

**RESEARCH ARTICLE :**

Organic produce vs inorganic produce? - An e-marketing price comparison

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SUMMARY : Awareness in organically produced food is increasing nowadays in response to concerns about food safety and environment. Accessibility of organic produce to even remote consumers has become possible after the entry of online organic stores into retail marketing. These stores play an effective role in marketing the organic produce directly to consumer door steps thereby saving time and fuel. But still the demand for organic produce has not attained the mark where it is expected. There are several factors which affects the consumption decision of organic foods among the consumers. One such major hindrance is price. This study compares the price of organically and inorganically grown produce in online organic and conventional stores in major produces covering cereals, pulses, oilseeds, spices, nuts, vegetables and fruits in Chennai city of Tamil Nadu, one of the Metropolitan in India. The results indicated that price of organic produces were 67 per cent costlier than their conventional counterparts. The study has suggested for increasing the supply of organic produce by reducing the hurdles to organic farming both in production and marketing, which in turn bring more farmers to organic farming and thereby reduce the prices of organic produce and boost up the consumer demand in the future.

KEY WORDS :

Organic produce,
Price, Sustainability,
Intensive cultivation

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BACKGROUND AND OBJECTIVES

Increased use of chemical fertilizers under intensive cultivation disturbed the harmony existing among soil, plant and microbial population (Ghosh, 1999). The damage caused by these fertilisers and pesticides to environment and thereby human health is irreparable. About 90 per cent of vegetables, food grains, fruits, milk, etc produced under inorganic farming system contains poisonous agro chemical residues

which are harmful and unsuitable for consumption (Paroda, 2001). Under green revolution, it is a known fact that the consumption of chemical fertilizers increased seven fold, pesticides by 375 times while food production had just doubled during first 20 years of launch of green revolution in India. (Palaniappan and Annadurai, 1994). In the future if the price of fossil fuel rises as they are non renewable, the cost of external chemical inputs which depend on these

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resources will rise further making reliance on these inputs increasingly risky.

Sustainable agriculture will be the solution to the effect caused by intensive farming to the environment. Organic farming is one such form of agriculture which enrich the soil microbial activity, improves soil fertility level and minimizes the financial and resource barriers to farming. Input costs in organic agriculture are much lower as it avoids costly external inputs like chemical fertilizers and pesticides. Lower costs reduce financial risk and avoid the need for credit and subsequent indebtedness. Kavitha *et al.* (2013) in their study on estimating the efficiency of organic farmers and Bt farmers in Tamil Nadu, India found out that no significant difference in yield between two farming situations was observed. It was also found that the cost of cultivation of organic farmers were lower than the Bt farmers by 4 per cent due to less expenses on seeds, manures, natural plant protectors and irrigation. The study indicated that higher profitability was the important feature of organic cotton farming.

Thus Ministry of Agriculture, Government of India is promoting organic farming in the country under National Project on Organic Farming, National Horticulture Mission, Technology Mission for North East and Rashtriya Krishi Vikas Yojana. National project on organic farming is implemented through National Centre of Organic Farming, Ghaziabad with six Regional Centres located at Bangalore, Bhubaneswar, Hissar, Imphal, Jabalpur, and Nagpur. The project supports organic input production infrastructure, technical capacity building of stake holders, human resource development through training, statutory quality control of organic inputs, technology development and dissemination, market development and awareness. Assistance is also provided for setting up vermi-compost units at the rate of 50 per cent of cost upto Rs. 30,000 per beneficiary. Assistance of Rs. 5 lakh is provided to a group of farmers covering an area of 50 hectares for organic farming certification. Under the Rashtriya Krishi Vikas Yojana, states are being assisted for area expansion of organic food crops, capacity building of farmers and organic input production. In spite of all these initiatives by the Government, the penetration of organic farming is very weak among Indian farmers. On the consumption side, organic food intake is still low in proportion, compared to non-organic food (Gupta and Ogden, 2009).

There are several factors which affect the purchase decision of organic food among the consumers. Bhaskaran and Hardley (2002) found out that consumers in the age group of more than 55 years tend to make preventive health decisions, because of higher health vulnerability than younger individuals. Education is an important factor of purchase motive of organic food. Consumers with higher education are more likely to buy organic food products. Gender plays an important role in the purchase decision of organic products. Women buy organic food more frequently and in larger quantity than men (Arvanitoyannis and Krystallis, 2004). Shanmuga Priya *et al.* (2014) conducted a study at Coimbatore city of Tamil Nadu, India and reported that age, education, health, income, price, distance and availability were important factors in consumer preference of organic vegetables. The study also indicated that price was the major constraint faced by the consumers in making purchase decisions of organic vegetables followed by limited or inadequate supply, lack of information and inadequate organic outlets. Chandrashekar (2014), conducted a study at Mysore city of Karnataka, India and analysed the consumers perception towards organic products and the results revealed that the irregular availability of organic products was indicated as major constraint by majority of organic consumers and they view that the organic products were too expensive and were not properly certified from any organic certified agency or authority.

The review of various studies over the period has shown that most of the consumers were of the view that organic produce were more expensive and unaffordable for lower and middle income groups. Thus price of organic produce acts as a hindrance in the promotion of organic farming. Hence it necessitates a study on price comparison between organic and inorganic produce in the retail stores. In addition to stores and super markets, a variety of retail channels has emerged now. Currently online marketing is developing at a faster rate in India. The number of internet users in India is expected to reach half a billion before 2020 and 1044 billion households are expected to purchase food grocery online. At present 144 million households buy more than 5000 worth of food and groceries per month. The size of retail business in India is close to about 500 billion dollars out of which 70 % is food and grocery (Hari Menon, 2016). This study aims at comparing the price of online organic and

conventional grocery stores operated in Chennai city of Tamil Nadu.

RESOURCES AND METHODS

The study was conducted in Chennai, the capital city of Tamil Nadu and one among the Metropolitan cities of India. The city was selected because of the growing concern of online marketing in the city. In order to study the price comparison between organic and conventional produces, 53 produces covering cereals, pulses, oilseeds, spices, condiments, vegetables and fruits in online grocery stores operated in the city was selected.

Considering the uncertainty in price of various produces, the online price data for the selected stores was collected on the same day during August 2017. It was observed that in the stores, both organic and conventional produces were available in many brand names. Hence the average price of existing brands in the selected produce was taken for analysis.

OBSERVATIONS AND ANALYSIS

The price difference exists between organic and conventional produce is given in Table 1. Among the pulses listed, the average difference in price was Rs. 62.56/kg. The difference in price was maximum for Urad Dall (Rs. 108.31 /kg) and Kabul Chenna (Rs. 101.40 /kg) and least for Chenna brown (Rs. 28.75 /kg). In case of cereals, the average difference was Rs. 32.48/kg. The price difference was maximum for Sorghum (Rs. 40 /kg). With respect to millets, the price difference between organic and inorganic produce was negative. Organic millets were cheaper than conventional millets by Rs. 8/kg. Among the edible oil group, the maximum difference was seen in Coconut oil (Rs. 284/ lit), followed by Sunflower oil (Rs. 221.75/lit) and it was least for Gingelly oil (Rs. 121.67/ lit). The average price difference between organic and inorganic edible oil was Rs. 207.47/ lit. In the spices group, cloves were noticed with a high price difference of Rs. 1787.50 /kg and Pepper with Rs. 1323.50 / kg. The minimum difference was seen in Tamarind with Rs. 68.33 /kg. Among the nuts, Almond attracts a huge price difference of Rs. 685.50 / kg and of all the produces listed in the table, nuts attract more difference in price (Rs. 550.48 / kg).

The average difference in price of Sugar was Rs. 48.66/ Kg and for Fruits and Vegetables it was Rs. 47.50

Table 1 : Price comparison between organic and inorganic produce

Particulars	Conventional price (Rs./kg)	Organic price (Rs./kg)	Price difference (Rs./kg)	Percentage difference (%)
Pulses				
Toordall	107.42	156.33	48.92	45.54
Urad	138.29	246.60	108.31	78.32
Moong	130.20	177.00	46.80	35.94
Green gram	112.00	167.30	55.30	49.38
Fried gram	120.00	212.00	92.00	76.67
Fried gram dall	123.33	162.29	38.95	31.58
Kabul Chenna	171.60	273.00	101.40	59.09
Chenna brown	121.25	150.00	28.75	23.71
Raw pea nut	145.50	212.67	67.17	46.16
Green peas	60.00	98.00	38.00	63.33
Average	122.96	185.52	62.56	50.97
Cereals				
Rice	63.33	84.00	20.67	32.63
Idli rice	38.90	75.67	36.77	94.52
Average	51.12	79.83	32.48	69.05
Millets				
Banyard Millet	190.00	140.00	-50.00	-26.32
Fox tail Millet	180.00	157.50	-22.50	-12.50
Finger Millet	50.00	94.00	44.00	88.00
Sorghum	50.00	90.00	40.00	80.00
Kodo Millet	170.00	140.00	-30.00	-17.65
Little Millet	110.00	140.00	30.00	27.27
Proso Millet	170.00	150.00	-20.00	-11.76
Average	131.43	130.21	-8.08	7.84
Edible oil				
Groundnut oil	145.67	348.13	202.46	138.99
Sunflower oil	81.25	303.00	221.75	272.92
Coconut oil	216.00	500.00	284.00	131.48
Gingelly oil	196.33	318.00	121.67	61.97
Average	159.81	367.28	207.47	151.34
Spices				
Coriander	229.00	432.60	203.60	88.91
Jeera	362.25	540.00	177.75	49.07
Pepper	499.00	1822.50	1323.50	265.23
Mustard	177.50	287.50	110.00	61.97
Fenugreek	149.00	336.67	187.67	125.95
Tamarind	179.67	248.00	68.33	38.03
Red chilli	199.00	530.00	331.00	166.33
Fennel	400.00	540.00	140.00	35.00
Cloves	1600.00	3387.50	1787.50	111.72
Average	421.71	902.75	481.04	104.69
Nuts				
Cardamom	2600.00	3275.00	675.00	25.96

Table 1 contd...

Contd... Table 1

Cashew	1298.00	1695.43	397.43	30.62
Almond	1099.50	1785.00	685.50	62.35
Raisin	314.00	758.00	444.00	141.40
Average	1327.88	1878.36	550.48	65.08
Sugar				
Sugar	53.80	118.11	64.31	119.54
Jaggery	97.50	130.50	33.00	33.85
Average	75.65	124.31	48.66	76.69
Fruits				
Pomegranate	129.00	199.00	70.00	54.26
Sapota	75.50	108.00	32.50	43.05
Sweet lime	69.00	109.00	40.00	57.97
Average	91.17	138.67	47.50	51.76
Vegetables				
Onion	34.45	39.00	4.55	13.21
Small onion	114.00	168.00	54.00	47.37
Potato	27.00	39.00	12.00	44.44
Tomato country	58.50	118.00	59.50	101.71
Tomato hybrid	58.00	95.00	37.00	63.79
Carrot	114.00	118.00	4.00	3.51
Beet root	61.50	78.00	16.50	26.83
Radish	41.50	50.00	8.50	20.48
Green chilli	87.00	88.00	1.00	1.15
Brinjal	61.50	68.00	6.50	10.57
Snake gourd	49.50	58.00	8.50	17.17
Ribbed gourd	59.50	66.00	6.50	10.92
Bitter gourd	65.50	80.00	14.50	22.14
Broad beans	77.50	78.00	0.50	0.65
Cluster beans	52.50	78.00	25.50	48.57
Garlic	120.00	198.00	78.00	65.00
Average	67.62	88.69	21.07	31.09
Over all average				67.61

/kg and Rs. 21.07 / kg, respectively. In the fruits group, the difference was maximum for Pomegranate with Rs. 70 /kg and least for Sapota Rs. 32.50 /kg. In case of vegetables, the maximum price difference was seen in Garlic with Rs. 78/ kg and meager for Broad beans (Rs. 0.50/Kg).

On an average organic produces were 67.61 per cent costlier than inorganic produce. In some food groups, the organic produces were actually cheaper by as much as 26.32 per cent for Banyard Millet and 17.65 per cent for Kodo millet

Conclusion :

The study indicates that out of the 53 produces

selected in Chennai city, with the exception of four, in general all the organic produce were costlier than inorganic produce. Though majority of the consumers aware about the wellness of the organic produce, this increased price level of organic produce acts as a hindrance in the consumption. Reduced supply from farmers side, due to high certification costs, inadequate transport infrastructure and lack of cold storage facilities, rises the price of organic produce.

A general myth among farmers is that production ability of organic farming is lesser when compared to their conventional counterpart. This should be rectified by arranging regular face to face meeting with successful organic farmers, imparting training in organic production methods and arranging more field visit to organic farms and successful farmer producer organisations. This will slowly changes the perception of farmers towards organic farming. Hence bringing more farmers towards organic farming through creating awareness will raise the production and bring down the price of organic produce.

Online marketing is one of the best retail marketing channel which avoids so many intermediaries between producer and consumer. Hence government should encourage those who starts organic outlets atleast for the initial period. Secondly, in the GST, all branded and packaged food produces incur tax. But in practice to differentiate their quality, most of the organic produce were branded and labeled with certification given by the certification agency. By giving tax exemption to branded organic produce, the price level of it will come down as such as to branded inorganic produce. Thus by these practices, producer assured of a ready market, retailer encouraged in organic trading and consumer benefitted by reduced price and healthier way of life.

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