

AGRICULTURAL EDUCATION REGARDING CONSTRAINTS IN THE COMMERCIAL CULTIVATION OF MEDICINAL PLANTS

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ABSTRACT

Agricultural education is a study of applied sciences and business management principles. One of the main purposes of agricultural education is to apply the knowledge and skills learned in several different disciplines to agricultural education. The medicinal plants such as Senna, Periwinkle, Gloriosa Superba, Aloe vera and Coleus Forskohlii, are commercially cultivated under large areas of land in different parts of Tamilnadu. Gloriosa Superba has been cultivated as a commercial crop in Aravakurichi, Karur District since 2005. The study aims to identify the constraints experienced by the farmers cultivating Gloriosa Superba in Aravakurichi, Karur District. Primary data was collected from 186 farmers covering both small farmers and large farmers cultivating Gloriosa Superba from Velampadi, Nagampalli, Inunganur, Senthamangalam villages in Aravakurichi, Karur District. The major constraints faced by the farmers in the cultivation of Gloriosa Superba were classified into four categories such as situational constraints, financial constraints, technological constraints, and marketing constraints. The problems were ranked by the farmers by using Garrett ranking technique in order to identify the most important constraint in each category. It was found from the findings that, among all the four categories, marketing constraint was identified as a key constraint faced by both small and large farmers in the study area.

Keywords: Agricultural Education, Constraints, Medicinal Plants, Gloriosa Superba, Commercial Cultivation

Introduction

Agricultural education is a study of applied sciences and business management principles. One of the main purposes of agricultural education is to apply the knowledge and skills learned in several different disciplines to agricultural education. Agricultural education focuses on various subjects pertaining to horticulture, forestry, conservation, natural resources, agricultural products and processing, production of food and fiber, aquaculture and other agricultural products, mechanics, sales and service, economics, marketing, and leadership development. Agricultural education programs assist with providing lifelong learning opportunities in and about agriculture. Agricultural education provides opportunities to learn basic agricultural skills and knowledge, occupation training and retraining, and professional growth and development.

Basically, all plants have potential medicinal value. However, in practice, a plant is considered medicinal only when its medicinal properties or applications are in use by some system of medicine. The Cultivation of medicinal plants ensures several opportunities for developing countries to improve the well-being of their rural communities. Medicinal crops/plants are found to be the natural product of many developing countries which could be sold at attractive prices in the world market. The increasing demand for more herbal ingredients throughout the world creates opportunities for the collection and commercial cultivation of medicinal plants. These endeavors could increase rural employment opportunities in developing countries and improve the market around the world in relation to the healthcare of millions of people.

The commercial cultivation of medicinal and aromatic plants entered the Indian agricultural system in terms of two different aspects. First, the increasing demand and preference of the people towards traditional health practices such as Siddha, Ayurveda and Unani particularly due to lower side effects and lower expenses pave the way to commercial cultivation of medicinal and aromatic plants. Second, the plants and herbs can also be collected from the natural habitat under a less supervised environment.

Tamilnadu has endowed with numerous medicinal crops and the state occupies a greater share in the production and export of 50 plus medicinal plants. As far as the market for medicinal plants was concerned, certain herbs with commercial significance namely Senna, Periwinkle, Gloriosa Superba, Coleus and Dhavanam are cultivated under large acres of land. Senna and Periwinkle have been cultivated under more than 5,000 hectares, followed by Gloriosa Superba has been cultivated under 3,800 hectares and Dhavanam and Coleus are cultivated under 2000 and 320 hectares respectively.

The areas such as Darapuram, Aravakurichi, Dindigul, K. Paramathi, Oddanchatram, Markampatti and Moolanur are identified for the commercial cultivation of Gloriosa Superba. The commercial significance of the crop are subject to fluctuation because of drastic reduction in the price of seeds and increasing cost of

cultivation over the years. The price of seeds is subject to variation between Rs.1,500, Rs.2,000 and Rs.2,500 and sometimes it might reduce to Rs.800 per kg. Besides price fluctuation, there are many other difficulties associated with the cultivation of the crop such as high cost of rhizomes, climatic conditions and involvement of middlemen in the price fixation and so on. Hence, an attempt is made in this study to identify the various constraints experienced by the farmers in the cultivation of *Gloriosa Superba* in Aravakurichi area.

Objectives of the Study

The main aim of the study is to identify the constraints faced by the farmers in the cultivation of *Gloriosa Superba* in Aravakurichi Block, Karur District.

Review of Literature

There are some research papers related the topic in the literature. Ranjith and Rohini (2019) studied the economic benefits from the cultivation and marketing of *Gloriosa Superba* in Dindigul District, Tamilnadu. Sati (2013) studied the possibilities of the cultivation of medicinal plants and its contribution to the enhancement of livelihood of the farmers in the Central Himalaya. Olsen and Helles (2009) examined the efficiency of the market and distribution of returns in Nepal and India Medicinal plant market. Gogoi (2009) tried to analyze the economics of patchouli cultivation in Assam. Van Anandel and Havinga (2008) in their study tried to test whether commercial cultivation of medicinal plants was a destructive activity in Suriname, South America. Kala (2006) analyzed the problems and prospects in the conservation of medicinal plants sector in Northern India.

Methodology

Aravakurichi has been chosen as the study area because it was noted that the large number of farmers were engaged in the commercial cultivation of *Gloriosa Superba*. Primary data was collected from 186 farmers covering both small and large farmers cultivating *Gloriosa Superba* from Velampadi, Nagampalli, Inunganur, Senthamangalam villages in Aravakurichi block, Karur District. The problems were ranked by the farmers by using Garrett ranking technique in order to identify the most important constraint in each category. The constraints faced by the farmers were classified into four different categories i.e., situational constraints, financial constraints, technological constraints and marketing constraints.

Data Analysis and Discussion

The various constraints faced by the farmers were discussed in this section. Table 1 shows the various situational constraints involved in the cultivation of *Gloriosa Lilly/Superba* and they were ranked using Garrett Ranking Technique.

No	Difficulties Faced	Gloriosa Superba			
		Small Farmers		Large Farmers	
		Mean	Rank	Mean	Rank
1.	Irregular supply of electricity	31.16	7	60.94	5
2.	Inadequacy of water for irrigation	44.70	6	63.54	4
3.	Lack of agricultural labour	78.02	1	86.57	1
4.	Non-availability of good farm yard manure	60.63	3	58.85	6
5.	Non-availability of contact office near to village	52.90	5	40.10	7
6.	Biased treatment from the officials	28.74	9	25.00	8
7.	Scarcity of fertilizer in the market	68.84	2	70.31	3
8.	Regional politics faced by the farmers in the study area	29.71	8	18.23	9
9.	Climatic Conditions	55.31	4	84.38	2

Table 1: Situational Constraints Experienced by the Farmers

Among the nine situational constraints that exist in the cultivation of *Gloriosa Superba*, lack of agricultural laborers was the first and most important constraint faced by both small and large farmers. Scarcity of fertilizer in the market was the second and non-availability of good farm manure was the third important problem faced by the small farmers while climatic conditions in the study area and scarcity of fertilizer in the market was the second and third most important problem faced by the large farmers in the cultivation of *Gloriosa Superba* in the study area.

The major financial constraints existing in the cultivation of Gloriosa Superba were shown in Table 2. Small farmers cultivating Gloriosa Superba expressed that high cost of planting material was the major financial constraint faced in the cultivation process. Most of the farmers in the study area are purchasing rhizomes from the agents to plant it. The agents charge Rs. 400 to Rs.500 per kg of rhizome. Tedious procedure for getting a loan was the second and lack of funds was the third important financial constraint faced by them while large farmers expressed that high cost of planting material, high cost of fertilizers and pesticides were the other three major financial constraints faced by the farmers.

No	Difficulties Faced	Gloriosa Superba			
		Small Farmers		Large Farmers	
		Mean	Rank	Mean	Rank
1.	High cost of pesticides	40.75	5	51.50	3
2.	High cost of fertilizers	45.75	4	53.75	2
3.	High cost of planting material	71.25	1	65.5	1
4.	Tedious procedure for getting loan	53.5	2	42	5
5.	Payment in installments for the purchased produce	38.75	6	41.5	6
6.	Lack of Funds	50	3	46.5	4

Table 2: Financial Constraints Faced by the Farmers

Table 3 shows the technological constraints faced by the farmers cultivating Gloriosa Superba in the study area. Lack of technical assistance was the major technological constraint faced by the small farmers cultivating Gloriosa Superba and lack of knowledge about the spraying pesticides/ insecticides and lack of knowledge about cultivation practices were the second and third important constraints faced by the farmers. In the case of large farmers, lack of training at village level was the major technological constraint followed by lack of technical assistance and lack of knowledge about cultivation practices were the second and third important constraint experienced by them in the study area.

No	Difficulties Faced	Gloriosa Superba			
		Small Farmers		Large Farmers	
		Mean	Rank	Mean	Rank
1.	Lack of knowledge about spraying of insecticides	62.5	2	43.85	4
2.	Lack of awareness about external support available	45.83	5	25	5
3.	Lack of training at village level	50	4	65.3	1
4.	Lack of technical assistance	66.67	1	54.17	2
5.	Lack of knowledge about cultivation practices	58.33	3	45.5	3

Table 3: Technological Constraints Faced by the Farmers

No	Difficulties Faced	Gloriosa Superba			
		Small Farmers		Large Farmers	
		Mean	Rank	Mean	Rank
1.	Lack of awareness about market information	63.00	2	66.88	2
2.	Price fluctuations	60.91	3	72.63	1
3.	Lack of storage capacity/ delay in crop cutting from the sugar company	52.61	4	46.50	6
4.	Weighing problem	47.17	6	49.29	4
5.	Unauthorized deductions	38.26	8	43.25	7
6.	Exploitation by middlemen	63.74	1	65.50	3
7.	Unregulated market	31.30	9	47.04	5
8.	High cost of transportation	45.30	7	33.83	8
9.	Delay in payment	48.52	5	25.88	9

Table 4: Marketing Constraints in the Cultivation of Gloriosa Superba

As far as the marketing of the produce was concerned, exploitation by middlemen, lack of awareness about market information and price fluctuations were the three important problems incurred by the small and large

farmers cultivating *Gloriosa Superba*. Delay in payment, unregulated market, unauthorized deductions, high cost of transportation, inability of storage were the other important marketing constraints incurred by the farmers. The marketing constraints play a very important role in the reduction of the economic benefit of the farmers. In case of price fixation, the intermediaries determine the price for the produce. The farmers are only the price takers. The middlemen/Intermediaries exploit the farmers in numerous ways i.e., fixation of lower price, false measurements, delay in payment etc.

Hence, exploitation by middlemen and price fluctuations were the important marketing constraints experienced by the farmers cultivating *Gloriosa Superba* in the study area.

S.No	Particulars	Small Farmers	Rank	Large Farmers	Rank
1.	Situational Constraint	43.75	3	57.14	2
2.	Financial Constraint	56.25	2	42.86	3
3.	Technological Constraint	39.58	4	42.86	4
4.	Marketing Constraint	60.42	1	60.71	1

Table 5: Various Constraints Incurred by the Farmers

Table 5 shows that among various constraints, marketing was the major constraint faced by both small and large farmers in the study area. Financial constraint was the second important problem next to marketing and situational constraint was the third and technological constraint was the fourth important problem faced by the small farmers cultivating *Gloriosa Superba*. In the case of large farmers, situational constraint was ranked as the second important constraint; financial constraint was the third and technological constraint was the fourth important constraint incurred by the farmers in Karur District.

Conclusion

Agricultural education is a study of applied sciences and business management principles. One of the main purposes of agricultural education is to apply the knowledge and skills learned in several different disciplines to agricultural education. The study found that lack of agricultural labor, cost of planting material, lack of training to farmers, lack of technical assistance, price fluctuations and exploitation by middlemen were the most important constraints experienced by the farmers in the cultivation of *Gloriosa Superba*. It was also identified that among the various constraints, marketing was the key constraint experienced by the farmers in Aravakurichi. Hence, it is suggested that the Government should create a better marketing channel for the produce of *Gloriosa Superba* to make the cultivation more beneficial. The Horticulture department in the block provides various assistance to the farmers. But, these benefits were not reaching all the farmers in the study area due to various lapses prevailing in the administrative system.

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