

RESEARCH PAPER

Purchase behaviour of consumer towards organic vegetables

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ABSTRACT

Organic F and V sector is at nascent stage in India and has become one of the dynamic growing sectors in recent times. Increasing organic awareness and access to organic markets are developing at present as Indian consumers become more health conscious and begin to set out the importance diet and the increased rate of heart disease, obesity and diabetes with the population. Also, there is a burgeoning interest in avoiding chemical residues in foods among the population. The overall objective of the study was to analyze the consumer purchase behaviour. The study was carried out with 140 consumers. The acquired raw data were analyzed using appropriate statistical tools like conventional analysis. Results interpreted that majority (85.71%) of the respondents opined the reason for purchase of organic vegetable was “Good for health because no chemicals and to avoid diseases”. Majority of the respondents (94.29%) preferred place for purchase of organic vegetables is organic outlet. About 89.00 per cent of the respondents purchase the organic vegetables weekly. About 74.00 per cent of the respondents purchase more of organic vegetables. It is evident that 80.00 per cent of the respondents reported that their preferred vegetables are available in the store. About 42.00 per cent were willing to pay 10 per cent higher than existing organic vegetables price. Highest monthly expenditure spent on food was Rs. 12,909 whose share on expenditure of organic vegetables was 33.75 per cent to that of total expenditure on food.

KEY WORDS : Organic vegetables, Purchase behaviour, Willingness to pay, Chemical residue free

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Organic agriculture is the buttressing way for sustainable farming. In erstwhile Indian agriculture was a practiced using organic techniques, where the fertilizers and pesticides were

obtained from plant and animal residues. With evolution of green revolution the use of chemical fertilizers 1965-1966 it was 78000 tonnes after green revolution 1966-67 it was 1 million tonnes and the application of chemical pesticides were widely adopted and this caused adverse effects like degradation of soil organic matter.

Presently both consumers and farmers are gradually shifting back to organic farming in India due to vulnerable effects of agrochemicals. It is believed by many that organic farming is the much healthier and sustainable option. Although the health benefits of organic food are yet to be proven fully, consumers are willing to pay a higher premium for organic crops. Many farmers in India are shifting to organic farming due to the domestic and

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international demand for organic food. Further stringent standards for non-organic food in European and US markets have led to the rejection of many Indian food consignments in the past. Organic farming, therefore, provides a better alternative to chemical farming.

Organic vegetable :

The problem of food security will be well tackled by vegetable crops since rich source of minerals, vitamins, fibre and contain a fair amount of protein as well as carbohydrates. In addition to local market demand, vegetables have the potential for both domestic and export market. In our country the vegetable production during pre independence was merely 15 million tonnes and currently it is about 88.6 million tonnes during 2001-02, accounting 11.4 per cent share of World vegetable production (Rai and Pandey, 2005).

Even though India is the second largest producer of vegetables next to China in World, the productivity of different vegetables in our country is comparatively lower than the World's average. Again the per capita availability of vegetable (210g/head/day) is still behind the recommended quantity (285g/head/day). By 2020 our demand for vegetables will be around 250 million tonnes. Therefore, due to the rapid growth of the population with reduction in land, in order to feed the population, the only solution is the vertical expansion or by increasing the productivity per unit area per unit time as the potential available land and water resources and of technology still remain unexploited.

Hence, the strategy should be produced more vegetables from less land, less water with less pesticides and with less detrimental to soil and environment as well. Organic vegetable cultivation offers one of the most sustainable farming systems with recurring benefits to only long-term soil health but provides a lasting stability in production by importing better resistance against various biotic and abiotic stresses (Sridhar *et al.*, 2014).

METHODOLOGY

The main feature of the present study was to explore the consumption pattern and the purchase behaviour of consumers towards organic vegetables in urban Coimbatore. Primary data were collected from the customers who came for purchase in organic F and V outlets through a well structured and pretested interview schedule.

Of the fourteen organic food stores in Coimbatore some organic food stores contain only groceries and few contain organic vegetables and fruits. So, out of fourteen organic stores, seven organic outlets selling fruits and vegetables were selected for the study. The consumers, who visited the seven organic fruits and vegetable stores for purchase of organic vegetables formed the respondents. In each organic fruits and vegetable store 20 consumers who visited the store for purchase were selected randomly. Thus, a total of 140 consumers formed the sample of the study.

Purchase behaviour of consumers with reference to organic vegetables was analyzed considering reasons for purchase, monthly expenditure for food and monthly amount spent on organic vegetables, quantity of purchase, place of purchase, frequency of purchase, buying intention, willingness to pay premium and keeping quality of organic vegetables. The data was analyzed using conventional analysis.

ANALYSIS AND DISCUSSION

The findings of the present study as well as relevant discussion have been summarized under the following heads :

Reasons for purchase of organic vegetables :

To understand the reasons for purchase of organic vegetables the respondents were asked to fill an open ended question. As many similar reasons were given by the respondents they were compiled and listed by major reasons presented in the Table 1.

Sr. No.	Reason	No. of respondents
1.	Good for health because no chemicals and to avoid diseases	120 (85.71)
2.	Tastier than inorganic	10 (7.14)
3.	Food safety and to keep healthy	6 (4.29)
4.	Family's compulsion for health reason	4 (2.86)
	Total	140 (100.00)

Major reason for the purchase of organic vegetables opined by 85.71 per cent respondents was “Good for health because no chemicals and to avoid diseases”, around 7.14 per cent of the respondents quoted the reason for purchase as tastier than inorganic vegetables and few respondents 2.86 per cent, the reason for purchase was family’s compulsion for health reason.

Siti and Nurita (2010) revealed about knowing how consumer perceived organic food product by understanding the reasons of buying would probably help the marketers of organic food to establish a proper communication message. Hopefully the intended message would be attracting consumers who fall within the same category of buyers who exhibit their interest towards organic food products.

Place of purchase of organic vegetables by the respondents :

The data related to the place of purchase of organic vegetables by the respondents was analysed and presented in Table 2. Other than organic retails they also purchase from multiple shops was analyzed and results are presented in the Table 2.

Among 140 sample respondents majority of the respondents (94.29%) purchased organic vegetables from nearby exclusive organic retail stores. Apart from exclusive organic retail stores 18.57 per cent of the respondents purchased organic vegetables from supermarkets, 1.43 per cent of the respondents purchased directly from nearby organic farm itself.

Frequency of purchase of organic vegetables :

The frequency purchase of organic vegetables and conventional vegetables by the respondents is important to assess the expenditure and spending pattern towards the purchase of vegetables. The data analyzed and the results are presented in Table 3.

From the Table 3 it could be inferred that, about 89.00 per cent of the respondents purchased organic vegetables weekly. Most of the respondents were employed and their family size was small, since they purchased in bulk once in a week. About 44 per cent of the respondents purchased the conventional vegetables occasionally. The respondents who preferred organic vegetables also purchased conventional vegetables occasionally to meet their total vegetable requirement during functions or festivals.

Table 2 : Place of purchase of organic vegetables by the respondents

Sr. No.	Place	No. of respondents	Percentage (n=140)
1.	Organic outlet	132	94.29
2.	Supermarkets	26	18.57
3.	Farm fresh stores	7	5.00
4.	Directly purchase from farm	2	1.43

Table 3 : Frequency of purchase of organic vegetables

Sr. No.	Frequency of purchase	Organic vegetables		Conventional vegetables	
		No. of respondents	Percentage (n=140)	No. of respondents	Percentage (n=140)
1.	Daily	10	7.14	8	5.71
2.	Weekly	124	88.57	35	25
3.	Fortnightly	2	1.43	17	12.14
4.	Monthly	2	1.43	19	13.57
5.	Occasionally	2	1.43	61	43.57
	Total	140	100.00	140	100.00

Table 4 : Purchase of vegetable category by respondents

Sr.No.	Category	No. of respondents	Percentage
1.	Only organic vegetables	103	73.57
2.	Both organic and conventional vegetables	37	26.43
	Total	140	100.00

Purchase of vegetables category by respondents :

The sample respondents who purchased organic vegetables also purchased conventional vegetables to meet their total vegetable requirement. The analysis has been carried and the results are presented in the Table 4.

It could be concluded from the Table 4 that, 73.57 per cent of the respondents purchased only organic vegetables and 26.43 per cent of the respondents purchased both organic and conventional vegetables because organic stores doesn't had enough category of vegetables so they purchased their preferred vegetable from inorganic store. The results clearly indicated the growing demand for organic vegetables.

Availability of preferred organic vegetables in the store :

The availability of organic vegetables influences increased consumption of organic vegetables. The response to availability of preferred organic vegetables by the respondents was analyzed and results are

presented in the Table 5.

It is observed from the Table 5 that, 80.00 per cent of the respondents reported that their preferred vegetables were available in the store only few reported that preferred vegetables were not available.

The 'Keeping quality' of organic vegetables :

As respondents purchased organic vegetables on a weekly basis it is necessary to know their opinion on keeping quality *i.e.*, how long the organic vegetables can be stored in relation to conventional vegetables. The data were analyzed and the results are presented in Table 6.

Majority of the respondents (55.71%) reported that the keeping quality of organic vegetable was same as inorganic vegetables. However, (41.43) per cent reported that the keeping quality of organic vegetable was longer than inorganic vegetables. This aspect will help the retailers to highlight in their marketing communication, because it was well appreciated by the respondents.

Table 5 : Availability of preferred vegetables in the store

Sr. No.	Availability	No. of respondents	Percentage
1.	Yes	112	80.00
2.	No	28	20.00
	Total	140	100.00

Table 6 : The 'keeping quality' of organic vegetables

Sr. No.	Keeping quality	No. of respondents	Percentage
1.	Same as inorganic vegetables	78	55.71
2.	Longer than inorganic vegetables	58	41.43
3.	Lower than inorganic vegetables	4	2.86
	Total	140	100.00

Table 7 : Price comparison between organic and conventional vegetables

Sr. No.	Vegetable category	Organic retailer price	Conventional vegetable	Extra earning
1.	Tomato	60	50	10
2.	Onion	70	44	26
3.	Leafy vegetables	20	10	10
4.	Beet root	65	55	10
5.	Potato	60	40	20
6.	Bitter Gourd	55	40	15
7.	Drumstick	75	60	15
8.	Cabbage	45	36	9
9.	Brinjal	65	50	15
10.	Lady's finger	60	40	20
11.	Chilli	85	60	25

Price comparison between organic and conventional vegetables :

The price data for organic vegetables and conventional data has been collected to analyze the difference over both the vegetables and the results are presented in the Table 7.

The advantage over conventional vegetable by selling organic vegetable is that the farmer gains minimum 9 rupees to maximum 20 rupees by selling organic vegetables. On an average all the vegetables per kg was sold above 40 rupees in the market. It provides an opportunity for the farming community regardless of their farm holding size they will be benefited by return wise; thus by enriching their soil health.

Willingness to pay premium for organic vegetables:

The price premium itself can also have the effect of creating the perception among customers that organic must be a higher quality product (Harrison, 2009). Magnusson *et al.* (2001) found that disposable income affected mainly the quantity of organics bought and not general willingness to buy and despite high organic price

premiums.

Willingness to pay shows the respondents' interest and passion towards purchase of organic vegetables. The respondents' willingness to pay extra for chemical residue free vegetables, which would serve better for health and environment, was analyzed and the results are presented in the Table 8.

It is observed from the Table 8, most of the respondents (42.14%) were willing to pay 10 per cent higher than existing organic vegetables price followed by (23.57%) willing to pay 50 per cent premium.

Increase in quantity of purchase of organic vegetables over last year :

The respondents were asked about, whether there was any increase in purchase of organic vegetables in the current year compared to previous year and the same was analysed and the results are presented in the Table 9.

Most of the respondents (92.14%) reported that the purchase of organic vegetables had increased when compared to the previous year. Once the respondents started purchasing organic vegetables, they steadily increased their

Table 8 : Willingness to pay premium for organic vegetables from the existing organic vegetable price

Sr. No.	Premium (percentage)	No. of respondents	Percentage
1.	5	16	11.43
2.	10	30	42.14
3.	20	59	21.43
4.	50	33	23.57
5.	70	2	1.43
	Total	140	100.00

Table 9 : Increase in quantity of purchase of organic vegetables over last year

Sr. No.	Increase in percentage	No. of respondents	Percentage
1.	Yes	129	92.14
2.	No	11	7.86
	Total	140	100.00

Table 9a : Percentage increase in purchase by respondents over last year

Sr. No.	Increased purchase(%)	No. of Respondents	Percentage
1.	0	11	7.86
2.	1-20	48	34.29
3.	20-40	38	27.14
4.	40-60	15	10.71
5.	60-80	12	8.57
6.	80-100	16	11.43
	Total	140	100.00

quantity of purchase with the different category of vegetables. This indicates, the retailers must ensure the availability of organic vegetables in order to meet the vegetable requirement of the consumers.

Assessing the extent of increase in purchase is essential in order to know the demand and rising needs of the respondents. The data was analyzed and results are presented in the Table 9a, showing that majority of the respondents (34.29 %) reported that the purchase of organic vegetables had increased between 1-20 per cent followed by 27.14 per cent of the respondents reported that increase in purchase between 20-40 per cent.

It is clearly evident that there is a growing demand for organic products which was depicted by the increase in purchase of organic vegetables by the sample respondents.

Share of monthly expenditure on organic vegetables:

The annual family income and expenditure on food will positively influence the share of expenditure on organic vegetables. The share of monthly expenditure

on food and organic vegetables with respect to annual family income was analyzed and the results are presented in the Table 10.

Highest monthly expenditure spent on food was Rs. 12909 whose share on expenditure of organic vegetables was 33.75 per cent to that of total expenditure on food. This is due to purchase of 100 per cent organic vegetables. It is clearly evident from the table that increase in family income leads to increase in the share of expenditure on organic vegetables.

Average daily consumption of organic vegetables:

The daily intake of organic vegetables has been analyzed to understand the requirements of organic vegetables. The data was analyzed and the results are presented in the Table 11.

It is inferred from the Table 11, that majority of the respondents (87.14%) consumed tomato in the quantity of 250-500 g daily, similarly onion was consumed by 68.57 per cent respondents in the quantity of 250-500 g on an average per day. The other vegetables such as carrot, leafy vegetable, beet, potato, gourds, cucumber, cabbage, brinjal,

Table 10 : Share of monthly expenditure on organic vegetables

Sr. No.	Annual family income (Rupees in lakhs)	No. of respondents	Monthly expenditure on food	Monthly expenditure on organic vegetables	Share of expenditure on organic vegetables
1.	< 0.90 (Deprived)	3 (2.14)	4000.00	1600.00	10.74
2.	0.90 – 2.00 (Aspirers)	23 (16.43)	5826.09	1747.83	11.73
3.	2.01 – 5.00 (Seekers)	47 (33.57)	6851.06	2485.11	16.68
4.	5.01- 10.00 (Strivers)	56 (40.00)	10446.43	4035.71	27.09
5.	> 10.00 (Globals)	11 (7.86)	12909.09	5027.27	33.75
	Total	140 (100.00)			

Table 11 : Average daily consumption of organic vegetables

Sr. No	Category	Quantity	
		0-250g	250-500g
1.	Tomato	14 (10%)	122 (87.14%)
2.	Onion	42 (30%)	96(68.57%)
3.	Carrot	89 (63.57%)	51 (36.43%)
4.	Leafy vegetables	56(40%)	84 (60%)
5.	Beet	115 (82.14%)	25 (17.86%)
6.	Potato	90 (64.29%)	50 (35.71%)
7.	Gourds	118 (84.29%)	22 (15.71%)
8.	Cucumber	126 (90%)	14 (10%)
9.	Cabbage	129 (92.14%)	11 (7.86%)
10.	Brinjal	124 (88.57%)	16 (11.43%)
11.	Lady's finger	97 (69.29%)	43 (30.71%)
12.	Chilli	140 (100%)	0

lady's finger and chilli were consumed by the respondents in a quantity of 250g on a day. Similar work on related to the present investigation was also carried out by Kondaguri *et al.* (2014); Nandeshwar *et al.* (2014); Kumar *et al.* (2015); Sakthirama (2014); Kiruthika and Chandran (2014); Shivanaikar *et al.* (2014). Dhanalaxmi *et al.* (2012) and Jadhav *et al.* (2012).

Conclusion :

It could be inferred from the results that consumers are dependent on organic retail stores for their purchase and this give opportunity to open new retail stores. So the retailers could concentrate on increasing the stores and category of vegetables where there is increasing demand for the organic produces. The results enforces the retailers must ensure the availability of organic vegetables to retain their customers. If the product was good quality and certified, consumers were willing to pay premium for the authentic product. This would help the retailers to carefully decide on quality and pricing in order to retain their potential consumers to increase the sales. The results indicated that, the retailers can communicate the increasing consumption of major organic vegetables and can educate the inorganic farmers to change for organic to cultivate the vegetables which has a lot of demand in the future and eventually it would increase the soil fertility. To understand the huge sale of vegetable the retailers should keep track of the consumers' purchase and retailers should convey about the subsidies and government schemes for cultivation of organic produce to the farmers.

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