constraints to consideration the suitable policy implications by the government and with the suitable extension strategies it may be reduced and helped to improve sericulture status.

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KEY WORDS :
Technological gap, Adoption, Recommended, Sericulture cultivation practices

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BACKGROUND AND OBJECTIVES

Sericulture is an art and technique of silk production. Usually, the Indian economy is mainly dependent on the feat of agriculture and allied farm sector activities. Being an agro-based sector, sericulture plays a major role in improving people's economic condition in rural areas. It helps to improve employment generation in both rural and semi urban areas.

Sericulture is concerned with silk production and it is distributed into 5 stages, *i.e.,* mulberry cultivation, silk worm seed production, silkworm rearing, reeling of raw silk and weaving of silk. Sericulture was mainly practiced on small and medium-sized holdings but due to its remunerative nature few big farmers also practiced sericulture in the country. Silkworm rearings are of four types: Mulberry, Eri, Muga and Tasar. Silk is a natural fibre and was amongst the earliest fibres discovered by man with others being wool, hemp, linen and cotton. Silk is a fibroin made of proteins secreted in the fluid state as single filament by a caterpillar, popularly known as 'silkworm'. These silkworms feed on the selected food plants and spin cocoons as a 'protective shell' to perpetuate the life.

The agriculture technology is not generally accepted by the farmers completely in all respects. As such there always appears to be a gap between the recommended technology by the scientists and it's modified form at the farmers level. The technological gap thus the major problem in the efforts to increase agricultural production in the country. The need of the hour is to reduce the

technological gap between the agriculture technology recommended by the scientists and its acceptance and adoption by the farmers in their field.

In India the process of transformation of agriculture with intensive application of scientific techniques has been already started. It is observed that two things stand out at this stage. first, not all the farmers are taking all the improved practices and secondly even the more receptive farmers are adopting only some components of integrated production technology, which is considered essential for production advances. The predominant reason for non-adoption or partial adoption of the technology by the farmers has mainly been lack of awareness of technical know-how. Keeping the above facts in view, the present study was undertaken with the following specific objective.

– Technological gap in sericulture cultivation practices.

RESOURCES AND METHODS

The study carried out in two districts of northern Karnataka with the sample size of 120 farmers those were selected from the 6 villages each from the Vijayapur and Bagalkote districts. The data collected from the respondents by personal interview method by following random sampling ex-post facto research design. Technological gap is nothing but the proportion of gap in the adoption of recommended cultivation practices and it is expressed in terms of percentage (Ray *et al*., 1995).

The package of practices recommended by the University of Agricultural Sciences, Bengaluru was considered as the standard for calculating technological gap. In the present study, technological gap was operationalized by considering 27 recommended sericulture cultivation practices and expressed in percentage.

The technological gap of a particular practice expressed in percentage was:

$$\text{Mean technological gap} = \frac{\text{Standard score} - \text{Actual score}}{\text{Standard score}} \times 100$$

Mean technological gap was considered and the respondents were then divided into three categories as; low, medium and high.

OBSERVATIONS AND ANALYSIS

The results exhibited in the Table 1 shows the mean technological gap observed by the sericulture farmers while adopting the recommended sericulture cultivation

Table 1: Technological gap in adoption of recommended sericulture cultivation practices **(n=120)**

Sr. No.	Recommended cultivation practices	Mean technological gap (%)
1.	Suitable soil type	13.33
2.	Recommended mulberry variety	10.00
3.	Type of planting material	08.33
4.	Planting method	18.33
5.	Season for planting	50.00
6.	Spacing	30.00
7.	Length of cuttings used for planting	83.33
8.	Soil ph	95.00
9.	Fertilizer dosage	65.00
10.	Intercropping	85.00
11.	Disease control measures	88.33
12.	Chawki silk worm rearing	86.66
13.	Races of chawki worms	76.66
14.	Number of leaf feedings to worms	61.66
15.	Chemical disinfection of rearing house	8.33
16.	Silk worm diseases control measures	51.66
17.	Temperature management in rearing house	46.66
18.	Humidity management in rearing house	50.00
19.	Control measures of uji fly	15.00

Table 2 : Overall technological gap of sericulture farmers about recommended cultivation practices (n=120)

Sr. No.	Category	Respondents	
		Frequency (F)	Percentage (%)
1.	Low (<45.09)	40	33.33
2.	Medium (45.09 to 58.57)	32	26.67
3.	High (>58.57)	48	40.00
Total	Mean =51.83 SD =15.85	120	100.00

practices, it was evident that greater majority 95.00 per cent of technological gap was found in adoption of soil pH, this may be due to lack of knowledge about the soil testing procedure and technical knowledge regarding the benefits of soil testing. 88.33 per cent of technological gap was found among sericulture farmers in disease control measures due to less knowledge regarding the disease control chemicals, low extension contact and less knowledge about the concentrations of the chemicals may leads to the more had technological gap.

About 86.66 per cent technological gap was observed in chawki silkworm rearing technology this is because of lengthy procedure while maintaining the chawki worms and due to high initial establishment cost for separate rearing houses and maintaining chawki worms in different stages required skilled labours due to lack of skilled labourers and technical knowledge regarding construction of rearing house may lead to more technological gap.

Further, more than seventy five per cent of technological gap was found in practices like races of chawki worms, length of cuttings and intercropping. This might be due to the less sericulture farming experience and lack of knowledge about improved cultivation practices and low extension contact may also leads to this type of results.

Whereas, less than fifteen per cent technological gap found in control measures of uji fly, mulberry variety, type of planting material and chemical disinfection of rearing house. That means the adoption of above mentioned practices was more due to the frequent involvement in the sericulture practices and some of the traditional practices followed over the years.

The findings are in close agreement with the results of Rajashekharreddy (2006); Madhu (2010 and 2018).

From the Table 2 it was clear that, 40.00 per cent of the sericulture farmers were found in high level technological gap category followed by 33.33 per cent and 26.67 per cent of farmers were found in low and medium level of overall technological gap category. This might be due to the lack of correct knowledge about improved cultivation practices.

Majority of sericulture farmers had adopted simple practices and low experience in sericulture leads to increase in technological gap hence study area needed some extension efforts and government programmes to attract sericulture farmers help to boost the sericulture activities thus, it helps to minimize the technological gap.

These results were in agreement with findings of Madhu (2010 and 2018) and Chandrika (2016) as they reported medium technological gap followed by low and high level of technological gap.

Conclusion:

As per the results the highest technological gap was found in maintaining soil pH followed by disease control measures, chawki rearing and intercropping practices, whereas majority of farmers fell under high technological gap category which may be due to poor socio-economic conditions, less awareness of package of practices from the grass root level workers and poor mass-media exposure. Hence, efforts should be made to bridge the gap. Intensive dissemination of technology should be followed for reducing the technological gap in adoption of recommended sericulture production technology.

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