

Organic Food: An Assessment of Knowledge of Homemakers and Influencing Reasons to Buy / Not to Buy

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ABSTRACT Serious concerns expressed during the last decade regarding the use of chemicals in agriculture in terms of their adverse impact on the human health, environment and sustainable agricultural production has been encouraging organic food production world over. The food thus produced has minimal elements harmful to the human health. Hence apart from being environment friendly, organic foods are believed to be having high nutritional value and safe for human health. But how far the women, the health providers of families, are aware of various aspects of organic food needs to be investigated so as to increase the consumption of organic food products. Some areas of India have popularized organic food. With a view to find out the scenario in Gujarat, a small study was conducted in Vadodara city to assess the knowledge of homemakers about organic food and the reasons for buying /not buying organic food. Through an interview schedule, data were collected from a sample of 110 homemakers randomly selected from 3 localities of Vadodara city. Majority of them had good knowledge about organic food but majority of them did not buy organic food as it was not easily available, was required in larger quantity and was not so good in appearance as compared to conventional food items. Lack of standardization mark/certification process also demotivated them to purchase the organic food. The study revealed a need for having more organic food bearing standardization mark.

INTRODUCTION

Agriculture is a system of harnessing nature for the sustenance of human being. Sustainable agriculture is necessary to attain the goal of sustainable development. According to the Food and Agriculture Organization (FAO) sustainable agriculture "is the successful management of resources for agriculture to satisfy changing human needs while maintaining or enhancing the quality of environment and conserving natural resources".

When India had low population, agriculture was by and large organic and nearer to nature. The system of agriculture based on the traditional knowledge and practices handed down from generation to generation could not produce enough to feed the increasing population. During "green revolution" technological

interventions in agriculture were widely adopted by farmers to exploit the nature for maximizing agriculture production to meet the demands of food of fast increasing population. The green revolution paid rich dividend quadruplicating food grain production but simultaneously led to increase in the use of chemical fertilizers and pesticides which cause serious damage to environment and human health. Besides, secondary stalinization, decrease in soil fertility, resistance to pesticides in insects, increased cost of production are gradual effects, which are challenging the sustainability of agriculture production (Balak Ram 2003).

Most pesticides are highly toxic and many remain in the environment for long period, become concentrated as they go up the food chain, and can spread thousands of kilometers from the point of emissions. Exposure to pesticides can cause a range of ill effects in humans, from relatively mild effects such as headache, fatigue and nausea, to more serious effects such as cancers and neurological disorders (U.A. General Accounting 2001). Pesticides can be brutal killers of farmers who get heavily exposed due to occupational use (Quijano 1997). Joshi (2005) reported that only 1 % of the applied

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pesticides were utilized for killing pests while the remaining 99% reached untargeted spots. The application of synthetic pesticides not only destroyed target pests, but also natural beneficial predators.

The people on the earth must prevent the imbalance in eco-system so as to get safe and healthy life. The task is to nurture the land and to regenerate the soil. This is possible through sustainable farming system. Sustainability means continuous soil fertility and productivity. Organic farming is one of the most important steps of sustainable agriculture based upon a set of processes that leads to safe and nutritive food, social justice, animal welfare and ultimately balanced ecosystem. It minimizes the use of manmade external inputs especially chemical, synthetic materials and pesticides to produce uncontaminated food of high nutritional quality and in sufficient quantity. According to International Federation of Organic Agriculture (IFOAM), organic farming covers all aspects of operating farms that promotes environmentally, culturally and economically sound production of food fibers, herbs and fuel wood. Many people think that traditional agriculture, sustainable agriculture, "Jaivik Krishi" etc. is organic farming. Lampkin et al. (1999) mentioned that "organic agriculture is a production system which avoids or largely excludes the use of synthetic compounded fertilizers, pesticides, growth regulators and live stock feed additives". Bhattacharya (2004) explained that "organic farming relies on crop rotation, crop residues, animal manure, off farming organic waste and aspects of biological pest control". Thus, the word "Organic" refers not only the food itself but also to how it was produced. It can be concluded that "Organic food is food which is grown, stored and processed without using most conventional pesticides, fertilizers made with synthetic ingredients or sewage sludge, bioengineering or ionizing radiation".

It has been observed that people still are not much aware about organic food. The production of organic food is also very low. There are few outlets selling organic food. Whatever food items are available at these outlets, all are not certified as "Organic", mainly because, the certification process is very expensive which poor farmers can't afford. Hence, while buying organic food, which is not certified, consumer may have feeling of being cheated by the

shopkeeper. This de-motivates them for buying organic food. Due to lower productivity and high market price of organic food, it is not very popular among the people. The availability of organic food is also uncertain which influences the buying practices of homemakers.

Due to the merits of organic food products for health than conventional food products, it would be better that the families include organic food in their daily diet. It is the responsibility of the homemaker to provide food items which are enhancing the health of the family members. But it is essential to know how far the homemakers are aware of the advantages of organic food. This remains a research query. The review of literature reflected many studies concentrating on organic farming, mainly from the point of view of producers and sellers. The consumer's needs and their knowledge about organic foods are less explored area.

Objectives of the Study

1. To study the knowledge of homemakers regarding organic food from selected areas of Vadodara city.
2. To study various reasons for buying and reasons for not buying organic food.

METHODOLOGY

Descriptive research design was adopted for the present research as it describes the characteristics of a population with specific prediction. An interview schedule was prepared as a tool for data collection keeping in mind the objective of the study. It contained three sections, first, for eliciting background information, second to assess the knowledge of homemakers regarding organic food and third to find out the reasons for buying or not buying organic food. Three areas of Vadodara city were identified where organic food outlets are situated viz. Race Course, Alkapuri and Ellora Park. A sample of 110 homemakers was selected through purposive sampling technique. Keeping in mind the accessibility to shop, two housing societies were identified purposively. These colonies had residents representing various income groups of people. Equal number of households was selected randomly from these colonies. The data were collected in the month of April, 2008.

A summated rating scale was formulated to assess the knowledge of homemaker regarding

organic food. It contained 30 items having positive and negative direction. The respondents were asked to state whether the statements are correct or incorrect. The correct responses were ascribed a score of 2 and incorrect as one. The scores were summated to reflect the extent of knowledge the homemakers had regarding organic food. Higher scores reflected high extent of knowledge. Weighted mean score for each statement were calculated which ranged from 1.00 to 2.00. Those respondents, scoring between 1.00 and 1.5 were considered to be having poor knowledge and those scoring between 1.6 and 2.00 were considered to be having good knowledge. The content validity of the scale was established by giving it to 9 experts from the Faculty of Home Science and Biochemistry, The M. S. University of Baroda, Vadodara, and shop owners of Organic Food. An eighty percent agreement among judges was used as criteria for inclusion of items in the scale. Based on suggestions given by judges a few items were deleted. A pre testing was done on 30 non-sample homemakers. Based on the scores obtained by them the reliability of the scale was established through split-half method which was found to be 0.67.

RESULTS AND DISCUSSION

Vadodara city had few retail stores selling organic food. Generally, the households in the nearby housing societies buy these products. However, there were quite a few who did not buy these products. The researcher was anxious to know the reasons for not purchasing the products, so that, if needed, people can be made aware about the advantages of using organic food and motivated to buy it. Efforts can be made to solve the problems, if they face any. With this background the present study was carried out.

Background Information

The respondents for the present study were the homemakers. Majority of the respondents (77.3%) belonged to nuclear family. More than half of the respondents were graduate and very few were undergraduate. Little more than half (64%) of the respondents were not employed. More than one third of the homemakers (38.18%) belonged to an income group ranging from Rs.10,001 to Rs.20,000. About 16% of the respondents

belonged to the income group of more than Rs.40000 per month.

Knowledge Regarding Organic Food

The findings regarding the knowledge of homemakers with reference to organic food revealed that a wide majority of respondents correctly knew that "Organic food usually refers to all 'Naturally Produced' food" and "Organic food are grown using no harmful chemicals and/or fertilizers" (Table 1).

About 91 percent of respondents correctly knew that "Organic food helps to improve quality of soil" and "Organic crops appear to be richer in nutrients than the conventional crops". This shows that the respondents had good knowledge about the quality of organic food. Approximately the same percentage of respondents knew that "The primary goal of consuming organic food is to optimize health and work productivity" and they also knew that "A certified organic label is the only way for consumers to trust that product is organic". It is widely assumed that 'many benefits derived from organic food are due to an absence of pesticides residues.' Many researches have been carried out in the field of organic food and its quality. Burros (2003) reported that more salicylic acid was found in organic vegetable soup than in conventional soup. Salicylic acid is responsible for the anti-inflammatory properties of aspirin and bolsters the immune system. Woese et al. (1997) reported in a study that lower nitrate content was found in organic vegetables and less in quantity but of higher quality protein in organic cereal grains. A two year study conducted by Reganold et al. (2008) on comparison of organic and conventional strawberry farms had shown that, organic farms produced more flavorful and nutritious berries than the conventional farms.

About 85 percent of the respondents knew that "The organic food is available at selected outlets only. Thakur and Sharma (2005), in their study on organic farming and meeting the challenges of food security in 21st century found that there is an increasing awareness, preference and demand for organic food from consumers and due to this organic produce is fetching a high price in the market. In India, the price of organic food items are steeper because sellers are pitching against high income consumers who

are willing to pay more for safe food. Majority of the respondents also knew that "Their market price is more than conventional food." Tandon (2003) found high price premium for organic 'basmati rice'. Ahuja (2001) found high price premium for organic wheat in India. At world level, too, organic cereals, vegetables, fruits and even cotton fetched premium prices ranging from 20% to as high as 200% over conventional conditions in the world market like San Francisco and Boston (www.ers.usda.gov/data/organic-prices 2006). About 84 percentage of respondents knew correctly that "Organic food does not contain artificial food additives" and "They do not increase risk of food borne diseases".

The weighted mean score reflected that respondents had poor knowledge regarding a few aspects of organic food. They had poor knowledge regarding the "Appearance of organic food as compared to conventional food", "The shelf life of organic food" and regarding "The surety of the food being sold in the outlets as being certified organic food". Bokadia (2003) also found in his study that moisture content is more in organically produced vegetables. He also found that content of vitamin C and glucose is more than conventionally grown product. With this, he concluded that chemical fertilizers and pesticides affect the food quality and it changes the taste and appearance of food products.

Thus it was revealed from the knowledge scale of organic food that the overall extent of knowledge of 82.7% respondents was good.

Reasons for Buying Organic Food

While asking reasons of buying organic food, respondents gave varied answers. About 90 percent of the respondents bought organic food because "Organic food is good for health" and "Organic food is nutritious." This showed that good knowledge of nutrients contents is a driving force to buy organic food. Worthington (1998) also indicated in her study of nutritional quality of organic versus conventional fruits, vegetables and grains that organic crops contained significantly more vitamin C, iron, magnesium and phosphorous and significantly less nitrate than conventional crops. There were non-significant trends showing less proteins but of a better quality and a higher content of nutritionally significant minerals with lower

amounts of some heavy metals in organic crops compared to conventional one. Thus, it indicated that, the organic food is better for health and natural resources of nation.

Naik and Sharma (1997) also supported this and found in their study conducted at IIM that consumers buy organic food as it was considered good for health, high on nutritional value, better tasting, safe for the environment. About 65 percent of respondents of the present study bought organic food as "It has less content of chemical fertilizers". A majority (63%) of respondents preferred to buy organic food because "Its taste is better than conventional food" and "Its eco-friendly nature" (Table 1). Bordeleau et al. (2002) also reported that the most common reason for purchasing organic food was environment concern by the consumers of Canada, Denmark and Poland.

The result indicated that 45 per cent of respondents bought organic food just "To support organic farming movement" and 35 per cent of respondents purchased organic food "To support social activities of organic food." It was found from the result that nearly 60 per cent of respondents denied that they used to buy organic food just because "The shop selling organic food items is near to their home/office." This reflected that accessibility does not play a major role for buying organic food. The respondents preferred to buy organic food even if the shop was far away from their house/office (Table 1).

The findings also revealed that less than one-third respondents bought organic food as "It is considered a status symbol." Approximately one-third of respondents purchased organic food because "Their friends buy organic food", thus they were influenced by their friends. Thus regarding purchase of organic food, health aspects were considered more than the influence of friends and social status (Table 1). Naik and Sharma (1997) studied consumer's preferences, awareness and attitude regarding organic food. They found that the reason organic food was good for health led consumers to buy organic food. Jolly et al. (1989) conducted a study in US to analyze various reasons concerned with purchase of organic food. They found that all the key factors like nutrition, health, environment and safety ranked equally while selecting organic food by the consumers.

Reasons for Not Buying Organic Food

The obstacles in buying organic food were identified in the present study. The most common hindrance experienced by about 71 percent of respondents was that “The market price of organic food is very high as compared to conventional food. About 74 per cent replied that they did not buy organic food because, “In absence of certification process, it is difficult to judge a true organic food product.” To support this respondents also replied that they did not buy organic food as “Organic food available in the market is not certified” (Table 1).

Nearly half of the respondents did not buy organic food because “Only seasonal food was available” and “There is always shortage of orga-

nic food when it is required.” Thus, inadequate and irregular supply of organic food is also responsible factor for not buying organic food (Table 1).

Nearly one-fourth of the respondents did not buy organic food because of its appearance and approximately the same percentage of respondents does not buy organic food because their children did not like the taste of organic food. Only 16 percent of respondents replied that “Organic food takes more time to cook as compared to conventional food” and therefore they did not buy organic food (Table 1).

Testing of Hypotheses

The null hypotheses were formulated on the basis of objectives of the study. On the basis of

Table 1: Distribution of homemakers according to the reasons for buying/not buying of organic food

<i>Reasons for buying organic food</i>		<i>n=110</i> <i>f (%)</i>	<i>Reasons for not buying organic food</i>		<i>n=110</i> <i>f (%)</i>
1	Organic food is good for health	98(89.1)	The shop of organic food is not easily accessible		71(64.5)
2	Organic food is nutritious	99(90)	Organic food available in the market is not certified		65(59.1)
3	The shop of organic food is near to your home	43(39.1)	The market price of organic food is very high as compared to conventional food		79(71.8)
4	The shop of organic food is near to your office	13(11.8)	There is always shortage of organic food when it is required		61(55.5)
5	The shop of organic food in on the way of your office	22(20)	The appearance of organic food is not good		33(30)
6	Using organic food is status symbol	31(28.2)	Food that is sold at organic food outlets is not always organic		54(49.1)
7	Taste of organic food is better than conventional food	70(63.6)	Only seasonal food is available		55(50)
8	The consumption of food is less if we use organic food	26(23.6)	Organic food is required in more quantities compared to conventional food being small in size		25(22.7)
9	Organic food deteriorate less	43(39.1)	Children do not like taste of organic food		38(34.5)
10	To support organic farming movement	50(45.5)	Organic food takes more time to cook as compared to conventional food		18(16.4)
11	Organic food has less content of chemical fertilizers	72(65.5)	It is difficult to judge a true organic food in absence of a certification process		82(74.5)
12	You are member of NGO doing activities of organic food	12(10.9)			
13	Your friends uses organic food	38(34.5)			
14	It is eco friendly	70(63.6)			
15	It supports social activities of organic farming	39(35.5)			
16	To support poor farmers	43(39.1)			
17	Consumption of organic food is the current fashion	28(25.5)			

(* Total exceeds due to multiple answers)

the nature of the variables, ANOVA and t test were computed.

To find out the difference in knowledge of organic food with the selected variables, viz. family size, family type and occupation of respondent, t test was computed. The t values were found not to be significant and therefore it was concluded that the knowledge regarding organic food did not differ due to family type, size and occupation of respondents.

ANOVA test was computed to find out the variation in knowledge about organic food with age, education and income of the respondents. F ratio computed was not found to be significant with any of the variables. Thus, it was concluded that knowledge regarding organic food did not vary by age, education and income of respondents.

CONCLUSION

Organic food is becoming popular in recent times because of its eco-friendly nature and consumers have good knowledge about its nutritional value and less toxic nature. It not only reduces degradation of soil but also protects the health of people.

It is very important to create awareness about degradation of earth's natural resources at an alarming rate and man's quest to survive and keep his planet green, and healthy should go in favour of world wide adoption organic farming system. But, due to lower productivity and high market price of organic food, it is not very much popular among people. Also, the availability of organic food is uncertain. This uncertainty influences the buying practices of homemakers.

It was found in the present study that the respondents had good knowledge about organic food but due to lack of standardization/ certification they did not buy organic food. Consumers want some standardization of organic food to identify its genuineness. Another hindrance to buying organic food is its high price. The price of organic food is kept very high as compared to conventional food. India being developing country, more number of people are living below poverty line. When they hardly achieve their basic necessities, it is difficult to switch over to organic food. With this high price, the supply of organic food is also not regular and that is also found one of the reasons of not buying organic food.

The findings also reflect that the respondents have good knowledge regarding organic food and the age, income, occupation, family size and family type of respondents did not cause any variation in their knowledge. There can be other variables which may be influencing the knowledge of homemakers. Further research can be carried out taking them into consideration.

RECOMMENDATIONS

It is true that India cannot adopt organic farming in totality as it needs more crops to meet the demands and needs of its population, but the Government and Non Government Organization can support and encourage people to adopt more organic food. Government can start outlets to sell organic food at various location of the city with reasonable rate. This will remove the impression among the people that of organic food is "Premium food" or "Status food". There is need to develop appropriate marketing channels for organic produce, including the establishment of direct links between producers and consumers. In this regard, innovative forms of marketing should be explored. As a part of the marketing promotion effort, consumer education should be undertaken. NGOs can also organize camps in different areas wherein the various methods of making organic manure, various organic farming practices, myths, problems, advantages of organic farming, health benefits of organic food, benefits of organic food to land and environment could be discussed in a simple local language. Such camps would be useful to create awareness and encourage them to adopt organic food.

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