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Constraints of different Stakeholders in Production and Marketing of Crossandra in Chickballapur District, Karnataka

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ABSTRACT

The study was conducted to assess the socio-economic characteristics, land holding, Farm inventory and constraints faced in production and marketing of Crossandra in Chickballapur district. The primary data were collected from 60 farmers and 20 market intermediaries. The study revealed 46.67 per cent of the respondents were middle age (35-50 year) and 70 per cent of respondents were under the category of medium size (4-6 members) family so it helps to reduces the cost of hired labour and removes uncertainty with timely supply of labour force. 88.33 per cent of the sample farmers are literate having their formal education ranging from primary to above graduation. 100 per cent of respondent's family depends on agriculture for their livelihood and employment. The average landholding of farmer 2.85 acre and 75 per cent have source of irrigation through bore well. The possession of farm inventory 75 per cent of Pumpset and followed by drip irrigation set (71.67 %) and farmhouse (63.33%). 49 households maintained (137) cows, followed by 90 sheep's in 4 households, 18 goats in 1 household, 5 buffaloes in 2 households and 1 bullock pair in 1 household. That Lack of adequate training to farmers on crop management, lack of technical knowledge regarding crop cultivation, non-availability of skilled labourers, lack of availability of seedlings/ high cost of planting materials and damage due to pest and diseases were the major production constraints. The major constraints related to marketing were lack of organization, price fluctuation, lack of awareness about market information and intelligence and heavy commission charges.

Keywords: Socio-economic characteristics, Constraints, Production, Marketing, Farm inventory and Livestock

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

"Crossandra (*Crossandra undulaefoia* 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 (Siddappa and

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Ranganathaiah, 1975)." The inflorescence is a thick sessile spike, yellow or red with prominent bracts. The scarlet orange flowers are borne on four sided spikes; stamens are four in number and the capsule is oblong and acute and contains four seeds. The bright orange coloured flowers are mostly used for making garlands and veni for worshipping in temples and adoring women's hair. Constant market demand and assured income have shaped crossandra a profitable business for South Indian farmers.

It is produced on a commercial scale and the area and production of crossandra is increasing its importance in the country and more so in Karnataka state. Crossandra occupies 4th position with regard to area and production of 2,401 hectares and produce 16,214 metric tonnes in Karnataka. Out of which, Chickballapur district stands 4th in both area and production with 216 hectares and 1080 metric tonnes. In South India, it is mainly grown in Madurai, Coimbatore, Chennai, Chittoor, Hyderabad, Bellary, Chitradurga, Haveri, Chickballapur, Tumakuru, Ramanagara and Kolar (Appendix- I and Appendix-II). (Source: Horticulture statistics at a glance 2016-17).

METHODOLOGY

To examine the main objectives of the study, Chickballapur district is well known for the production of crossandra flowers. It is one among the foremost important crossandra growing district in Karnataka. Chickballapur district stands 5th in area and 4th production of crossandra flower cultivation. Hence, Chickballapur district has been purposively selected for the study. The primary data were collected from 60 farmers, necessary primary data related to the producer socio-economic characters and constraint faced when production of crossandra flower crop were collected from the randomly selected growers through personal interview method. Pre-tested schedule was used to collect information from the respondents or farmers. The data collected from the respondents include some general information about the crossandra flower cultivators, area under crossandra, respondent's information, problems in crossandra cultivation. The data was collected using pre-tested schedule.

To fulfil the objectives of the study, based on the nature and extent of information, the subsequent techniques were utilized the descriptive statistics and Garrett's ranking technique. The descriptive statistics technique was adopted for analyzing the general and socio-economic characteristics of the sampled farmers, age, family size, educational status, and annual income. The data were computed with the aid of averages and percentage, to obtain meaning-full results.

Garrett's ranking technique was used to identify the constraints in production and marketing of crossandra. The order of merit given by the farmers was changed into ranks by using the formula: the procedure was given by Henry Garrett.

$$Per\ cent\ position = 100 * (R_{ij} - 0.5)/N_j$$

Where,

R_{ij} = Rank given for i^{th} item by a j^{th} individual

N_j = Number of items ranked by j^{th} individual

The per cent position of each rank was converted in to scores by referring to Garrett table. Then for each factor, the scores of individual respondents were summed up and divided by the total number of respondents for whom scores were gathered. The mean scores for all the factors were ranked; the factors having highest mean value is considered to be the most important factor and ranked accordingly.

RESULTS AND DISCUSSION

The study results revealed on the socio-economic characteristics of crossandra producer, constraints faced on production of crossandra.

Socio-economic profile of crossandra growing farmers

The socio-economic characteristics of sample respondents like age, family size, literacy level, occupation, land holdings, sources of irrigation, status of farm inventory and ownership of livestock, involvement in various farm related activities and investment decisions are discussed in this section.

Age

The study comprised of 60 crossandra growing farmers spread over Gauribidnur taluk of Chickballapur district of Karnataka. From Table 1 it could be seen that a large number (46.67%) of

the respondents were middle aged (35-50 years) followed by old are (>50 years) group (35.00%) and young aged who were less than 35 years (18.33%) of age.

Table 1: Socio-economic profile of crossandra growing farmer (n = 60)

Sl. No.	Particulars	Number	Percentage of total
(A)	**Age**		
1	Young (<35 years)	11	18.33
2	Middle (35 – 50 years)	28	46.67
3	Old (>50 years)	21	35
	Total	**60**	**100**
(B)	**Family size**		
1	Small (< 4 members)	11	18.33
2	Medium (4 – 6 members)	42	70
3	Old (> 6 members)	7	11.67
	Total	**60**	**100**
(C)	**Educational status**		
1	Illiterate	7	11.67
2	Primary	8	13.33
3	Secondary	13	21.67
4	SSLC	18	30
5	PUC	6	10
6	Diploma	2	3.33
7	Graduation and above	6	10
	Total	**60**	**100**
(D)	**Occupation**		
1	Agriculture as the main occupation	60	100
	Total	**60**	**100**

The results show that majority were middle aged group of farmers have combined with experience and enthusiastic towards farming to try unconventional methods.

Family size

The classification of sample households in the study area depends on family size. The table clearly shows that a majority (70.00%) of respondents were under the category of medium size (4-6 members) family, followed by the small size (<4 members) family (18.33%) and large size (>6 members) family (11.67%), respectively (Table 1).

The results reveled that majority of respondents are from four to six, approximately each family group have at least two male and female involved in farming, so it helps to reduce the cost of hired labour and removes uncertainty with timely supply of labour force.

Educational status

Results pertaining to education indicated that as high as 30.00 per cent of the respondents were studied up to SSLC followed by secondary education (21.67%), primary education (13.33%), illiterate (11.67%), PUC (10.00%), (10.00%) of the respondents had education up to degree level and above, while, just (3.33%) of the respondents had education up to diploma (Table 1). The level of education is important to access the new technology and market information regarding the crop cultivation. The study revealed that most of the sample farmers are literate (88.33%) having their formal education ranging from primary to above graduation.

Occupation

The study shows that respondents with agriculture as the primary occupation (100.00%) (Table 1). It concludes that each respondent family depends on agriculture for their livelihood and employment.

Landholding and source of irrigation

Table 2 presents the landholding and source of irrigation of crossandra cultivators.

Table 2: Landholding size and sources of irrigation (n = 60)

Sl. No.	Particulars		Average area	Percentage of total
1	Landholding (acre)	Rainfed	1.13	39.65
		Irrigated	1.72	60.35
		Total	2.85	100.00
2	Source of irrigation (Numbers)	Bore well	45	75.00
		Brought water from others	15	25.00
		Total	60	100.00

The table clearly reveals that, the average size of landholding was 2.85 acres. Among that, the average

rain fed area was 1.13 acres and the average irrigated area was 1.72 acre. 75 per cent of the crossandra growers relied on bore-well for irrigation and 25 per cent of the producers claimed that they bought water from their neighbours for irrigation purpose. The farm holdings consisted of fragmented holdings with a mixture of enterprise such as crop, dairy, goat *etc*. The clearly indicates that most of the respondents are small farmers. Farm inventory

The status of farm inventory of crossandra cultivators is presented in Table 3. The table demonstrates that 63.33 per cent of cultivators had farmhouse, followed by pumpset (75.00%), drip irrigation set (71.67%), hand sprayers/ power sprayers (36.67%), sickles (100.00%), spade (88.33%), respectively.

Table 3: Details of farm assets among respondents (n = 60)

Sl. No.	Particulars	Number of respondents	Percentage of total
1	Farmhouse	38	63.33
2	Pumpset	45	75.00
3	Drip irrigation set	43	71.67
4	Hand sprayers/ power sprayers	22	36.67
5	Sickles	60	100.00
6	Spade	53	88.33

The investment in non-land fixed assets reveals that majority of the respondents owned bore well, irrigation Pumpset, sprayer and drip system. It concludes that ground water is exploited, as most of crop grown by the farmers are irrigated.

Livestock

The detail of livestock with the respondents is presented in Table 4. The table indicated that, out of 60 respondents 49 households maintained (137) cows, followed by 90 sheep in 4 households, 18 goats in 1 household, 5 buffaloes in 2 households and 1 bullock pair in 1 household. Chickballapur is one of the dry districts in the state of Karnataka. Hence, most of the farmers are dependent on livestock as a source of sustainable income.

The number of livestock maintained by respondents is partly depended on the quantity of fodder required and family labour availability. The (Table 4) revealed that, 81.67 per cent farmers maintained milch animals and few with sheep, goat, buffalo and bullock pair.

Table 4: Details of livestock among respondents (n = 60)

Sl. No.	Particulars	Number of households	Number*
1	Bullock (pair)	1	1
2	Cow	49	137
3	Buffaloes	2	5
4	Sheep	4	90
5	Goat	1	18

* Multiple responses were given.

Production constraints of crossandra farmers

The production constraints faced by the farmers is presented in Table 5. It revealed that lack of adequate training to farmers on crop management was the major problem with mean score of 67.93 and followed by lack of technical knowledge regarding crop cultivation (63.55), non-availability of skilled labourers (56.88), lack of availability of seedlings/ high cost of planting materials (48.38), damage due to pest and diseases (48.38), lack of credit facilities (39.83), expensive inputs (30.02), respectively.

Table 5: Production constraints of crossandra farmers (n = 60)

Sl. No.	Constraints	Mean Garret's score	Rank
1	Lack of adequate training to farmers on crop management	67.93	I
2	Lack of technical knowledge regarding crop cultivation	63.55	II
3	Non-availability of skilled labourers	56.88	III
4	Lack of availability of seedlings/ High cost of planting materials	48.38	IV
5	Damage due to pest and diseases	43.40	V
6	Lack of credit facilities	39.83	VI
7	Expensive inputs	30.02	VII

Lack of adequate training to farmers on crop management was the major constraint faced by sample respondents, as they affect the growth, development and yield of the crop and it was

ranked first followed by lack of technical knowledge regarding crop cultivation because crossandra is a traditionally growing flower crop and therefore have no proper training/ practices to increase its yield. Hence it requires certain practices/ technical information for sustainable growth.

Non-availability of skilled labourers is other problem with the third rank, since labours plays a prominent role in production of crossandra, timely availability of agricultural operations is must, hired labour charges are high and any other delaying leads to loss. Lack of availability of seedlings/ high cost of planting materials is also another problem with fourth rank, this is due to the decreasing effect on nurseries which grow crossandra seedlings/ plants in the market. Damage due to pest and diseases is also a major problem for crossandra cultivation, as they may affect the yield of the flower crop and it was ranked fifth. Lack of credit facilities and expensive inputs are the other problems in production of crossandra and they are ranked sixth and seventh, respectively. Chandra Shekar (2012) conducted a study on investment in floriculture in Chittoor district of Andhra Pradesh. The results indicated that majority of the farmers felt that the cost of inputs was very high and non-availability of quality seed / planting material as one of the problems in the cultivation of flower crops.

Marketing constraints of crossandra farmers

The constraints faced by the farmers in crossandra marketing and the results is presented in the Table 6. As expressed by most of the farmers, lack of organization was the major problem with mean score of 69.73 followed by price fluctuation (62.43), lack of awareness about market information and intelligence (54.93), heavy commission charges (51.57), long distance to market (34.20), more wastage (23.00), respectively.

Lack of organization and price fluctuation was the major problems expressed by the sample respondents and was ranked first and second among the constraints. At the time of more arrivals in the market usually price decreases causing low income to the farmers. Lack of awareness about market information and intelligence ranked third, there was no proper information related to every day market prices, arrivals *etc.*

Heavy commission charges (10.00 % of the value of the produce), long distance to market, more wastage were the other major problems expressed by crossandra growers and stands fourth, fifth and sixth, respectively. Sometimes respondents choose different markets to sell their produce where they get higher prices for their price hence there will be more wastage as it may include farm to market and loading and unloading wastes.

Table 6: Marketing constraints of crossandra farmer (n = 60)

Sl. No.	Constraints	Mean Garret's score	Rank
1	Lack of organization	69.73	I
2	Price fluctuation	62.43	II
3	Lack of awareness about market information and intelligence	54.93	III
4	Heavy commission charges	51.57	IV
5	Long distance to market	34.20	V
6	More wastage	23.00	VI

Harish (2010) in his study on constraints experienced by farmers in production and marketing of crossandra Chickballapur and Chitradurga districts of Karnataka state, revealed that major constraint expressed by growers was timely non-availability of labour and high labour charge are the production constraints and fluctuation in market prices and high cost of transportation were the marketing constraints.

CONCLUSION

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. Lack of adequate training on crop management and lack of technical knowledge on crop cultivation are the major production problems. Hence there is a need to conduct intensive educational activities such as training, exhibitions, demonstrations, field visits and field days, frequently and effectively and follow-up activities by concerned authorities for achieving higher yield. The information on modern technologies should be provided to the crossandra cultivators through above activities. The sample farmers were facing problems in marketing such

as lack of organization, price fluctuation and high commission charges. The government and other related developmental departments need to bring out strategies to overcome constraints faced by the crossandra growers.

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