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ORIGINAL ARTICLE

A GEOGRAPHICAL STUDY OF CHRYSANTHEMUM PRODUCTION IN NAGAR & PARNER TEHSILS OF AHMEDNAGAR DISTRICT

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Abstract:

The present study has attempted to determine the economics of production of chrysanthemum in Nagar and Parner tahsils of Ahmednagar District. Chrysanthemums are important and popular flowers next only to roses. Chrysanthemums are very important flowering plants useful for garlands, garden display, cutflowers and perfume industries. Ahmednagar district is specialized in cultivation of chrysanthemums and is the major Chrysanthemum growing district in Maharashtra. The area under chrysanthemums in the Ahmednagar district was about 266 hectors in 2008-09. Two tehsils viz. Nagar and Parner of Ahmednagar district were selected for the study. For the primary data a specially designed questionnaire were used. For selection of sample cultivators a list of the flower growers was obtained from the revenue records at the selected villages. The required number of cultivator's form each village was selected randomly. In all 150 chrysanthemum growers spread over ten villages from the total sample of the study. For the purpose of analysis, the famers were grouped in to three classes on the basis of total holdings, small holdings (1-4ha), medium (4-10ha), and large (above 10ha). According to 40 families were selected from the group of small, 50 families from the group of medium and 60 families from the group of large farm size. The intermediaries involved in the marketing of chrysanthemums flowers were obtained individually.

KEYWORDS :

Chrysanthemum Production, Cultivation, Costs, Price Spread,Depreciation, Working Capital, Fixed Capital.

INTRODUCTION:-

Indian chrysanthemum is very important flowering plants useful of garlands, garden display, cutflowers and perfume industries. Perfumes are used in manufacturing soaps, cosmetics, hair oils, foods and tobacco industries. Another important feature of flower is that the contact with them makes the mind clean, fresh and active. Without flowers social cultural religious, functions / gathering appears incomplete grandeur. Though chrysanthemum is cultivated in Tamilnadu, Karnataka, Maharashtra and Andhra Pradesh. Maharashtra is the leading state in floriculture. Favorable climate, water, soil and available market have played important role in the prosperity and blooming of floriculture. In Maharashtra, Nashik, Ahmednagar, Thane, Pune, Satara, Sanglli, Nagpur are the leading district in floriculture. In Maharashtra,

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the cultivation of chrysanthemum is mostly concentrated in Nagar and Parner tahsils of Ahmednagar District. India has one lakh ha. land is under flower cultivation. About 800 ha. Flower cultivated land is under green houses. India has production of more than 5 lakh tonnes of stemless flowers and more than 250 crore tons of production of steamed flowers ('Agrowan' in 2008). According to APEDA at the end of coming three years, India's flowering export may exceed $ 1 billion. India stands 23rd in flower exporting courtiers. Flowering of chrysanthemum starts in the month of September. First plucking is done for getting flowers for celebration of Dasara festival. During Diwali festival, again the demand of flower is also more. The flowering season last upto December. Nagar and Parner tehsils of Ahmednagar District is the major producer of chrysanthemum. The area under chrysanthemums in the Ahmednagar Dist. was about 288 ha. In 2010-11.

STUDY AREA

Ahmednagar district is situated is the center part of Maharashtra between 180 2' to 190 9' North latitude and 730 32' to 750 5' East longitude. The district consist 14 tahsils. Nagar and Parner tehsils lying in the south-west part of the district forms the area of present study. There are 117 villages, in the Nagar tehsil and 131 villages, in the Parner tehsil out of which only five village in Nagar and five villages in Parner produces chrysanthemums on a large scale. As these villages are the major producer of the chrysanthemums they have been selected for the present study. These villages are located on the south-western side of a distance of 18 to 26 km from Ahmednagar district headquarters. The district includes Sahyadri and its three east-ward offshoots of Western Ghats viz. Kalsubai Baleshwar and Harishchandragarh. The district as a whole is an elevated table land with number of plateaus, with in a various levels. The district is drained by two chief rivers the Godavari and Bhima. The climate of the district is on the whole extremely genial. Chrysanthemum is cultivated between the months of April to October. The major part of this period is climatically coincides with the period at the shorter nights coupled with longer days with moderate temperature. The normal rainfall at the district varies from 500 to 700 mm. approximately. Wheat, jawar, bajara, onion, sugarcane, fruits, vegetables and pulses are mainly cultivated in the district.

OBJECTIVES

1.To evaluate the resource productivities in the chrysanthemum production.
2. To analyses the resource used, cost and return structure in the chrysanthemum on a sample farm.
3.To study the marketing cost and price spread in chrysanthemum marketing.

DATA BASE AND METHODOLOGY

Methodology includes the plan of investigation and the sources of data. The present study is mostly based on primary data and is some extent on secondary data. The primary data were collected by survey method with the help of pre-tested schedule of questionnaire through personal interview. The list of the flower growers was obtained from the revenue records maintained of the selected villages. The sample size was decided on area proportionate basis for each selected villages. The required number of cultivators from each village was selected randomly. In all 150 chrysanthemum growers spread over in ten 10 villages from the total sample of the study. For the purpose of analysis, the farmers were grouped into three classes on the basis of total holdings, as small holdings (Area 1 to 4 ha), medium (4 to 10 ha) and large (above 10 ha). The relevant information on the other aspect like trends of production, yield, cost and expenditure for the year 2011-12 were collected from selected chrysanthemum growers. Some general information was also collected with the help of Socio-Economic review, District Census Handbook; District Statistical Abstract Gazetteer, Agriculture Epitomes, Periodicals etc.

PER HECTARE COST OF CULTIVATION OF CHRYSANTHEMUMS

To facilitate comparison, the itemwise per hectare cost of cultivation of chrysanthemums in different size groups of farms was worked out and the same is presented in table No-1.

Table No- 1. Itemwise per hectare cost of cultivation of Chrysanthemum (in Rs.)

Sr. No.	Items of Cost	Small	Medium	Large	Overall
1.	Hired human labour	2787 (3.09)	6838.6 (6.80)	9751.2 (8.92)	7312.40 (7.23)
2.	Bullock labour	10796 (11.96)	11500 (11.43)	12240 (11.19)	11606 (11.47)
3.	Manures	11320 (12.55)	12820 (12.74)	12860 (11.76)	12436 (12.29)
4.	Plantation	3000 (3.33)	3200 (3.18)	2950 (2.70)	3046.67 (3.01)
5.	Irrigation	2500 (2.77)	3000 (2.98)	2800 (2.56)	2786.67 (2.75)
6.	Fertilizers and ground nut cake	1331.40 (1.48)	1771.78 (1.76)	2029.30 (1.86)	1758.82 (1.74)
7.	Insecticides and pesticides	362 (0.40)	563.1 (0.57)	681.1 (0.62)	580.90 (0.57)
8.	Land revenue	85.42 (0.09)	94.70 (0.09)	106.50 (0.1)	96.95 (0.1)
9.	Depreciation on implements and machinery and repairs	1200 (1.33)	1810 (1.80)	3608.3 (3.30)	2366.60 (2.34)
10.	Interest on working capital	2684.33 (2.98)	3578.93 (3.56)	4023.18 (3.67)	3382.22 (3.34)
	Cost– A (1 to 10 items)	36066.15 (39.98)	45177.11 (44.91)	51049.58 (46.70)	45373.23 (44.83)
11.	Rental value of land	22779.75 (25.25)	24864.82 (24.72)	26083.17 (23.86)	24796.00 (24.50)
12.	Interest on fixed capital	7587.50 (8.41)	9155 (9.10)	11862.80 (10.85)	9786.75 (9.67)
	Cost – B (Cost A + 11, 12 items)	66433.40	79196.93	88995.55	79955.98
		(73.64)	(78.73)	(81.40)	(79.00)
13.	Family labour	23779.60 (26.36)	21394.60 (21.27)	20339.40 (18.60)	21251.40 (21.00)
	Cost – C	90213.00	100591.53	109334.95	101207.38
	(Cost-B + 13)	(100.00)	(100.00)	(100.00)	(100.00)

Source- Compiled by the Author
Note : Figs. in the brackets indicates percentage

It appears from the table that at the overall level, total cost of cultivation (cost-c) worked out to Rs.101207.38 per hector. The cost A and cost B were to the extent of Rs. 45373.23 and Rs.79955.38 per hector respectively. The major items of cost were family labour (21.00 %), rental value of land (24.50 %) manures and fertilizers (13.56 %) and hired human labour (7.23%). It is clear that amongst the items of total cost the rental value had the largest share. (Fig. 1.) The comparison of per hectare cost of cultivation of different size groups of farms revealed that rental value of land shared the largest proportion of total cost in all size groups of farm. The application of manures and fertilizers showed an increasing trend with the increase in the size of holding. The per hectare cost A, i.e., the cut of pocket expenditure worked out to Rs. 36066.15, 45177.11 and Rs. 51049.58 on small , medium and large size groups of holdings, respectively. The per hectare total cost of cultivation (Cost C) worked out to Rs. 90213.00, Rs.100591.53 and Rs. 109334.95 on small, medium and large size groups of holdings. The interest on working capital showed an increasing trend as the size of holdings increased.

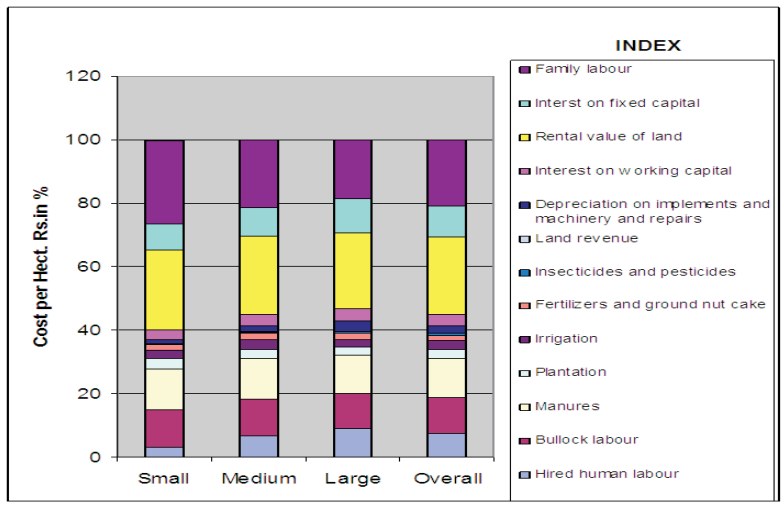

Fig.-1 - Itemwise per hectare cost of cultivation of chrysanthemum (Rs. in %)

RETURNS FROM CHRYSANTHEMUM

It can be seen from the Table-2 that the net returns at (Cost-C) have shown an increasing trend in accordance with an increases in the size of holdings. The per hectare cost of cultivation worked out to Rs. 90213, Rs.100591.53 and Rs.109334.95 on small, medium and large sized group of holdings respectively. The net returns of (Cost-C) worked out of Rs. 46465.5, Rs.48597.37 and 47164.05 per hectare on small, medium and large sized group of holdings respectively. The net returns per kg of output went on decreasing with the increase in the size of holdings. It was Rs.5.94, Rs.5.70 and Rs. 5.27 in case of small, medium and large size group of holdings respectively (Fig. 2).

Table-2 per Hectare Cost and Returns and Net Profit in Chrysanthemum Cultivation in different size groups of holdings

Sr. No.	Particulars	Size group of holdings			
		Small	Medium	Large	Overall
1.	Yield in Kg	7810.20	8525.08	8942.80	8501.53
2.	Returns in Rs.	136678.50	149188.90	156499.00	148776.83
3.	Costs Cost-A Cost-B Cost-C	36066.15 66433.40 90213.00	45177.11 79196.93 100591.53	51049.58 88995.55 109334.95	45373.23 79955.98 101207.38
4.	Net Income At Cost-A Cost-B Cost-C	100612.35 70245.10 46465.50	104011.79 69991.97 48597.37	105449.42 67503.45 47164.05	103403.60 68820.85 47569.45
5.	Net Profit per Kg	5.94	5.70	5.27	5.60
6.	Output-input ratio	1.51	1.48	1.44	1.47

Source : Data collected during the field work (10-11)

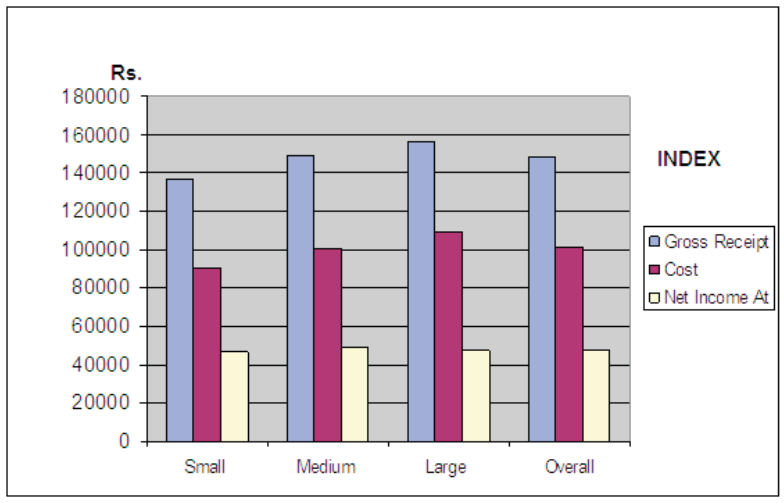

Fig. 2 - Per hectare cost, returns and net profit in chrysanthemum cultivation in different size group of holdings

The output in put ratio showed on decreasing trend as the size of holding increased. It was 1.51, 1.48 and 1.44 in respect of small, medium and large size of groups of farms respectively. It could be concluded from this study that the cultivation of chrysanthemum is an economic proposition in the study area. In the present study, Cobb-Douglas production function was fitted. The form of the function used is as below

$$Y = a x_1^{b1} x_2^{b2} x_3^{b3} x_4^{b4} x_5^{b5}$$

where, Y = output in kilograms,

a = constant

x_1 = Area under chrysanthemum in hectares

x_2 = Manures in cartloads

x_3 = Bullock labour in pair days

x_4 = Fertilizer cost in rupees

x_5 = Irrigation charges in rupees

RESULT OF THE PRODUCTION FUNCTION:

log y versus log x_1 log x_2 log x_3 log x_4 log x_5

The regression equation is

$$\log y = -11.4 + 0.169 \log_1 x + 0.883 \log_2 x + 0.499 \log x - 0.281 \log x + 2.15 \log x$$

The values of regression coefficients of inputs, standard error of coefficients and their 't' values and for the sum of the elasticities are given in table 3.

Table No -3 Regression coefficients and test of their significance

Sr. No	Predicator	Coefficient	SEcoef	T values calculated
1	Constant	-11.3748	0.3750	-30.33
2	109×1	0.168970	0.005711	29.59
3	109×2	0.88344	0.05923	14.92
4	109×3	0.49850	0.03518	14.17
5	109×4	-0.28078	0.02627	-10.65
6	109×5	2.15202	0.04274	50.35

Sum of elasticities = 3.42215
Number of observation =150,
S=0.0368871
R59=96.8%. R.sq.(Adj) =96.7
't ' Tabulated value of 5% level =1.960

The regression coefficient of all the variable except variable X_4 are positive indicating there by that there will be an increase in output, if one percent increases the input variables. The regression coefficient of variables were tested for't 'values. The regression coefficients of variables are significantly different from zero at 5% level of significance. We reject the hypothesis that B=0

Price Spread in marketing chrysanthemum

The main marketing channels or agencies through which the flower pass from producer to the final consumers were identified 1) Producer 2) Transport agency (Hundekari) 3)Commission agents 4) Retailers 5) Consumers.

It can be seen from the table-4 that the producers share in consumers rupee worked out to (20.79 %), while the margin of commission agents and retailers were (11.03 %) and (13.20%), respectively. Out of the net profit Rs. 9.13 per kg. In the consumer's price, the percentage shares of the net profit received by producer, commission agents and retailers were 22.78, 35.16, and 42.06 respectively. (Fig. 3). The market middlemen jointly shared (77.22 %) of the net profit. The chrysanthemum producers did not have any control over the market due to the coordination, lack of market knowledge, and integration among themselves. Moreover, the commission agents have borne very less expenses as compared to the producer and retailers in the marketing processes.

Table -4
Per kg price spread in marketing of chrysanthemum in Mumbai Market (2010-11) (Rs.)

Sr. No.	Particulars	Per kg	Percentage to total
1.	Net price received by the producer	6.05	20.79
2.	Marketing charges paid by the producer	7.26	24.95
3.	Gross price paid by the commission agent to producer	13.31	45.74
4.	Expenses of commission agents	0.98	3.37
5.	Profit of commission agent	3.21	11.03
6.	Price paid by retailer	17.50	60.14
7.	Expenses of retailer	7.76	26.67
8.	Profit of retailer	3.84	13.20
9.	Price paid by the consumer	29.1	100.00
10.	Net profit share of the consumer's price i) Cultivators	2.08	22.78
	ii) Commission agents	3.21	35.16
	iii) Retailers	3.84	42.0 6
	Total	**9.13**	**100.00**

Source: Compiled by the Author

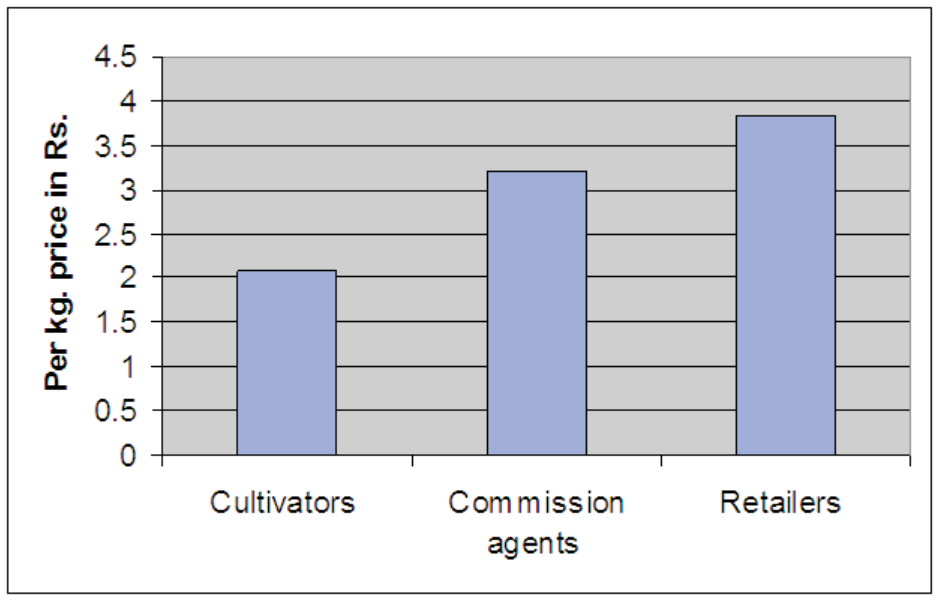

Fig. 3 - Net profit shares of the consumers price in Mumbai Market (2010-11)

CONCLUDING REMARKS

Chrysanthemum is highly labour intensive crop requiring more labour for the operations like weeding and plucking of flowers. There is immediate need to develop labour saving practices such as use of improve variety of seeds for planting, weedicides, plucking of flowers, and harvesting etc. measures should be taken to raise the wages of farm workers. The farmers on the basis of optimum use of inputs will

be evaluated by using an appropriate extension method. At the same time market intermediaries provide less service and require less cost but they acquire higher margin. The middlemen's share of consumer rupees is major. Therefore appropriate measures should be adopted by the market authority to avoid cheating of farmers by the middlemen. To control the expenditure on transportation, commission, packing charges, storage, efforts should be made to develop the necessary infrastructure for the marketing of chrysanthemum in the district. The cultivators should form co-operative marketing societies; these societies should be encouraged to increase the producers share in consumer's rupee. The interest of the farmers can be increased and maintained by the government intervention, which is necessary safeguard, their interest.

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