



RESEARCH PAPER

Cultivation and market economics of liliun flowers grown in Kumaun Hills of Uttarakhand

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Abstract : Liliun is one of the important bulbous flowers grown in Kumaun hills of Uttarakhand. Present study aims at examining cost incurred in production in terms of percentage and investigating the existing marketing system. The study reveals that the operational cost during first year was the most important item of cost, accounting for 37.32 per cent of the total operational cost. Cuttings formed the chief component of material cost accounting for 97.57 per cent of the total material cost. Cost of production was very high in first year due to high labour and material cost. The yield per hectare was estimated to be 121982 spikes in the first year. Thereafter, yield declined and decreased to 98806 in third year. It is found that liliun cultivation is economically viable. The investigation also reveals that two marketing channels exist in the marketing of liliun flower in the study area. The marketing cost as percentage of consumers rupee, borne by producer in channel-I was 6.41 per cent and 6.36 per cent in channel-II. It was found that retailers get higher relative share in consumer's rupee. It is suggested that liberal credit facilities need to be made operative for farmers, as Liliun is highly capital intensive enterprise. Development of wholesale markets close to production clusters and related infrastructure in terms of storage, packaging, transport and market information also need to be strengthened to give a boost to production and return from the market.

Key Words : Liliun, Cultivation, Marketing, Value-chain

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INTRODUCTION

Floriculture has blossomed into commercial activity with a considerable growth and a useful crop diversification option, particularly for small farmers over the past three decades. According to The International Association of Horticultural Producers (AIPH, 2010),

702,383 ha area was under flower production in different countries of the world, of which the total area in Europe was 48,705 ha, North America was 21,067 ha, Asia was 523,829 ha, the middle East was 4,026, Africa was 7,604 ha, North America was 21,067 and central and South America was 97,152 ha. In that year, according to Indian Horticulture Database, India occupied a floriculture area

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of 183,000 ha, which was 26 per cent of the global area. India is on the 18th rank with contributing 0.6 per cent share in global floriculture trade. During the last decade, export increased at a CAGR of 4.33 per cent. The domestic Indian market is growing at the rate of 25 per cent per year in the country as a whole. About 249 thousand hectares area was under cultivation in floriculture in 2014-15. The states like Karnataka, Tamil Nadu, Andhra Pradesh, West Bengal, Maharashtra, Rajasthan, Delhi and Haryana have emerged as major floriculture centres in recent times (Vahoniya *et al.*, 2018)

In last 20 years, Indian flora industry stepped into international market and the area under flower cultivation has been expanding continuously. International floriculture trade is US\$ 17 billion, which is increasing 10-15 per cent annually and is expected to reach US\$ 25 billion by 2025 (Chawla *et al.*, 2016). Indian floriculture industry has been shifting from traditional flowers to cut flowers for export purposes. Traditional flowers are grown in open field condition and have short shelf life which poses many constraints to their exports to distant markets. Therefore, the liberalized economy has given an impetus to the Indian entrepreneurs for establishing export oriented floriculture units under controlled climatic conditions. Socio-economic status of people is increasing day by day rapidly at global level where per capita flower consumption also has a positive correlation with it. This has given promotion to the floriculture industry and to the development of new production centers in Asia and Africa which were earlier concentrated in Europe and USA.

With its diverse geo-climatic conditions and floral biodiversity, Uttarakhand is identified as a potential area for the development of floriculture. High altitude coupled with cold winds and moist soil makes Uttarakhand a congenial place for floriculture business. Exquisite varieties of flowers like carnation, lily, chrysanthemum, gladiolus, gerbera and Indian red roses, that are in high demand in domestic as well as in European markets, are produced in the state. Uttarakhand has almost all different agro-geo climatic zones making it particularly conducive to commercial floriculture. The climate is ideal for growing flowers all round the year.

Lilium is one of the most important bulbous flower, belongs to Liliaceae family, commercially grown in India for cut flowers. Recently, this crop has become popular in Manipur, Meghalaya, Arunachal Pradesh, Nagaland, and Sikkim. The world famous Siroy lily (*Lilium*

mackliniae) is native to Manipur state in India. Lilies are grown in poly-house or shade net houses.

Therefore, in order to get insight into the various aspects of production and marketing system of lilium flower, the present study was undertaken with the objectives to study the economics of lilium along with understanding the existing marketing system and existing value chain of it in Kumaun hills of Uttaranchal.

MATERIAL AND METHODS

The study was conducted in Kumaun Hills of Uttarakhand state. For the study, Almora and Nainital districts were selected on the basis of larger area under flower crop.

For the selection of farmers, a list of farmers growing lilium was obtained from district Horticulture Offices of Nainital and Almora. For the market selection primary survey was done and two markets *i.e.*, Haldwani and Delhi markets were selected for the study. Haldwani market was selected as main local market because of number of market functionaries present and Delhi as major market for flowers of Kumaun hills. The study was based on primary as well as secondary data. The primary data was collected from flower growers and market functionaries *viz.*, commission agent, wholesaler-cum-commission agent and retailers. The collected data related to demographics, land and other farm assets, flowers grown, cultivated area, cost of production, sale of flowers and different markets from primary sources. Information was also collected on different constraints faced by farmers and market functionaries and on short-term demand of flowers. The secondary data were collected from various sources like National Horticulture Board (NHB); Directorate of Horticulture, Chaubatia, Uttaranchal; District Horticulture Office, Almora and Nainital.

RESULTS AND DISCUSSION

Economic bearing of lilium, a perennial crop, was found to be three years. The operational cost during the first year was the most important item of cost, accounting for 37.32 per cent of the total operational cost followed by harvesting (19.04%), plantation (13.44%) manures and fertilizers (10.23%) and plant protection chemical application (7.17%). Cuttings formed the chief component of material cost accounting for 97.57 per cent of the total material cost. Cost of production is very high

Table 1: Per cent cost of cultivation of liliun

Particulars	Years		
	I	II	III
Operational cost			
Land preparation	5.95	–	–
Sowing	13.44	–	–
M/F application	10.23	8.65	8.78
Irrigation	6.82	10.02	10.17
Inter- culture	37.32	50.43	49.83
Plant protection chemicals	7.17	11.52	12.25
Harvesting	19.04	19.36	18.95
Sub total	100	100	100
Material cost			
Seed	97.57	–	–
FYM	0.44	–	–
Fertilizers	0.08	24.38	76.07
Plant protection chemicals	0.13	44.62	14.38
Irrigation charges	0.09	30.98	30.98
Miscellaneous	1.68	-	-
Sub total	100	100	100
Fixed cost			
Depreciation	36.56	36.56	36.56
Land revenue	2.09	2.09	2.09
Rental value of land	56.42	56.42	56.42
Interest on fixed capital	4.91	4.91	4.91
Sub total	100	100	100

in first year due to high labour and material cost.

Yield and returns:

The yield per hectare was estimated to be 121982 spikes in the first year. Thereafter, yield declined and decreased to 98806 in the third year. The appraisal techniques were applied to evaluate the profitability of liliun cultivation. The results are presented in Table 2.

Table 2: Benefit-cost ratio and payback period of liliun cultivation	
Indicators	Value
Benefit-cost ratio	1.38
Payback period (years)	1.47

The benefit-cost ratio was worked out to be 1.37 and payback period was calculated as one year and five months. Any enterprise to be economically viable must have benefit cost ratio more than one net present value should be positive and payback period should be short. It is obvious that liliun cultivation is economically viable.

The investigation reveals the existence of the following two marketing channels in the marketing of liliun flower in the study area.

– Farmer-commission agent- Wholesaler-retailer-

consumer

– Farmer-commission agent -Retailer-consumer.

Farmers sold their flowers to wholesaler through commission agent. The cost of commission borne by commission agent was reported to be 15 per cent of the total value of flower spike sold.

In channel-II, farmers sold their flowers to retailers through commission agent and then retailer sold the flowers to consumers.

Results regarding the marketing cost, margins and price spread are presented in Table 3 and 4.

The marketing cost as percentage of consumers rupee, borne by producer in channel-I was 6.41 per cent and 6.36 per cent in channel-II.

The per cent margin for retailer in channel-I was 50 per cent and 55.35 per cent in channel-II. The estimated mark up was higher for retailer in channel-II (124%) than in channel-I (100%). The estimated share of retailers in consumer's rupee was in channel-II (55.35) than in channel-I. The wholesaler had a share of 5 per cent in consumer's rupee.

Conclusion:

The Kumaun hills of Uttaranchal holds a great

Table 3: Marketing cost of liliium (per dozen) as percentage of consumer cost in different Marketing channels

Market functionaries	Per cent of consumer cost
Channel-I	
Producer	6.41
Wholesaler	2.70
Retailer	4.37
Channel-II	
Producer	6.36
Retailer	4.86

Table 4: Market margin of liliium (per dozen) at different stages of marketing channels: Value-chain approach

Market functionaries	Mark up (%)	Percentage share in consumers rupees (%)
Channel-I		
Producer	-	45.00
Wholesaler	11.11	5.00
Retailer	100.00	50.00
Channel-II		
Producer	-	44.64
Retailer	124.00	55.35

potential for floriculture development due to rich natural resources and salubrious climate coupled with pollution free environment. The farming in the state is generally attached with the traditional crops. From the view point of profitability, the returns from traditional crops have not been very encouraging in the recent years. So, there is a need of crop diversification and shift towards high value crops like fruits, vegetables and flowers.

One of the major problems affecting the growth of floriculture sector is the unorganized marketing set up in the state. There are no established marketing channels. Due to lack of auction platforms, most flowers are marketed through wholesales with or without brokers or commission agents as intermediaries. Also, lack of market information system, refrigerated transport system and cold storage space at market place has led to distress sale by the growers. This benefits only traders and commission agents. The lack of market information to enable advanced planning for production and marketing has hampered its growth. There is absence of control mechanism and co-ordination between Government and floriculture firms.

Thus, suggestions can be based on the findings of

the study are as follows:

Setting up and strengthening of necessary infrastructure for providing quality planting material of improved varieties. This also necessitates prompt action of scientists working on research stations.

Provision of cost effective low cost environment-friendly cool chambers on farm and railway stations; and timely availability of production inputs like fertilizers and plant protection chemicals.

Strengthening of wholesale markets by providing proper regulatory frame work, provision of market information, provision of quality controls, regular and timely payments and storage facilities etc.

Lack of market information emerged to be a severe constraint and farmers have no information about prices and demand in mandi. Hence, market information system needs to be strengthened and made effective by making available the modern means of communication for good connectivity.

Labour skill need to be upgraded through proper human resource development strategy so that employment and earning opportunity are appreciably increased locally.

Lack of awareness for floriculture enterprise necessitates the greater linkages between extension workers and farm entrepreneurs. Hence, agricultural extension network needs to be sensitized and strengthened

It is hoped, that the finding of this study will benefit the floriculturists in particular and the economy in general in the state, if findings are positively implemented.

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