Available online at www.ijpab.com

DOI: http://dx.doi.org/10.18782/2320-7051.2581

ISSN: 2320 – 7051

Int. J. Pure App. Biosci. **5 (1):** 329-337 (2017)

Research Article

International Journal of Pure & Applied Bioscience

OPEN ACCESS

Study on Marketing Behaviour and Other Attributes of Vegetable Growers at Kota Block of Kota District in Rajasthan

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Received: 11.02.2017 | Revised: 21.02.2017 | Accepted: 23.02.2017

ABSTRACT

Marketing behavior of a farmer is influenced by several factors. The study was conducted purposively in Kota block of Kota district to assess the marketing behaviour of vegetable growers. The total of 120 vegetable growers were formed the sample for the study. The primary data were collected through personal interview method with the help of pre-tested interview schedule which was prepared on the basis of objectives of investigation and variables. The statistical tests and procedures were used for analyzing the data. With the help of statistical tools like- mean, S.D., percentage, and Karl Pearson's coefficient of correlation, multiple correlation and regression analysis were used for analysis of data. We found that majority of the respondents had medium (72.50%) to high level of marketing behavior. All the 13 selected attributes of vegetable growers, were found positive and significant relationship with marketing behavior except age, farming experience, extension participation and innovativeness in vegetable production. And coefficient of determination R^2 was 0.7862. *The major constraints expressed by vegetable growers were fluctuations in the market price* (82.50%).

Key words: *Vegetable growers; Marketing behaviour; Correlation analysis*

INTRODUCTION

India is principally a vegetarian country and second largest producer of vegetables, next to China. Vegetable forms the most nutritive menu of man and tone up his energy and vigor. Vegetable development depends not only on production but also on marketing system. Vegetable cultivation being labour intensive can substantially increase employment avenues too. The production and productivity have to be stepped up by availing the available advanced technology. With food being the crowning need of mankind, much emphasis has been on commercialising agricultural production. For this reason, adequate production and even distribution of food has of late become a high priority global concern. Agricultural marketing is mainly the buying and selling of agricultural products. In earlier days when the village economy was more or less self-sufficient the marketing of agricultural products presented no difficulty as the farmer sold his produce to the consumer on a cash or barter basis.

Cite this article: Maratha, P. and Badodiya, S.K., Study on Marketing Behaviour and Other Attributes of Vegetable Growers at Kota Block of Kota District in Rajasthan, *Int. J. Pure App. Biosci.* **5(1):** 329-337 (2017). doi: http://dx.doi.org/10.18782/2320-7051.2581

Marketing systems are dynamic; they are competitive and involve continuous change and improvement. Businesses that have lower costs, are more efficient, and can deliver quality products, are those that prosper. Those that have high costs, fail to adapt to changes in market demand and provide poorer quality, are often forced out of business. Marketing has to be customer-oriented and has to provide the farmer, transporter, trader, processor, etc. with a profit. This requires those involved in marketing chains to understand buyer requirements, both in terms of product and business conditions. Today's agricultural marketing has to undergo a series of exchanges or transfers from one person to another before it reaches the consumer. There are three marketing functions involved in this, i.e., assembling, preparation for consumption and distribution. Selling on any agricultural produce depends on some couple of factors like the demand of the product at that time, availability of storage etc. Sometime processing is done because consumers want it, or sometimes to conserve the quality of that product. The task of distribution system is to match the supply with the existing demand by whole selling and retailing in various points of different markets like primary, secondary or terminal markets. Products are sold in various ways. For example, it might be sold at a weekly village market in the farmer's village or in a neighboring village. If these outlets are not available, then produce might be sold at irregularly held markets in a nearby village or town, or in the mandi.

Table 1 Conflict of interest in agricultural/food marketing systems

Key Players	Interests
Farmers	Maximum price, unlimited quantities
Manufacturers	Low purchase price, high quality
Traders and retailers	Low purchase price, high quality
Consumers	Low purchase price, high quality

In practice, the key players each see the agricultural/food marketing system from a perspective of self-interest and these interests are sometimes in conflict. Illustrative examples of some of the conflicts which typically arise are given in table 1.

The farmer's interest is focused on getting the best return from his produce, which usually equates to maximum price for unlimited quantities. Manufacturers want least cost, best quality produce from the farmer so that he can sell it at competitive, but profitable, prices. Traders and retailers want high quality and reliable supplies from the manufacturer or farmer, at the most competitive prices. Consumers are interested in obtaining high quality products at low prices. Clearly, there are conflicting interests here (FAO, 2016).

The problems of vegetable growers are numerous; however, lack of market infrastructure and price fluctuation seems to be major bottleneck in the sustained development of vegetable production. The vegetable marketing problems in rural areas have not been studied in a systematic way even though number of studies has been conducted in the country. Presently, development of marketing infrastructure to solve the problems of vegetable growers in rural areas is the primary concern of the government. Intensified efforts

are needed to identify the specific problems related to vegetable marketing. Hence, the present investigation was undertaken with the following objectives.

Specific objectives of the study:

1. To study the attributes of vegetable growers.
2. To determine the marketing behaviour of vegetable growers.
3. To analyze the relationship between attributes of vegetable growers and their marketing behaviour.
4. To enlist the problems of vegetable growers and obtain suggestions.

MATERIALS AND METHODS

The study was conducted purposively in Kota block of Kota district due to highest vegetable production among the other blocks of the district. In Kota block, there are 150 villages. A list of villages where vegetable crops are grown was prepared with the help of RHEO/RAEO and local leaders and 10 villages were selected randomly. After that, a village wise list of vegetable growers was prepared and from each selected village, thirteen farmers were selected by using simple random sampling method. Thus, a total of 120 farmers were formed the sample for the study. The primary data were collected through personal interview method with the help of pre-tested interview schedule, which was prepared on the basis of objectives of investigation and variables. The interview schedule was thoroughly discussed with the member of the advisory committee and their suggestions were incorporated. The statistical tests and procedures were used for analyzing the data with the help of statistical tools like- mean, S.D., percentage, and Karl Pearson's coefficient of correlation, multiple correlation and regression analysis were used for analysis of data.

RESULTS AND DISCUSSION

Profile and marketing behaviour of vegetable growers-

The data in Table-2 shows that most of the respondents (60.00%) belonged to middle age group and higher percentage (26.67%) of vegetable growers educated up to primary and middle school level (25.83%). Majority of the beneficiary respondents (65.00%) belonged to level of medium irrigation potentiality, followed by high level of irrigation potentiality (19.17%) and more than half of vegetable growers (68.33%) had a medium level of farming experience. The data in Table -2 indicates that maximum (37.50%) vegetable growers possessed up to 2.1 to 5 ha. of land. The data exhibits the distribution of vegetable growers according to their occupation. The data shows that most of the (65.83%) respondents engaged only in farming, followed by farming+service. Majority (69.17%) of the vegetable growers had medium level of annual income. The perusal of data indicates that majority (68.33%) of the respondents had medium level of mass media exposure and the 66.67 percent of respondents were from medium category of extension contact. The perusal of data indicates that majority (65.83%) of the respondents had medium level of market orientation and 63.33 percent of respondents were from medium category of innovativeness in vegetable production. Majority 61.67 per cent of the vegetable growers had medium knowledge level about vegetable production while 63.33 per cent had medium level of awareness regarding value addition. Almost similar findings were reported by Ragupathi (1999) Badodiya et al (2010), Hanchinal (1999) and Shashidhar (2003).

Table-1 Profile of the vegetable growers

SN	*Traits*	*Category*	*Frequency*	*Percentage*	*Mean*	*SD*
1	Age	Young (below 35 yrs)	26	21.67		
		Middle(35-55 yrs)	72	60.00		
		Old(above 55 yrs)	22	18.33	46.72	9.91
2	*Education*	Illiterate	15	12.50		
		Functionally literate	28	23.33		
		Up to primary	32	26.67		
		Up to middle	31	25.83		
		Higher sec. &above	14	11.67	2.05	1.14
3	*Irrigation potentiality*	Low (<41.46%)	19	15.83		
		Medium (41.46%-71.38%)	78	65.00		
		High (>71.38%)	23	19.17	56.42	14.96
4	*Farming experience*	Low(upto 5 yrs)	12	10.00		
		Medium(6-10 yrs)	82	68.33		
		High(above 10 yrs)	26	21.67	2.35	1.19
5	*Annual income*	Low (<1 lac.)	21	17.50		
		Medium (1 lac.- 5 lac.)	83	69.17		
		High (>5 lac.)	16	13.33	1.92	0.53
6	*Land holding*	Marginal (up to 1 ha.)	32	26.67		
		Small (1.1 to 2 ha.)	30	25.00		
		Medium (2.1 to 5 ha.)	45	37.50		
		Large (above 5.1 ha.)	21	17.50	2.05	0.86
7	*Occupation*	Farming	79	65.83		
		Farming +Service	22	18.33		
		Farming +Service+ Business	13	10.83		
		Farming +Service+ Business+ other	6	5.00	1.58	0.93
8	*Extension participation*	Low(<2.19)	22	18.33		
		Medium(2.19-6.05)	80	66.67		
		High(>6.05)	15	12.50	4.12	1.93
9	*Mass media exposure*	Low(<3.97)	16	13.33		
		Medium(3.97-8.67)	82	68.33		
		High(>8.67)	22	18.33	6.32	2.35
10	*Market orientation*	Low(<12.05)	17	14.17		
		Medium(12.05-20.29)	79	65.83		
		High(>20.29)	24	20.00	16.17	4.12
11	*Innovativeness in vegetable production*	Low(<9.55)	21	17.50		
		Medium(9.55-18.77)	76	63.33		
		High(>18.77)	23	19.17	14.16	4.61
12	Knowledge about vegetable production	Low(<9.86)	26	21.67		
		Medium(9.86-14.24)	74	61.67		
		High(>14.24)	20	16.67	12.05	2.19
13	Awareness regarding value addition	Low(<2.86)	13	10.83		
		Medium(2.86-10.58)	76	63.33		
		High(>10.58)	31	25.83	6.72	3.86

Marketing Behaviour of Vegetable Growers: It is considered as quality which can be acquired by an individual. It refers to the behaviour of the farmers with respect to marketing aspects of vegetables including time of sale, place of sale, marketing channels used and market prices. Marketing behaviour dimensions to be studied were inspired by Santosh Kumar (2008) and finalized in consultation with the marketing officials and social scientists. The statements used to analyze marketing behaviour of farmers are as follows. Reasons for selling at a particular period/time, whom, do you sell the produce, reasons to sell to a particular agency, where do you sell the produce, reasons for selling at a particular place. And on behalf of the above

statements we recorded responses from the respondents.

The data presented in the table 3 reveals that majority of the vegetable growers (91.67%) expressed that financial urgency was the major reason for selling vegetables at particular period followed by 79.17, 62.50, 53.33 and 24.17 per cent of them disposing their produce as it is highly perishable, non-availability of cold storage facilities, quality was not good and indebtedness of traders, respectively. Majority of them (80.00%) expressed that they sold their produce to wholesalers through commission agents followed by 51.67, 25.00 and 10.83 per cent sold their produce directly to the consumers, to the traders through co-operative societies and to the government agencies such as hotels, respectively.

Most of the respondents (90.00%) expressed that their selling the produce to the particular agency is due to the fact that they have no time to engage themselves in selling directly to the consumers, followed by 86.67, 81.67, 80.00, 71.67 and 70.83 of them sold to particular agency mainly because of nearness to agency, better price, immediate cash payment, worthiness of the agency for credit settlement and previous agreement respectively.

Table 3: Marketing behaviour of vegetable growers

S.N.	Category	Frequency	Percentage
1	Reasons for selling at a particular period / time		
a.	Highly perishable	95	79.17
b.	Quality was not good	64	53.33
c.	No cold storage facilities available	75	62.50
d.	Financial urgency	110	91.67
e.	Indebtedness to trader	29	24.17
2	Whom do you sell the produce		
a.	Directly to the consumer	62	51.67
b.	To the wholesaler through commission agents	96	80.00
c.	To the traders through co-operative societies	30	25.00
d.	To the Govt. agencies such as hostels	13	10.83
3	Reasons to sale a particular agency		
a.	The agency is very nearer one	104	86.67
b.	The agency is worthy credit	86	71.67
c.	I have no time to engage myself in selling directly to consumers	108	90.00
d.	Immediate cash payment	96	80.00
e.	Previous agreement	85	70.83
f.	Better price	98	81.67
4	Where do you sell the produce		
a.	In the village	35	29.17
b.	In the nearby bazaar	99	82.50
c.	In the mandy	102	85.00
d.	In the distant market	26	21.67
5	Reasons for selling at a particular place		
a.	Market is very near to place	99	82.50
b.	The better transport facilities available in the market	87	72.50
c.	Better price are available in the market	107	89.17
d.	Better market facilities available in the market	56	46.67

*Multiple responses

Around 85.00 per cent of them sold their produce in mandy, whereas 82.50, 29.17 and 21.67 per cent of them sold in nearby bazaars, in their own villages and distant markets, respectively.

Majority of them (89.17%) expressed that they sold their produce at particular markets because of better price and 82.50 per cent expressed that the markets were very near to them, 72.50 per cent told that, it was because of better transport facility, while 46.67 per cent opined that it was because of better market facility, respectively.

The overall marketing behaviour of vegetable growers:

The overall marketing behaviour of vegetable growers comprises a composite skill, the resultant of mix of many qualities and traits. The scores were assigned to the respondent on the basis of numbers of reasons for a particular statement i.e., score 1 for one or two reasons and score 2 for three or more than three reasons. On the basis of these responses, respondents were classified into low, medium and high categories on the basis of mean ± SD.

Table 4: Distribution of respondents according to their overall marketing behaviour

S. No.	Category	Frequency	Mean	S.D.
1	Low (<5.90)	13 (10.83)	7.88	1.98
2	Medium (5.90-9.86)	87 (72.50)		
3	High (>9.86)	20 (16.66)		
	Total	120 (100.00)		

It is clear from table 4 that the majority 72.50 percent of the respondents had medium level of marketing behaviour followed by 16.66 percent respondents had high level of marketing behaviour and only 10.83 percent of respondent had low level of marketing behaviour. The table also presents the data regarding mean score of marketing behaviour. The mean score of marketing behaviour was 7.88 and S.D. was 1.98.

Relationship between attributes of vegetable growers and their marketing behaviour:

To study the association of different attributes of vegetable growers with their marketing behaviour, the values of zero order correlation coefficient were calculated and are presented in table 5. It depicts the variables in which following were found to exercise significant bearing on their marketing behaviour viz., *education*; it helps an individual to broader his horizon of thinking and acting therefore it can be concluded that education is a very crucial and important variable and it is responsible for better marketing behavior. *Land holding*; It is may be because of land holding provides the economic base for the farmer to practice new technology. Therefore higher the farm size, increase the marketability of vegetable growers. *Innovativeness;* as it allows the person to think beyond the boundaries. An innovative person is always ready to bear the risk with some level of extent. *Annual income*; This may be due to the reason that resource full farmers who belonged to high income group might have exerted feeling to try to follow new technology towards profit as well as security maximization. *Irrigation potentiality*; this may be due to the reason that irrigation potentiality feels farmers who belonged to high income group and irrigation potentiality of an individual shows his resourcefulness. Past studies indicate that resourcefulness person possessed high marketing behavior. *Mass media exposure*; It plays an important role in increasing one's horizons of experience and knowledge about marketing behavior. *Market orientation*; It may be concluded that to have a good understanding of what the market needs or wants, they have better ability to market effectively to them. Efficient market information / can be shown to have positive benefits for farmers and traders. Up-to-date information on prices and other market factors enables farmers to negotiate with traders and also facilitates spatial distribution of products from rural areas to towns and between markets. *Knowledge about vegetable production of vegetable growers*; this may be

due to the reason that knowledge about vegetable production plays an important role marketing behaviour and profit maximization and *Awareness regarding value addition;* these value added services give the existing agricultural engine a new dimension. Value addition is creating the new dimension for marketing of agriculture products in their processed form. The next logical step could be food-processing which not only could be another revenue generating area but also can provide lots of full-time employment to our youths. And age, farming experience, occupation, extension participation and innovativeness in vegetable production did not exert any association with their marketing behaviour.

Table 5: Correlation coefficient of marketing behaviour of vegetable growers with their selected traits

S. No.	Traits	Correlation coefficient 'r' value
1.	Age	0.112
2.	Education	0.473**
3.	Farming experience	0.052
4.	Land holding	0.184*
5.	Occupation	0.042
6.	Annual Income	0.211*
7.	Irrigation potentiality	0.269**
8.	Extension participation	-0.012
9.	Mass media exposure	0.368**
10.	Innovativeness	0.561**
11.	Market orientation	0.415**
12.	Knowledge about vegetable production	0.683**
13.	Awareness regarding value addition	0425**

*** - Significant at p=0.05**
**** - Significant at p=0.01**

Multiple regression analysis of predictor variables with marketing behaviour of vegetable growers:

The multiple regression analysis was undertaken to determine the extent of contribution of selected vegetable grower traits on their marketing behavior. In multiple regression study, the values of partial regression coefficients were calculated by taking marketing behavior as dependent variable and age, education, farming experience, land holding occupation, annual Income, irrigation potentiality, extension participation, mass media exposure, innovativeness, market orientation, knowledge about vegetable production and awareness regarding value addition as independent variables. Regression analysis pertaining to marketing behavior of the vegetable growers with their selected traits (Table 6) revealed that 78.62 per cent of variation in marketing behavior of the vegetable growers was explained by all the thirteen traits of the respondents included in the study. Multiple R^2 value of 0.7862 with highly significant 'F' value revealed the significance of regression equation in the prediction of marketing behavior of the vegetable growers. Out of thirteen traits, four traits viz., education, market orientation, knowledge about vegetable production and Awareness regarding value addition were significant. All these four traits had positive and significant relationship with marketing behavior of the vegetable growers.

Table 6: Multiple regression analysis of predictor variables with their marketing behaviour

S. No.	Traits	'b' value	S.E. (b)	't' value
1.	Age	0.017	0.023	0.83
2.	Education	0.442	0.076	4.62**
3.	Farming experience	0.025	0.028	0.91
4.	Land holding	0.032	0.079	0.65
5.	Occupation	0.044	0.091	1.75
6.	Annual Income	0.149	0.123	1.20
7.	Irrigation potentiality	0.016	0.016	0.87
8.	Extension participation	-0.035	0.047	0.75
9.	Mass media exposure	0.026	0.042	0.61
10.	Innovativeness	0.034	0.032	1.87
11.	Market orientation	0.074	0.024	3.02**
12.	Knowledge about vegetable production	0.183	0.037	6.78**
13.	Awareness regarding value addition	0.212	0.091	3.78**
Multiple R^2 (Coefficient of determination) = 0.7862**				

**** - Significant at p=0.01**

Marketing problems experienced by the vegetable growers:

The contents presented in table 7 revealed that fluctuation in the market price was the major problem (82.50%), followed by lack of market information (77.50%), high commission charges (74.16%), delayed cash payment (69.16%), lack of processing facilities (65.00%), faulty system of weighing (51.66%), high cost of transportation (50.83%), absence of storage facilities (50.00%), followed by markets are far away (31.66%) and No grading facilities (20.83%).

Table 7: Problems faced by the vegetable growers

S. No.	Problems	Frequency	Percentage	Rank
1	Markets are far away	38	31.66	9
2	High cost of transportation	61	50.83	7
3	Fluctuation in market price	99	82.50	1
4	High commission charges	89	74.16	3
5	Delayed cash payment	83	69.16	4
6	Faulty system of weighing	62	51.66	6
7	Absence of storage facilities	60	50.00	8
8	No grading facilities	25	20.83	10
9	Lack of market information	93	77.50	2
10	Lack of processing facilities	78	65.00	5

SUGGESTIONS

Agricultural marketing needs to be conducted within a supportive policy, legal, institutional, macro-economic, infrastructural and bureaucratic environment. Traders and others cannot make investments in a climate of arbitrary government policy changes, such as those that restrict imports and exports or internal produce movement. Poor support institutions, such as agricultural extension services, municipalities that operate markets inefficiently and export promotion bodies, can be particularly damaging. Poor roads increase the cost of doing business, reduce payments to farmers and increase prices to consumers. Finally, the ever-present problem of

corruption can seriously impact on agricultural marketing efficiency in many countries by increasing the transaction costs faced by those in the marketing chain. New marketing linkages between agribusiness, large retailers and farmers are gradually being developed, e.g. through contract farming, group marketing and other forms of collective action. Donors and NGOs are paying increasing attention to ways of promoting direct linkages between farmers and buyers within a value chain context. More attention is now being paid to the development of regional markets (e.g. East Africa) and to structured trading systems that should facilitate such developments. The growth of supermarkets could have a significant impact on marketing channels for horticultural, dairy and livestock products. Nevertheless, "spot" markets will continue to be important for many years, necessitating attention to infrastructure improvement such as for retail and wholesale markets.

CONCLUSIONS

The study revealed that majority 72.50 percent respondents had medium level of marketing behavior about vegetables. The marketing behavior was positively and significantly related with education, land holding, annual income, irrigation potentiality, mass media exposure, innovativeness, market orientation, knowledge about vegetable production of vegetable growers and awareness regarding value addition. Coefficient of determination R^2 was 0.7862 with highly significant 'F' value revealed the significance of regression equation in the prediction of marketing behavior of the vegetable growers which indicates that 78.62 percent variation in the marketing behavior of vegetable growers was explained by thirteen independent variables which were selected for study. The major constraints expressed by vegetable growers were fluctuations in the market price was the major problem (82.50%), followed by lack of market information (77.50%), high commission charges (74.16%) and delayed cash payment (69.16%). Agricultural marketing needs to be conducted within a supportive policy, legal, institutional, macro-economic, infrastructural and bureaucratic environment. The growth of supermarkets could have a significant impact on marketing channels for horticultural, dairy and livestock products. Nevertheless, "spot" markets will continue to be important for many years, necessitating attention to infrastructure improvement such as for retail and wholesale markets. These factors can be taken care of by the implementing agencies in the state while selecting the beneficiaries for agriculture marketing development programmes.

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