

# A Study on Consumer's Awareness of Organic Vegetables in Palghar Region

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**Abstract - As opposed to inorganic vegetables organic vegetables are produced without use of man-made pesticides and fertilizer. With the increase use of chemicals, pesticides and fertilizers to extract maximum crop output from soil, has worsen the situation of natural soil fertility. More and more fertilizers are required to increase vegetables output which in turn raises sustainability questions on whether will have enough farm produce available to feed entire nation? Factors such as constant increase in population, unemployment, and increase in standard of living are other looming threats towards fulfillment of our basic need i: e food. This research paper aims to find out whether consumers are aware of organic vegetables, products and market. The paper is an initiative to bring attention of farmers, consumers, policy makers, business community and academicians to understand the intricacies and challenges involved in organic vegetable marketing and may provide a guideline for future improvements in terms of possible solution and govt. policies to safeguard the growing need (food) of Indian citizens in a sustainable manner.**

**Keywords: OV, CO<sub>2</sub>, Premium, inorganic, organic.**

## I. INTRODUCTION

Organic Vegetables(OV) are product of farming system which do not use pesticides, fertilizers, herbicides and other man made synthetic resources. Consumers are not aware of the health risks associated with use of inorganic (non-organic) vegetables which may lead to diseases like nausea, diarrhea, anxiety and cancer.

People consuming organic foods reduces the risk of risks of physical ailments such as heart attacks, cancer, and even strokes. Most of the consumer's first and foremost factor involved in making buying decision is price. Price plays a crucial role in decision making process of consumer's buying intentions.

Conventional farming uses Phosphorous and water soluble nitrogen fertilizers which has significant impact on environments. You require 1L of fossil fuel to make 1kg of nitrogen fertilizer. If we scale up this to 1000 hectare crop

we need lakhs of liters of fuel to make nitrogen based fertilizer which may contain ammonium nitrate which can release huge amount of CO<sub>2</sub> into the atmosphere. It is the massive impact from just one component of conventional agriculture farming.

Both, farmers and consumers are now gradually shifting towards organic farming in India. Though the health benefits associated with organic food and vegetable consumption are yet to be proved, consumers are showing their willingness to pay higher price for organically grown vegetables. One more reason that Indian Farmers are shifting towards organic farming is increase in demand of organic food in domestic and international market. Furthermore stringent standards for Inorganic food in United States and European markets have resulted in rejection of many Indian food consignments in the recent past. Therefore, Organic farming provides a better alternative to conventional chemical farming.

At present there is no adequate and proper documentation of organic practices being adopted by vegetable growers and also empirical studies have been hardly conducted on various benefits of organic vegetable and health risks associated with inorganic vegetables production practices in Maharashtra. Hence, the paper aims to identify consumer's awareness regarding difference between vegetables grown under organic and non-organic farming.

**Problem Statement:** It has been found in many scientific studies that usage of inorganic vegetables causes various health risks. In this context it is very important to study the vegetable consumption habits and awareness of people so that appropriate measures can be taken up in the interest of the society at large. This study is an attempt to identify the awareness about organic vegetables: its availability, readiness of people to pay premium price and also the health risks associated with consumption of inorganic vegetables. The outcome of this study will be useful in designing appropriate measures for effective campaigning against consumption of inorganic vegetables and also for enacting legislative measures in the direction of controlling the consumption of hazardous inorganic vegetables.

## II. OBJECTIVES

- 1) To ascertain level of consumer awareness of organic vegetables in Palghar region.
- 2) To identify how much premium price consumers are ready to pay for organic vegetables.
- 3) To know the customers opinion regarding measures to increase trust and health risks in Palghar region.

### Hypothesis:

**H<sub>01</sub>:** No Association exist between gender and consumers' awareness of organic vegetables

**H<sub>02</sub>:** Organic Vegetable buying tendency of people and percentage of price premium customers are ready to pay are independent o each other

## III. LITERATURE REVIEW

In Europe, Consumers are relying on complex agriculture system where in conventional farmers (with the intention of

profit maximization) are becoming more dependent on chemicals, fertilizers and diesel-powered machines to increase and manage their crop production. These has resulted in unwanted consequences such as soil degradation, pesticide related health damage, bio diversity loss and negative socio-economic impact in rural communities (Natalia Brzezina)<sup>1</sup>. Organic Market can become trustworthy based on logo or label of authentic agriculture certification body which can give consumers an assurance that the product is organically made. In order to do these, A system is required which is well organized in terms of inspection and certification process for organic products with respective support from the Legal and Regulatory agency of Country and State (Narayanan, 2005)<sup>2</sup>. Organic crops have little set back in terms of getting premium price over conventional crops. Although marketing cost for both type of crops was same, Farmers of Rajasthan got lowers prices for their organic wheat compared conventional wheat because consumers were not ready pay higher prices for organic crops (Gaur, 2016)<sup>3</sup>. Market Opportunities for organic foods has increased because of Consumer's inclination towards Organic Products (Dimitri and Greene, 2002)<sup>4</sup>. Survey result of 792 respondents in Europe indicates that consumers are aware of organic product and they had bought it at-least once. As most of them didn't have much knowledge about organic agriculture and it's processing, they were concern regarding quality of organic products (Naspetti and Zanoli (2009)<sup>5</sup>.

A survey conducted on 276 South Australia consumer shows that Vegetable consumption is linked to several factors such as perceived food attributes, personal values and cooking skills Schwartz, S.H. (1992)<sup>6</sup>

Lack of trust in organic labels, Inconsistent standards and poor assessment practices reduces customer's interest in purchasing organic food. Therefore trust of consumer is very important for organic markets growth.<sup>7</sup>

## IV. RESEARCH METHODOLOGY

The study is based on descriptive research and focuses on consumers' awareness of organic vegetables in Palghar region. The online questionnaire for research consists of

several closed loop questions to save respondents time and energy. Primary data collected from 104 respondents based on simple random sampling method. The respondents were asked questions related to difference between Organic and

Inorganic vegetables, do they know health risks associated with consumption of inorganic vegetables, are they ready to pay little extra for organic vegetables etc.

### V. HYPOTHESIS TESTING & RESULTS

The chi square statistic used to conduct this test is the same as in the goodness of fit test:

H01: No Association exist between gender and consumers’ awareness of organic vegetables

H1: otherwise

$$\chi^2_c = \sum \frac{(O_i - E_i)^2}{E_i}$$

The subscript “c” are the degrees of freedom. “O” is your observed value and E is your expected value. Chi square value is calculated at 0.05 level of significance. Chi-square test was used to test the hypothesis.

Gender	Awareness of Organic Veg.		
	Yes	No	Maybe
Male	45	4	10
Female	42	1	2

	Yes	No	May be	Row Total
Male	45 (49.36) [0.38]	4 (2.84) [0.48]	10 (6.81) [1.50]	59
Female	42 (37.64) [0.50]	1 (2.16) [0.63]	2 (5.19) [1.96]	45
Column Totals	87	5	12	104 (Grand Total)

Chi-square = 5.45

p-value =0.0655

At  $p < 0.05$  the result is not significant. Thus since ‘P’ Value is more than the level of significance i.e.0.05 , The Null Hypothesis is Accepted.

Hence, we conclude that No Association exist between gender and consumers’ awareness of organic vegetables

H02: Organic Vegetable buying tendency of people and percentage of price premium customers are ready to pay are independent o each other

H2: Otherwise

ANOVA - Two Factor				
Alpha		0.05		
Groups	Count	Sum	Mean	Variance
Column 1	3	35	11.6666666667	17.3333333333

Column 2	3	43	14.3333333333	0.3333333333		
Column 3	3	11	3.6666666667	0.3333333333		
Column 4	3	6	2	0		
Column 5	3	9	3	1		
Row 1	5	38	7.6	35.3		
Row 2	5	38	7.6	40.3		
Row 3	5	28	5.6	26.3		
Source of Variation	SS	df	MS	F	P-value	F critical
Rows	13.3	2.0	6.7	2.2	0.2	4.5
Columns	382.9	4.0	95.7	31.0	0.000064	3.8
Error	24.7	8.0	3.1			
Total	420.9	14.0				

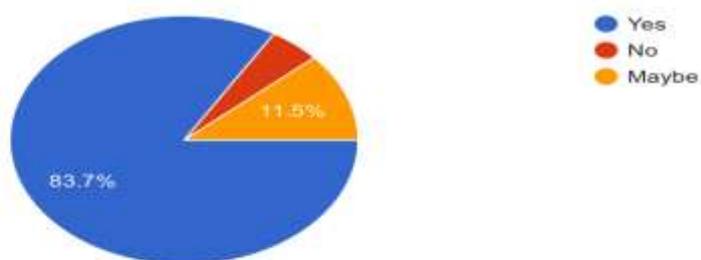
P-

Value < Alpha, We reject Null Hypothesis. Therefore, we conclude that the Buying Tendency of Consumers and readiness of customers Price Premium are dependent to each other.

Findings and Implications:

### Are you aware of the difference between Organic and Inorganic Vegetables?

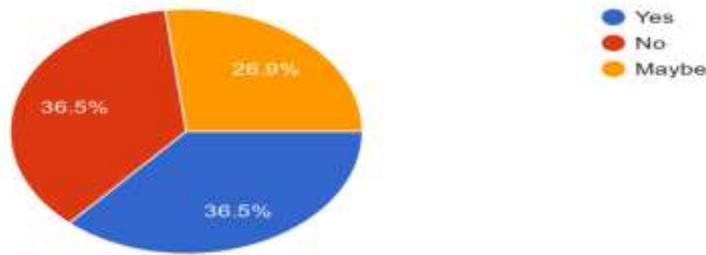
104 responses



Most of the respondents are aware of Organic Vegetables (83.7%) whereas only 4.8% are unaware of organic vegetables. 11.5% were unsure of difference between conventional and organic vegetables.

### Do you have the tendency to buy an organic vegetable without proper appearance instead of a non-organic vegetable with proper appearance?

104 responses



This feedback of consumers on buying behavior of vegetables based on appearance of it had mixed responses. 36.5% likes to buy organic vegetable irrespective of it's appearance which is good sign for organic vegetable vendors and farmers that consumers are going for organic vegetables as they think it is healthy and worth to buy compared to inorganic vegetables. 36.5% said that for them appearance is equally important and with little efforts on packaging and display vendors and farmers can easily attract this consumers to increase their market. 26.9% are indecisive on whether they will buy or not and may be with convincing approach can be converted into potential buyer.

### What would help increase your level of trust towards Vegetables which claim to be organic?

104 responses



It is very important to know how consumer's trust can be increased towards organic vegetables. More than 50% (57.7%) consumers wants vegetables to be certified by or approved by or labeled by Government agency/ Reputed Agriculture Authority as organic to increase their trust. 34.6% wanted scientific evidence of it on packaging in order make them trustworthy towards organic vegetables. Very few 5% & 3% said that Celebrity endorsement and brand name respectively can increase their trust for organic vegetables.

### As per your knowledge, consumption of inorganic vegetables causes following health risks

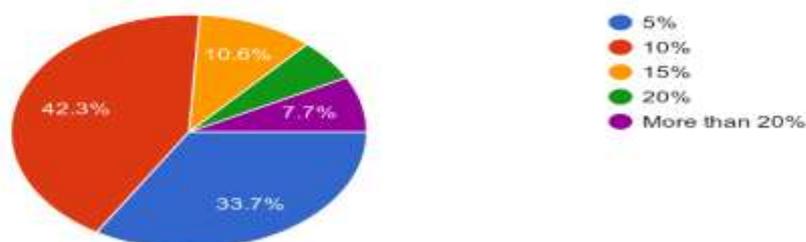
104 responses



Responses are indicative of the fact that consumers are aware of health risks associated with consumption of inorganic vegetables (45.2%). Only 16.3% of consumers responded that they don't know about the health risks. Various percentage of different health risks shows that consumers are mindful of the fact that diseases like Nausea, Diarrhea, Abdominal Cramp, Dizziness, Anxiety and cancer can happen because of inorganic vegetables. In Developed Countries people are gradually shifting towards organic vegetables due to ill-effects of inorganic vegetables.

### Given a Choice, How much more price your are ready to pay for organic Vegetables?

104 responses



Since, Organic farming and its vendors are less compared conventional farm products, Prices are little high. In addition to that some factors such as certification process and conversion cost also plays a significant role in the price of organic products. 42.3% respondents are ready to pay 10% extra for organic vegetables. Only 7.7% are ready to pay more than 20% for organic products. Some kind of premium will be required for organic vegetable growing farmers as initially output may not be as high as in case of Inorganic vegetables.

## VI. CONCLUSION

Majority of the consumers are aware of Organic Vegetables (OV) and they are even ready to pay price premium to the extent of 5% to 10%. Majority of the customers are of the opinion that legislative measures and assurance by the Government department will be effective in ensuring trust and quality of organic vegetables. Surprisingly it is found that although majority of the customers were aware about the health risks of consumption of inorganic vegetables but still they prefer to buy inorganic vegetables only. The reasons for this tendency of the customers were found out as non-availability of organic vegetables and also the issues of identification. Hence, keeping in mind broader aspect of organic vegetable market, availability of organic vegetables and issues such as packaging and brands' presence will also

play a crucial role in further market access and development of OV.

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