Research Paper

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Impact of Supermarkets on Farmers and Retailers in Hyderabad City of Andhra Pradesh.

Agriculture

KEYWORDS : Supermarkets, Traditional markets, Vegetables, organized retailing

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ABSTRACT

India is currently witnessing an expansion in organized retailing by large corporate houses. This trend is closely associated with urbanization and growing consumerism. In India the emergence of supermarkets has profoundly influenced fruit and vegetable marketing system. The present study was conducted to assess the impact of the upcoming supermarkets on farmers, and different marketing channels in Medak district of Andhra Pradesh which are operating their retail outlets in Hyderabad city. Three vegetables i.e., tomato, brinjal and bhendi were selected . The study reveal that the cost of cultivation of supermarket supply farmers was less than the traditional marketing supply farmers due to efficient utilization of resources and the net price received by the farmer in supermarket channel was more for all the three vegetables when compared to traditional channel farmers. The total marketing cost incurred by growers was more in traditional channels. The producer's share in consumer's rupee and marketing efficiency was higher for supermarket channel than traditional market channel producers for all the three selected vegetables. The innovative institutions contribute in reducing transaction costs and augmenting farm profits. Government has to regulate prices and operate retail outlets which should assess the production and marketing level and announce the minimum support prices of the vegetables regularly.

INTRODUCTION

In India retailing contributes about 15-20% of gross GDP and 7-10% of employment. The retail industry is the second largest employer in India next to the farming sector. The supermarket revolution which has attracted much attention, principally from a business strategy perspective (Mukoyama, 2005) is focusing on standardization and adaptation of retail formats which are concerned about the opportunities for small scale domestic producers (Reardon et al., 2003). The organized food retail chains have established backward linkages with farmers for procuring fresh fruits and vegetables. These organized food retail ventures were involved in arrangements of procurement without any contracts or commitments, apart from paying better price to the farmers (Sulaiman et al., 2011). Farmers preferred to sell to the modern retail chain because of lower transaction costs and assured purchase besides higher absolute price received (Chowdhury et al., 2005). Further, in addition to higher prices, the main advantage of supermarket interface appreciated by the farmers was the greater degree of stability of prices compared to the traditional markets (Moustier et al., 2010). On the other hand supermarkets take away market share from traditional retailers (such as kiosks, the counter shop, market stalls, and street hawkers), lowering their margins or displacing them permanently and thus reduced the set of retail outlets from which consumer can choose. For consumers, on one hand, supermarkets offer a variety of food products, like value added food products, more guarantees regarding quality and safety of food products and generally lower prices for processed food. The market infrastructure for vegetables despite the launching of development plans in our country is still weak. Relatively the producer's share in consumer's rupee is very much less in traditional marketing due to the intervention of middlemen. Under this back drop the present study was conducted on three fresh vegetables i.e tomato, brinjal and bhendi as they are considered important , both from the farmer perspective which provides great income potential for producers and from consumer perspective which is an important part of the diet in the food expenditure, with the following objectives : To study the impact of supermarkets on farmers; to examine the supermarket and traditional marketing channels of fresh vegetables.

DATA AND METHODOLOGY

The study was conducted through a survey method. The data for the study was collected from farmers and retailers through an interview schedule. Medak district of Andhra Pradesh which has been supplying vegetables to Hyderabad city was selected for the present study. A sample size of 234 vegetable cultivators were selected . Out of 234, 117 farmers are vegetable suppliers to supermarkets and 117 are vegetable suppliers to traditional markets. Out of 117 sample farmers tomato 39, brinjal 39 and bhendi 39 were selected duly including all the three category of farmers i.e., small, medium and large at the rate of 13 farmers from the three selected vegetables in each district. A sample of 30 intermediaries consisting of wholesalers, commission agents and retailers of 10 each were selected randomly from local market in order to study the existing marketing cost, margins, and price spread under important channels. Tabular analysis was carried out to examine the socio economic profile of the selected farmers, farmer's productivity and profitability, marketing aspects. To identify the determinants of farmer participation in the supermarket channel, a logistic regression model was fitted with a set of ten variables.

RESULTS AND DISCUSSION

In order to assess to what extent the supermarket channel preferred farmers are different from farmers supplying through traditional system the data was collected related to farmers who supply directly to supermarkets and farmers who are supplying to traditional marketing agents (wholesalers, retailers etc).

Socio Economic profile of sample respondents

Age : Age has a bearing on the farmers risk taking attitude and innovativeness in adapting new technologies. The mean age of supermarkets supply tomato small farmers was 43.92 years which were lower than that of 46.38 years of traditional market supply tomato small farmers as shown in Table 1 It was found that younger and educated farmers had entered into tie - ups with food retail chain collection centres, which was due to their better awareness and enthusiasm to face risks and experiment with a new business model. (Mangala and Chengappa 2008).

Family size of sample respondents : Vegetables are labour intensive crops and hence they create employment opportunities throughout the crop period. Family size was relatively smaller for farmer families associated with the centre compared to the traditional market farmers

Education profile of sample respondents: The educational status of the farmer as decision maker in marketing system plays a vital role in the adoption of new technology, innovative ways in marketing and other agriculture related issues in the field of agriculture.

Structure of farm holdings of sample respondents. It was observed that the average size of the farm holdings for supermarket supplying brinjal crop was 11.45 acres while that of traditional market supplying farmers was 10.75 acres. The share of the area under well command was higher for food retail chain FRC supplying farmers than traditional market supplying farmers (Mangala and Chengappa 2008).

Economics of Vegetable Production

The total cost of cultivation per hectare for supermarket suppliers of tomato crop was less than traditional market supply farms by Rs. 1,942.70, Rs. 795.77and Rs. 968.80 for small, medium, and large farms respectively as shown in Table 2. The cost of cultivation in rupees per hectare for brinjal cultivation of supermarket supply small farmers is less than traditional market supply small farmers by Rs. 1,208.85. Small farmers are incurring more expenditure compared to large farmers in the cultivation of all these selected vegetables which shows that small holders are gradually diversifying out of staples towards high-value commodities (Birthal and Joshi 2007). For small farmers there is a risk that they may not be able to adapt to the supermarkets new procurement system due to lack of technical guidance, leading to exclusion from a potentially more profitable or less risky market. Alternatively, some small farms may adopt, through collective action, investments and learning, taking full advantage of the growth opportunity offered by Supermarkets. The average yield for supermarket supply small farms of tomato, brinjal, bhendi was 151.38, 153.08, and 73.85 quintal per hectare while that of traditional market supply small farmer's average yield was 149.69, 150.92, and 72.77 respectively. The net returns for supermarket supply farmers are compared with those of traditional producers to examine whether producers are benefited by affiliating themselves with institutions. The linkage of supermarket with farming changed the method of farming especially of small and medium farmers, through their intensive cultivation, and they have been able to earn considerably higher incomes (Mangala and Chengappa 2008).

TABLE 1. SOCIO ECONOMIC PROFILE OF THE SAMPLE RESPONDENTS OF SUPERMARKET SUPPLY AND TRADITIONAL MARKET SUPPLY FARMERS OF SELECTED VEGETABLES.

		Super market supply farmers									Traditional market supply farmers								
		Tomato			Brinjal			Bhendi			Tomato			Brinjal			Bhendi		
		S	M	L	S	M	L	S	M	L	S	M	L	S	M	L	S	M	L
1	Mean age in years	43.9	41.46	39.53	40.07	35.07	35.30	38.53	35.00	31.61	46.38	43.38	41.84	45.61	40.0	39.69	42.61	38.69	36.38
2	Family size in No.	6.07	6.03	6.07	6.15	6.05	5.84	5.87	5.00	4.30	7.53	7.68	6.30	6.55	6.38	6.15	6.46	6.30	5.07
3	Education in years	6.30	6.36	6.54	5.81	7.00	7.50	6.81	6.20	7.60	5.60	5.07	9.00	5.25	5.33	6.08	5.08	6.10	6.50
4	Total farm Size in acres	3.96	7.83	10.55	4.80	7.54	11.45	3.68	6.55	10.85	3.99	7.37	10.33	4.21	7.60	10.75	4.08	4.84	10.25
5	Land used For selected Vegetables in acres	1.43	2.83	2.96	1.70	2.09	3.20	1.03	1.46	2.23	1.40	2.53	2.85	1.50	2.56	3.13	0.93	2.60	2.00

S- Small farmer M- Medium farmer L- Large farmer

Economic aspects of marketing of the selected vegetables

Three marketing channels were identified in the study area one Supermarket channel and two traditional channels. In channel –I vegetables will be purchased by the collection centre workers as per the indent.

TABLE 2. ECONOMIC ASPECTS OF SUPERMARKET AND TRADITIONAL MARKETS SUPPLYING FARMERS.

Particulars	Super market supply farmers				Traditional market supply farmers			
	Small	Medium	Large	All	Small	Medium	Large	All
Tomato								
Cost of Cultivation	35981.92	31548.46	29434.23	32321.54	37924.62	32344.23	30403.03	33557.31
Average yield Rs/h	151.38	150.31	148.46	150.05	149.69	149.05	148.00	148.91
Price(Rs./Qtl)	696.15	690.10	680.38	662.17	470.19	468.27	463.46	467.30
Gross returns	105383.18	103728.93	101009.21	103373.77	70382.74	69795.64	68592.08	69590.15
Net returns	69401.26	72180.47	71574.77	71052.16	32458.12	37451.41	38189.05	36032.86
Brinjal								
Cost of Cultivation	37615.77 (100)	32898.46 (100)	30260.00 (100)	33591.41 (100)	38824.62 (100)	34885.08 (100)	31397.31 (100)	35035.67 (100)
Average yield	153.08	151.54	149.08	151.23	150.92	149.23	148.00	149.38
Price(Rs./Qtl)	675.04	630.00	624.04	643.14	511.54	500.00	494.23	501.92
Gross returns	103335.12	95470.12	93031.88	97279.04	77201.61	74651.92	73146.04	74999.85
Net returns	65719.35	62571.66	62771.88	63687.63	38376.99	39766.84	41748.73	39964.18
Bhendi								
Cost of Cultivation	36436.54 (100)	32440.31 (100)	29045.38 (100)	32640.74 (100)	38606.15 (100)	35007.31 (100)	30790.00 (100)	34801.15 (100)
Average yield	73.85	72.92	71.69	72.82	72.77	71.38	69.69	71.28
Price(Rs./Qtl)	1168.27	1156.73	1155.77	1160.25	1059.62	1057.69	1054.81	1057.37
Gross returns	85907.48	84348.75	82857.15	84371.12	77108.54	75497.91	73509.70	75372.05
Net returns	49470.94	51908.44	53811.77	51730.38	38502.39	40490.60	42719.70	40570.89

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The standardized produce of each member is pooled and will then be sent to the distribution centre where it is rechecked for quality and quantity and then the packed material will be moved to retail outlets by the operation team. The marketing cost, transportation and other labour charges involved to transport the produce from collection centre to distribution centre and from distribution centre to retail outlets is borne by the procuring agencies. Daily wholesale market prices in the Bowenpally wholesale market serve as a base price for the producers. In channel II & III the farmers take their produce to the near by wholesale market in the night by around 10 pm. The auction takes place in the early morning at around 3.30-4.00 A.M. The net price received by the tomato, brinjal, bhendi supermarket channel-I farmer was Rs.1350.61, Rs.1320.82, Rs. 1320.82 per quintal, while it was Rs. 1012.52, Rs. 1180.51, Rs. 1310.65 per quintal in traditional channels -II & III as shown in Table 3. It can be seen that the net price received by the farmer in supermarket channel was more when compared to that of traditional farmers (Birthal and Joshi 2007).

TABLE 3 : COMPARISON OF MARKETING EFFICIENCY OF TOMATO, BRINJAL AND BHENDI IN SUPERMARKET AND TRADITIONAL CHANNELS.

S.No.	Particulars	Channel I Supermarket channel			Channel II Traditional channel			Channel III Traditional channel		
	Vegetables	Tomato	Brinjal	Bhendi	Tomato	Brinjal	Bhendi	Tomato	Brinjal	Bhendi
1.	Price received by farmer(Rs/q)	1350.61	1320.82	1640.24	1012.52	1180.51	1310.65	1012.52	1180.51	1310.65
2.	Transportation cost of farmer	80.72	60.12	50.15	512.65	412.64	350.67	480.36	349.76	200.30
3.	Marketing cost of farmer	202.38	150.86	120.50	718.65	600.00	510.65	651.28	582.24	450.65
4.	Total marketing cost(Rs/q)	The other marketing costs are born by the procuring agencies			1012.54	925.94	781.44	632.56	792.44	570.96
5.	Market margins (Rs/q)	There were no intermediaries for incurring market margins.			376.55	268.78	444.37	363.40	329.71	400.23
6.	Consumer purchase price	2198.80	2240.12	2390.20	2331.64	2480.31	2561.45	2200.52	2400.22	2410.32
7.	Price Spread(%)	61.42	59.00	68.62	43.42	47.61	51.16	46.01	49.50	54.37
8.	Marketing Efficiency (1/4+5)	6.67	8.75	13.65	0.77	0.98	1.06	1.01	1.05	1.34

TABLE 4. LOGISTIC REGRESSION COEFFICIENTS OF DETERMINANTS OF FARMERS CHANNEL CHOICE

S.No	Variables	Odds ratio exp(β)	Coefficients β
1.	Family size	0.556	-0.586**
2.	Farm size	0.870	0.138*
3.	Age in years	0.844	-0.169***
4.	Farming years experience	1.260	0.231***
5.	Education in years	1.180	0.166*
6.	Agriculture as main occupation	0.815	-0.204
7.	Farmers getting phone orders	31.575	3.452***
8.	Farmers with Transport vehicles	0.109	12.21**
9.	Irrigation(Borewell)	0.195	-1.632*
10.	Irrigation (well)	1.079	0.1762
11.	χ^2	165.932	
	-2log λ	158.46	

The total marketing cost incurred by bhendi growers accounted to Rs. 120.10 (5.02% of consumers price) in supermarket channel-I, Rs. 510.65 (19.93% of consumer's price) in channel-II, Rs. 450.65 (18.69% of consumer's price) in channel-III The producer's share in consumers rupee was 68.62% in supermarket channel-I which was highest than 51.16%, 54.37% of traditional channels- II & III. Marketing efficiency of supermarket channel-I was higher than the traditional channels because of the systematic market arrangements, low marketing costs, better maintenance of quality of produce due to cleaning, grading, sorting and packing operations carried out by the institutional arrangements.

Determinants of farmers channel choice

The factors influencing the probability of selecting food retail chain marketing channel as against traditional marketing channel was analyzed using the logistic regression model. The estimated coefficients β's for logistic regression with their significance levels are presented in Table 4. Farm size, farming year's experience, education, farmers getting phone orders and farmers with transport vehicles are significant and positively associated, with their chances of selling the farm produce through supermarket channel has increased by 0.87, 1.26, 1.18, 31.57, 0.10 times. The coefficient of age in both the districts and family size were significant and negatively associated with supermarket channel choice. The results reveal that farmers getting phone orders has a high positive impact on selecting the supermarket channel as the collection centers mostly order the produce from the farmers according to the daily indent requirement from the higher authority. With the increase in farming year's experience the probability of selecting the supermarket channel has increased. The education of the farmer has a positive impact showing that with the improvement in the level of education, probability of selling vegetables at the collection centre increases. With the ownership of transport vehicles, the chance of selling to the collection centre has increased.

CONCLUSION

The study reveal that supermarket supply farming was a profitable enterprise in the long run and the resources are being used efficiently decreasing the cultivation expenditure of the farmer than the traditional market supply farming for the selected vegetables.

The net price received by the farmer in supermarket channel was more for all the three vegetables when compared to traditional channel farmers. Among the different channels the total marketing cost incurred by growers was more in traditional channels-II & III. The producer's share in consumer's rupee and marketing efficiency was higher for supermarket channel-I than traditional market channel producers for all the three selected vegetables. This new institutional arrangements by setting up the collection centres in their niche production regions has helped the farmers to a greater extent to break away from the clutches of traditional brokers/wholesalers/commission

agents and has reduced the market risks and transaction costs of farmers to a maximum extent. Supermarket supply channel-I incurred no margins as there were no intermediaries or middle men participation in marketing of the produce. In traditional channels-II & III of both the districts marketing efficiency increases if market margins decrease. The results indicate that innovative institutions contribute in reducing transaction costs and augmenting farm profits. Government has to regulate prices, open and operate retail outlets and should assess the production and consumption level and announce the MSP accordingly.

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