

Economics of Production and Marketing of Crossandra in Chickballapur District, Karnataka

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ABSTRACT

The study was conducted to assess the production and marketing of crossandra in Chickballapur district. The primary data were collected from 60 farmers and 20 market intermediaries. The study revealed that the cost of cultivation per acre was Rs.1,94,377.92. The average yield per acre was 16.50 quintal which accrued a gross return of Rs.3,46,500.00 per acre and net return per acre was Rs.1,52,122.08. The return per rupee investment was Rs.1.78. About 75.00 per cent of the farmers sold through channel-I (Producer - Commission agent cum wholesaler - Retailer - Consumer) and about 25.00 per cent in channel-II (Producer - Commission agent - Wholesaler - Retailer - Consumer). Price spread was higher in channel-II (Rs.11,000.00 per quintal) compared to channel-I (Rs.8000.00 per quintal). It is due to more number of intermediaries in channel-II.

Keywords: Crossandra, Cost of cultivation, Marketing channels and Price spread

FLORICULTURE is an essential agribusiness gaining commercial importance in the vital scenario of Indian agriculture. India which is a tropical country has several advantages in floriculture. The floriculture includes producing and marketing of flowers, potted plants, garden plants, ornamental foliage plants, cut flowers and greens. The horticulture industry has undergone a significant transformation in the last decade as a booming commercial activity.

Crossandra (*Crossandra undulaefolia* Salisb.) Syn. *C. infundibuliformis* (L). Nees., a local of India which belongs to the family Acanthaceae. Crossandra is one among the significant traditional flower crop which is grown commercially in the country and well recognized in South India. The flowers, however not fragrant are very popular due to its attractive bright colour and light weight.

Crossandra is a very important traditional flower crop of South India. In India, it is cultivated commercially in southern states of Karnataka, Tamil Nadu and Andhra Pradesh. As it is produced commercially, the area and production of crossandra is gaining importance in the country and more so in Karnataka state. In Karnataka, crossandra stands 4th in position

with regard to the area and production of 2,401 hectare and produce 16,214 metric tonnes (Anon., 2017). In South India, these flower crop is mainly produced in Madurai, Coimbatore, Chennai, Chittoor, Hyderabad, Bellary, Chitradurga, Haveri, Chickballapur, Tumakuru, Ramanagara and Kolar. Many high tech floriculture plants have been introduced in the country in the recent years. Similarly, number of farmers coming forward to cultivate the flower crop have also increased. It is, therefore worth while to know the status of the cultivation of this flower crop in Karnataka, where it is produced as a predominant flower crop so that proper production strategy could be developed to cultivate this crop on scientific lines knowing the problems in producing and marketing of this flower crop. The objectives of the study were:

1. To estimate the cost and returns structure of crossandra
2. To examine the price spread in different marketing channels

METHODOLOGY

Chickballapur consists of six taluks, of which one crossandra flower growing taluk was selected purposively viz., Gauribidnur. As the Gauribidnur taluk

stands 1st in area and production of crossandra flower cultivation among Chickballapur district. The primary data was collected from 60 crossandra growing farmers and 20 market intermediaries. The information collected from the respondents include area under crossandra, cost of cultivation, input use, marketing channels involved, marketing cost incurred *etc.*, were acquired from the sample respondents and market intermediaries *via* personal interview using pre-tested schedule prepared for the purpose. To achieve the objectives of the study, by the nature and extent of information, appropriate quantification techniques were used and computed with the aid of averages, frequency and percentage to obtain meaning full results.

RESULTS AND DISCUSSION

1. Cost of Cultivation

The average quantity of different inputs used and their values per acre of sample respondents are presented in Table 1.

It was observed that the cost of cultivation of crossandra per acre was Rs.1,94,377.92 out of this, 96.60 per cent was variable cost. The major variable cost was of human labour *i.e.*, Rs.1,07,275.34 (55.19%) followed by seedling cost (Rs.17,632.38), farm yard manure (Rs.16,015.13), interest on working capital (Rs.13,099.67), irrigation cost (Rs.12,223.90), machine labour (Rs.8711.04), fertilizer (Rs.6845.69), bullock labour (Rs.3591.53), marketing cost (Rs.1705.22) and plant protection chemicals (Rs.662.03), respectively.

Hence the results clearly indicate that the share of variable cost to the total cost was high. This may be attributed to use of more labour by the respondent growers. Pushpa (2007) in her study on cost and returns structure for the production of crossandra in Guntur represented that crossandra was labour intensive crop and incurred significantly high cost on human labour.

The other major components of variable cost is the seedling cost and farm yard manure. This was because only less number of nurseries were involved in seedlings / plantings of crossandra and also it was due

TABLE 1
Cost of cultivation of crossandra
(n=60) (Rs. / acre)

Costs	Value	Percentage of total
Value cost		
FYM (Rs.)	16,015.13	8.24
Seedling (Rs.)	17,632.38	9.07
Fertilizer (Rs.)	6845.69	3.52
PPC (Rs.)	662.03	0.34
Human labour (Rs.)	1,07,275.34	55.19
Bullock labour	3591.53	1.85
Machine labour	8711.04	4.48
Marketing cost	1705.22	0.88
Irrigation cost	12,223.90	6.29
Total working capital	1,74,662.26	89.86
Interest on working capital @ 7.5 %	13,099.67	6.74
Total variable cost	1,87,761.93	96.60
Fixed Cost		
Depreciation	504.00	0.26
land revenue	38.00	0.02
Rental value of land	5500.00	2.83
Total FC	6042.00	3.11
Interest on fixed capital @ 9.5%	573.99	0.30
Total fixed cost	6615.99	3.40
Total cost of cultivation	1,94,377.92	100.00

to the long distance from point of production to the point of market as crossandra is a perennial crop.

The average fixed cost per acre was Rs.6615.99 which accounted for 3.40 per cent of total cost of cultivation. The major items of fixed cost incurred by the farmers were, rental value of land accounting for Rs.5500 per acre which formed (2.83%) it is due to the value of land in use. The depreciation charges of pump sets and other implements accounted for Rs.504 (0.26%) and land revenue Rs.38 per acre (0.02%), managerial cost was taken at 9.50 per cent

of the working capital *i.e.*, Rs.573.99 per acre (0.30%) based on the interest charged by the banks in the study area. The study clearly reveals that the total fixed cost of crossandra was very marginal.

2. Yield and Returns

The average yield, gross and net returns per acre of crossandra among the sample farmers are represented in Table 2. The table indicated that the average yield of crossandra was 16.50 quintals per acre. The average price realized by farmer respondents was Rs.21,000 per quintal of crossandra flowers. The gross returns on crossandra production was Rs.3,46,500.00.

TABLE 2
Yield and returns from crossandra cultivation
(n=60)

Particulars	Values
Yield (Qtl)	16.50
Price (Rs/Qtl)	21,000.00
Gross return (Rs./acre)	3,46,500.00
Total cost (Rs.)	1,94,377.92
Net return (Rs.)	1,52,122.08
Benefit cost ratio	1.78

Total cost (which include TVC+TFC) was Rs.1,94,377.92 per acre. Hence, the net returns was Rs.1,52,122.08, due to high yield and better management practices adopted by the crossandra growers.

The analysis of cost and returns indicates that the net return per rupee of expenditure in crossandra production was Rs.1.78. As the ratio is above unity, the cost of cultivation could be considered as a profitable venture. Chandra (2012) analyzed the overall cost on investment in floriculture in Chittoor district of Andhra Pradesh. The results showed that the establishment cost of crossandra gardens was Rs.29,561.60 per hectare, respectively. The per hectare total cost of above mentioned flower crops was Rs.3,17,381.20 for the entire flowering period respectively. The total net income received for crossandra was Rs.1,38,378.80 per hectare,

respectively. The results of project evaluation techniques revealed that, the input - output ratio for crossandra was 1.77.

3. Cost and Price Spread in Marketing of Crossandra

Farmers in the study region choose different channels for marketing. The channels chosen by the farmers vary from season to season. In the study area two marketing channels were identified and marketing cost, price spread was computed to understand the marketing of crossandra. The sample respondents marketed crossandra through the following channels:

- a) Channel I: Producer - Commission agent cum Wholesaler - Retailer - Consumer
- b) Channel II: Producer - Commission agent - Wholesaler - Retailer - Consumer

In the channel-I commission agent cum wholesalers receives the produce from the producer and sell the product to retailer. The commission agent cum wholesalers will transport the commodity to distance market and sell to the retailers. About 45 farmers (75.00%) sold their produce through this channel as shown in Table 3. In channel-II, commission agent's buys produce from the producer and sell the produce to wholesalers. The wholesalers in turn sell to the retailers who ultimately sell it to the consumers. About 25.00 per cent sold their produce through this channel as shown in Table 3. Harish (2010) in his study on

TABLE 3
Major channels for crossandra marketing
(n=60)

Channels	No. of Intermediaries involved	No. of farmers	Percentage of total
I	Producer - Commission agent cum Wholesaler - Retailer - Consumer	45	75
II	Producer - Commission agent - Wholesaler - Retailer - Consumer	15	25
Total		60	100

marketing behavior of crossandra growers found that majority of the crossandra growers (91.66%) sell their produce directly to the wholesalers, followed by local market (21.67%), village merchant (10.83%) and commission agent (2.50%).

4. Marketing Costs Incurred by Producers in Channel-I

The details of marketing costs incurred by the crossandra producer-sellers and intermediaries in channel-I are presented in Table 4. The table reveals that the total marketing cost incurred by producer-seller in the marketing of crossandra was Rs.1705.22 (69.08%). In the total cost of marketing, commission charges alone accounted for Rs.1330.40, followed by transportation cost (Rs.329.62), personal expenses (Rs.30.04) and packaging material (Rs.14.76) as indicated in channel-I.

The major component of marketing cost is commission charge *i.e.*, the producers paid 10 per cent of the total value of the produce as commission charge which is exorbitant and is a burden on producers. The flowers are mainly transported by two wheelers. The distance of the market also increase the transportation cost. Therefore, the share of transportation cost on per acre basis work out to be higher. Further, exploitation by commission agent cum wholesalers by way of market practices have also caused lower price realization by the crossandra growers.

5. Marketing Costs Incurred by Market Intermediaries in Channel - I

The total marketing cost incurred by commission agent cum wholesaler in channel-I was Rs.400.00 (16.21%) per quintal (Table 4). Transportation cost accounts for 6.08 per cent followed by loading and unloading (3.24%), labour charges (3.11%), personal expenses (2.70%), license fee (0.44%), market charges (0.30%), shop rent (0.27%), spoilage (0.08%), respectively. In channel-I, commission agent also acts as wholesaler, so he incur less cost compare to wholesaler and commission agent. Here commission agent cum wholesaler incurred cost of six per cent on the value

TABLE 4
Marketing costs incurred by producer and market intermediaries in channel-I (n=80)

Particulars	Rs./Qtl	Percentage
<i>Producer</i>		
Packaging material	14.76	0.60
Transportation	329.62	13.35
Commission charge	1330.40	53.90
Personal expenses	30.44	1.23
Sub total	1705.22	69.08
<i>Commission Agent cum Wholesaler</i>		
Shop rent	6.58	0.27
License fee	10.96	0.44
Labour salary	76.71	3.11
Market charges	7.30	0.30
Spoilage	2.00	0.08
Personal expenses	66.66	2.70
Loading and unloading	80.00	3.24
Transportation	150.00	6.08
Sub total	400.00	16.21
<i>Retailer</i>		
Shop rent	15.00	0.61
License fee	10.00	0.41
Labour salary	53.00	2.15
Transportation	95.00	3.85
Spoilage	10.00	0.41
Personal expenses	180.00	7.29
Sub total	363.00	14.71
Total Marketing cost	2468.00	100.00

of transportation which is major component followed by personal expenses.

The marketing cost incurred by the retailer in channel-I was Rs.363.00 (14.71%) per quintal (Table 4). Among various components personal expenses constituted (7.29%) followed by transportation cost (3.85%), labour salary (2.15%), shop rent (0.61%), license fee and spoilage shares 0.41 per cent each. The table revealed that personal expenses at retail level in more compared to other intermediaries in channel-I

6. Marketing Cost Incurred by Producer In Channel - II

The details of marketing costs incurred by the crossandra producer-sellers and intermediaries in channel-I are presented in Table 5.

TABLE 5

Marketing costs incurred by producer and market intermediaries in channel-II (n=80)

Particulars	Rs./Qtl	Percentage of total
<i>Producer</i>		
Packaging material	14.76	0.54
Transportation	329.62	12.16
Commission charge	1330.40	49.10
Personal expenses	30.44	1.12
Sub total	1705.22	62.93
<i>Commission Agent</i>		
Shop rent	6.58	0.24
License fee	10.96	0.40
Labour salary	30.00	1.11
Personal expenses	75.00	2.77
Sub total	123.00	4.52
<i>Wholesaler</i>		
Shop rent	14.00	0.50
License fee	10.96	0.40
Labour salary	85.00	3.14
Transportation	180.00	6.64
Loading and unloading	8.00	0.30
Market charges	8.50	0.31
Spoilage	20.00	0.74
Personal expenses	120.00	4.43
Sub total	446.00	16.46
<i>Retailer</i>		
Shop rent	20.00	0.74
License fee	10.00	0.37
Labour salary	60.00	2.21
Transportation	100.00	3.69
Spoilage	16.00	0.59
Personal expenses	230.00	8.49
Sub total	436.00	16.09
Total Marketing cost	2710.00	100.00

The table reveals that the total marketing cost incurred by producer-seller in the marketing of crossandra was 62.93 per cent (Rs.1705.22). In the total cost of marketing, commission charges alone accounted for 49.10 per cent, followed by transportation cost (12.16%), personal expenses (1.12%) and packaging material (0.54%) as indicated in channel-II.

The producers paid 10 per cent of the total value of the produce as commission charge which is exorbitant and major component of marketing cost. The transportation cost of the produce is high due to the distance of market which increase the share of transportation cost on per acre basis workout to be higher.

7. Marketing Costs Incurred by Market Intermediaries in Channel-II

The total marketing cost incurred by commission agent in channel-II was Rs.123.00 (4.52%) per quintal (Table 5). Personal expenses accounts for 2.77 per cent followed by labour salary (1.11%), license fee (0.40%), shop rent (0.24%). The commission agent doesn't handle the produce so he neither incur loss or profit but gets commission charge for the service in which he spent major on his personal expenses and followed by the charges to pay for the labour.

The marketing cost incurred by wholesaler in channel-II was Rs.446.00 (16.46%) per quintal (Table 5). Among various components transportation cost constituted (6.64%), followed by personal expenses (4.43%), labour salary (3.14%), spoilage (0.74%), shop rent (0.50%), license fee (0.40%), market charges (0.31%), loading and unloading (0.30%), respectively. Wholesaler transport the produce from local market to distant retailer hence incur more transportation cost and personal expenses. While transportation incur loss during handling the produce, should also pay charges on transaction amount for labours.

The total marketing cost incurred by the retailer in channel-II was Rs.436.00 per quintal (16.09%) (Table 5). Personal expenses constituted as major component (8.49%) followed by transportation cost (3.69%), labour charges (2.21%), shop rent (0.74%), spoilage (0.59%), license fee (0.37%), respectively.

The personal expenses are more as the standard of living is increasing followed by high transportation cost for the retailer.

8. Price Spread in Crossandra Marketing under different Channels

The price spread is one of the measures of marketing efficiency. It indicates the extent of increase in the price of a commodity as it changes hand from one intermediary to another in the marketing channel. The price spread comprises of marketing cost incurred by

different intermediaries and their profit margin. As flowers are perishable in nature so the price spread will be higher, as a result of which consumer has to pay a higher price, while the producer doesn't receive a higher share in consumer's rupee. Here price spread was studied to know the share of marketing costs and margins of marketing of crossandra.

The price spread in crossandra marketing under different channels is presented in Table 6. The price spread is major indicator of market efficiency and performance. It revealed that the producer's share in consumer rupee was found to be more in channel-I (72.41%) in contrast with channel-II (65.63%). Correspondingly the net price received by the producer per quintal of crossandra was Rs.19,294.78 in both channel-I and channel-II. The price spread was considerably high in channel-II (Rs.11,000.00 per quintal) in contrast to channel-I (Rs.8000.00 per quintal). In the channel-I margin of retailer was less (Rs.3137.00 per quintal), whereas commission agent cum wholesaler's margin was high *i.e.*, Rs.4100 per quintal. Similarly, in channel-II, the, margin of commission agent was Rs.1207.4 per quintal, for retailer it was Rs.4564 per quintal and wholesaler's margin was more *i.e.*, Rs.5554 per quintal, respectively.

In both channels all intermediaries keep large margin in selling produce to next, so the producer's share in consumer's rupee differs based on number of intermediates involved in each. The crossandra growers using channel-I realized higher share in consumer rupee and lower price spread is recorded compared to channel-II. This is because of marketing channel with fewer number of market intermediaries in channel-I. Hence, channel-I is considered to be better marketing channel as compared to channel-II. Holajogi (2014) examined the production and marketing of major flower crops in Haveri district. The results revealed that the producer's share in consumer rupee in Channel-I and Channel-II was 70.98 per cent and 75.81 per cent, respectively.

TABLE 6

Price spread in crossandra under different marketing channels
(Rs. per Quintal)

Particulars	Chanel-I	Chanel-II
<i>Producer</i>		
Gross Price received	21,000.00	21,000.00
Marketing cost	1705.22	1705.22
Net price	19,294.78	19,294.78
<i>Commission agent</i>		
Commission charge	-	1330.40
Marketing cost	-	123.00
Profit margin	-	1207.40
Sale price	-	21,000.00
<i>Wholesaler</i>		
Purchase price	-	21,000.00
Marketing cost	-	446.00
Profit margin	-	5554.00
Sale price	-	27,000.00
<i>CA cum wholesaler</i>		
Purchase price	21,000.00	-
Marketing cost	400.00	-
Profit margin	4100.00	-
Sale price	25,500.00	-
<i>Retailer</i>		
Purchase price	25,500.00	27,000.00
Marketing cost	363.00	436.00
Profit margin	3137.00	4564.00
Sale price	29,000.00	32,000.00
Price spread	8000.00	11,000.00
Producer's share in	72.41	65.63

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