Journal of Agricultural Engineering and Food Technology
p-ISSN: 2350-0085; e-ISSN: 2350-0263; Volume 2, Issue 3; July-September, 2015 pp. 221-227

http://www.krishisanskriti.org/Publication.html

Understanding the Domestic Market of Organic Foods in Delhi: Analyzing the Consumers' Perspective on Soil Health and Willingness to Pay for Organic Foods in Delhi

Deepali Vaish

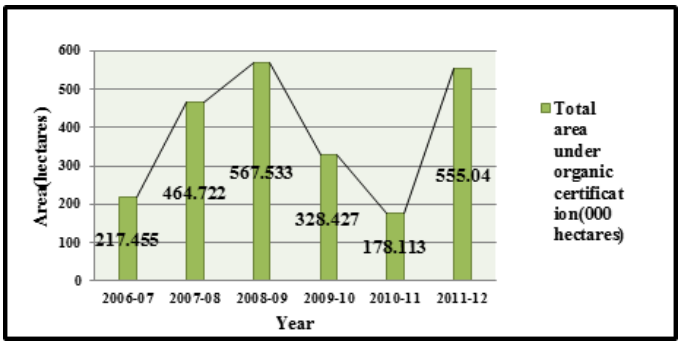
TERI University
E-mail: vaishdeepali91@gmail.com

Abstract—*The study is undertaken to analyze consumers' perspective on soil health and their willingness to pay for organic foods. For this, primary survey of households was undertaken in Delhi from January 2015 to March 27 2015 using Contingent Valuation Method. A total of 160 responses were generated. Regression results show that age and INTSCORE(interest in environmental issues) are statistically significant in affecting awareness and different factors affected the willingness to pay for both rice and flour. It was also observed that willingness to pay is not uniform across consumers and within a single food grain organic price premium varied due to different brands.*

Keywords*: Organic Foods, Willingness to Pay, Domestic Market, Contingent Valuation Method, Price Premium*

1. INTRODUCTION

The Green Revolution of 60s encouraged the use of fertilisers and pesticides which although increased the food production but at cost of soil degradation. Soils of India are presently suffering from macronutrient and micronutrient deficiency. Deficiency of zinc, iron, copper, manganese, boron, molybdenum and sulphur has been noticed in 48, 12,4,5,33,13 & 41% of soils of India, respectively. In addition, zinc deficiency is further expected to decrease by 2025(Singh (2009)).Realising the problems imposed by fertilisers and pesticides organic farming has emerged as a sustainable solution to make agriculture more ecologically sustainable. By focussing mainly on building soil health by enriching its nutrient cycle, it leads to healthy agro-ecosystem and nutrient-rich produce (Gurung et al (2013)). As shown in chart 1, area under organic certification in India has increased since 2006-07. In 2006-07, area under organic certification was 217.55 thousand hectares which rose to 555.04 thousand hectares in 2011-12.



(*Source*: Department of Agriculture and Cooperation, Ministry of Agriculture, GoI)

Fig. 1: Total area under organic certification(000 hectares)

Looking at the market side of the organic produce, currently organic food industry of India is export oriented. In 2013-14, India exported 135 products(which included oil seeds, basmati rice, tea, pulses, cereals etc) with realization around 403 million US$ .Organic products of India are exported to US, EU, Canada, Switzerland, Australia, New Zealand, South East Asian countries etc.[1] Exports are more because foreign consumers are ready to pay more for Indian organic product (Gurung et al(2013)). This raises a concern about the acceptance of organic products in Indian domestic market which is looked upon in this study. Therefore, the objective of the study is: (1) to check the level of consumer awareness and factors affecting it, (2) to understand the consumer perception about organic foods and factors affecting their willingness to pay and (3) to find the willingness to pay amount for organic foods.

[1] These statistics are taken from the website of APEDA

2. LITERATURE REVIEW

Willingness to pay for organic foods is a new topic in Indian context but this has been studied by researchers of other countries for some time now. On the basis of the literature review it can be said that among the factors that can affect willingness to pay for organic foods are socio-demographic characteristics, peoples' perception and attitude towards environment. The study done by Piyasiri and Ariyawardana (2002) in the Sri Lankan city of Kandy revealed that socio-demographic factors like income, environmental education and years of education price of organic food, easy availability and certification influence consumers' WTP. Study done in Malaysia by Ahmad(2010) revealed that perception about organic product and safety beliefs determine purchase intentions of consumers. Remaud et al (2008) has conducted study in case of organic wine among Australian consumers. The choice experiment has been used to which revealed that organic as a wine characteristic is not much valued by a consumer but as far as eco-friendly wine is concerned only a minority of wine consumers are willing to pay for it. Study done in by Ghorbani & Hamraz (2009) and Yue et al (2009)indicated that product appearance also affects willingness to pay. It was found by Yue et al(2009)that 75% of the consumers were willing to pay more for organic than for conventional apples if they have same appearance but imperfection in appearance has significantly reduced consumer's willingness to pay. The study by Voon et al (2011) in a Malaysian city revealed significant positive impact of attitude and subjective norms on willingness to purchase organic foods while the affordability was found out to be insignificant. Why this could be the case has not been explained in study.

Studies have also been conducted on willingness to pay amount. The study by Rodriguez et al (2005) conducted in Buenos Aires city suggested that Argentinean consumers were willing to pay a price premium but this price premium is varied across different products. For some products the premium was between 5-10% whereas for some products premium is upto 200% thereby restricting the purchase of organic products. The study of Gil et al (2000) in two Spanish regions: Navarra and Madrid indicated that premium was not same in both the regions because of heterogeneity of market. But, it needs to be mentioned that in most of the studies willingness to pay has been studied in general context and not specific to any food product. However, finding out willingness to pay of different food product is crucial to know the variation in premium. In the present study an attempt has been made to cover some of the research gaps and study the issue in greater detail.

3. METHODOLOGY

The study undertook a primary survey in Delhi and the methodology used is Contingent Valuation Method(CVM). The CVM is a survey based technique which aims at finding out the values that respondents place on environmental good for which they have use value and non-use value. It is a stated preference method since respondents are being put in hypothetical market setting and not in real market setting (Mitchell & Carson (2005)).

The environmental good in this study is soil. It has use value for people since the food one eats comes from soil. It is one of the five elements(Soil, Water, Fire, Air and Sky) which makes human body as per 'Panchmahabhuta' theory. This implies that quality of food is determined by quality of soil. If soil is of bad quality (soil degradation post Green Revolution) then it will produce bad quality food (fertilizer and pesticides in our food) whereas if soil is of good quality (in case of organic agriculture) then it will produce good quality food. So by stating their willingness to pay for organic foods (which is good for soil health) people are in a way placing their value on soil quality.

CVM is based on the welfare measures of change: compensating surplus(CS) and equivalent surplus(ES). Compensating surplus is the amount that must be taken away from(or given to) an individual which would bring him/her on the same utility level as he/she was before the change in environmental quality (Mäler&Vincent(2005)). Equivalent surplus is the amount of money that must be given to the individual(or taken away from him) in place of the environmental change so that he/she becomes well off as he/she would become after change in environmental quality. From this, it is understood that compensation surplus is willingness to pay for organic foods whereas equivalent surplus is willingness to accept inorganic foods. In terms of equation it is expressed as:

Let,

q0: inorganic food (bad soil quality)

q1: organic food (good soil quality)

M: money income of individual

P: Price vector of other goods

V: Indirect Utility Function

Suppose there is an increase in food quality from inorganic (q0) to organic (q1)

CS is a solution to

$V(P,M,q0)=V(P,MCS,q1)$

Since the objective is to bring improvement in soil through demand side therefore WTP is considered.

3.1 Data Collection

The study undertook primary survey in Delhi. Delhi was chosen for survey area because it has market for non-organic foods plus a thin market exists for organic foods as well. The survey was done in two stages: (1) Pre-testing and (2)Main

survey. Pre-testing was done in the month of December 2014 and the duration of main survey was from January 1, 2015 and ended on March 27, 2015. The personal interview was in close-ended format as experience from pre-testing suggested that with open-ended technique respondents were unable to provide their estimate. The payment amount, was the premium on organic food. It was the price difference between organic food grains and conventional food grains. A short market visit was undertaken to find out the organic food grain brands and inorganic food grain brands available in market. So, all the brands and their prices were noted down and then the difference in prices was calculated. Realising the fact that prices of organic foods are high and more than conventional non-organic foods, purposive sampling was done. Only those areas were selected from each zone where middle income group people and higher income group people reside. The total sample size is 160, 40 from each zone. Areas selected from each zone can be seen in Map 1.

Fig. 2: Study Map of DELHI (This map is generated using GPS device and ArcGIS software)

3.2 Econometric Model Specification

3.2.1. Econometric Model 1

The linear model is used to analyze factors affecting consumers' awareness:

$$Aware=ß_0+ß_1Age+ß_2Yearsedu+ß_3EnvEdu+ß_4INTSCORE+ß_5Label+e$$

The variable specification is given in table 1:

3.2.2. Econometric Model II

The multinomial model is used to analyze factors affecting willingness to pay for organic foods. Two separate regressions were estimated: (1)RICE(white rice and brown rice) and (2)FLOUR(wheat flour and multigrain flour). A household will choose a one combination from the options available. Table 2 shows combination wise category of respondents. As can be seen in table 2, the first category is for respondents who are WTP for both types of rice and flour. The second and third category is for those who are WTP for either of the two. The fourth category of respondents are those who are not willing to pay for neither of the two. The multinomial logit model is described as:

Let y denote a random variable WTP taking on the values {0,1,....J} for J a positive integer and let x denotes set of covariates. In this case the interest lies in computing response probabilities and how they are affected by explanatory variables, P(y=j/x), j=0,1,..J.

Let **x** be a 1X K vector with first element unity. The multinomial logit (MNL) model has response probabilities

$$\Pr(Y = j|X_i) = \exp(X_i\beta_j) / \sum_{k=1}^{J} \exp(X_i\beta_k)$$

β_j is set 0 for category 3: WTP for brown rice and not white rice for RICE and WTP for multigrain flour and not wheat flour for FLOUR. This makes it the base outcome and yields choice probabilities of other alternatives relative to this alternative.

The explanatory variables are same for both RICE and FLOUR. The variables are Yearsedu, Age, EnvEdu, Gender, Monthinc, Hsize, Perception, Distance, Label, Sharewr, Sharebr, Sharewf, Sharemf, HHS and Aware. It must be noted that sharebr and sharewr are included in RICE and in case of FLOUR sharemf and sharewf are included. The variable specifications are given in table 1.

4. RESULTS

4.1 Survey Results

From table 3 it can be seen that 78.75% respondents agreed that health is linked to soil health , 95.62% respondents believe that their health has been affected by fertilisers and pesticides and 64.37% respondents were aware that Indian soils are suffering from macronutrient and micronutrient deficiencies. In addition to this, South Delhi has maximum number of yes responses for all the three cases.

4.2 Factors Affecting Awareness

As can be seen in table 4 that age and INTSCORE are significant and rest other variables are insignificant. As expected age and INTSCORE are positively related to awareness score. A one year increase in age on average increases awareness by 0.015 *ceteris paribus*. A one unit increase in INTSCORE on average increases awareness score by 0.317 *ceteris paribus.*

Table 1: Variable Specification of Regression Equations

Variable Name	Variable Description
Aware	Awareness score of respondent i which is the summation of the scores of the questions that the respondents have answered.
Age(in years)	Age of primary shopper
Yearsedu(in years)	Years of education of primary shopper
EnvEdu	=1 if primary shopper has received environmental/agricultural education 0 otherwise
Label	=1 if labelling and certification increases awareness 0 otherwise
INTSCORE	Score of interest in environmental issues which is the summation of the scores of the questions that the respondents have answered.
Monthinc	Household monthly income (in lacs)
Hsize	Number of family members in household
PERCEPTION	Perception score about organic foods calculated on the basis of questions asked
Distance	Extra mile which the consumer is ready to take if organic food is not available in nearest store
Label	=1 if labelling and certification helps in making informed purchasing decision 0 otherwise
Sharewr	Percentage share of white rice in total food expenditure
Sharebr	Percentage share of brown rice in total food expenditure
Sharewf	Percentage of wheat flour in total food expenditure
Sharemf	Percentage share of multigrain flour in total food expenditure
HHS	Household Health Lifestyle score which is the summation of scores of questions asked

Table 2: Combinations of RICE and FLOUR and Category of Respondents

Combinations	RICE			FLOUR		
	White Rice	Brown Rice	Category	Wheat Flour	Multi-grain Flour	Categroy
Both	Yes	Yes	1	Yes	Yes	1
Only One	Yes	No	2	Yes	No	2
	No	Yes	3	No	Yes	3
None	No	No	4	No	No	4

4.3 Consumers' Perception about Organic Foods

Consumers' perception about organic foods was studied on the four parameters: Health, Quality, Variety and Taste. In total 83.12% respondents think that organic foods are good for health, 86.25% think they are of good quality and 57.5 % respondents considered organic foods as tasty and with variety. 85% respondents of East Delhi and South Delhi respectively think that organic foods are good for health, 90% North Delhi and East Delhi respondents respectively believe they are of good quality and 70% South Delhi respondents believe they are tasty with variety.

Table 3: Survey Results on Awareness

Questions/ Zones	Do you think human health is linked to soil health?		Do you think pesticides and fertilisers in food affects our health?		Are you aware that Indian soils are suffering from macronutirent and micronutrient deficiencies?	
	Yes Responses(%)	No Responses(%)	Yes Responses(%)	No Responses(%)	Yes Responses(%)	No Responses(%)
North Delhi	80	20	95	5	57.5	42.5
East Delhi	75	25	97.5	2.5	70	30
West Delhi	75	25	92.5	7.5	60	40
South Delhi	85	15	97.5	2.5	70	30
Total	78.75	21.25	95.63	4.37	64.37	35.63

Table 4: Regression Results of Awareness Equation

Awareness	Coefficient	P>|t|
Age	0.01* (0.009)	0.091
Gender	0.084 (0.199)	0.670
Yearsedu	0.057 (0.045)	0.208
INTSCORE	0.315** (0.109)	0.004
EnvEdu	-0.007 (0.2026)	0.970
Label	0.019 (0.19)	0.923
Constant	1.42 (0.933)	0.129

Number of Observations=160
F(6, 153)= 3.14
Prob>F=0.0063
R-squared=0.11

Note: Absolute values of t-statistics in parentheses
*significant at 10%, **significant at 5% and ***significant at 1%

Table 5: Consumers' Perception about Organic Foods

Perception	Organic foods are good for Health		Organic foods are of good quality		Organic foods are tasty		Organic foods have variety	
	Yes responses(%)	No responses(%)	Yes responses(%)	No responses(%)	Yes responses(%)	No responses(%)	Yes responses(%)	No responses(%)
North Delhi	82.5	17.5	90	10	45	55	45	55
East Delhi	85	15	90	10	60	40	60	40
West Delhi	80	20	85	15	55	45	55	45
South Delhi	85	15	80	20	70	30	70	30
Total	83.12	16.88	86.25	13.75	57.5	42.5	57.5	42.5

4.4 Factors affecting Willingness to Pay 4.4.1 RICE

The base category is taken as category 3 which is respondents who are willing to pay for brown rice and not white rice. It can be seen in table 6, distance and gender are statistically significant. A 1km increase in distance decreases by 0.055 the probability of category 1 than 3, *ceteris paribus.* The probability of category 1 than category 3increases by 0.124 if there is a change in gender from 0 to 1 i.e. from male to female, *ceteris paribus.*

The category2 are the respondents who are willing to pay for white rice and not brown rice. It can be seen in table 6 that except for gender and years of education all other variables are significant. But interestingly, in case of age, perception, share of brown rice, household health score and household size the marginal effect is 0 which means a unit change in score does not have an impact. This simply means that these variables don't affect probability of WTP for both white rice and brown rice. The coefficient of distance is positive which means it is increasing the probability of WTP which is counter-intuitive because more distance means more effort and more for consumers. The effect of monthly income and share of white rice is also positive which means they cause an increase in probability of WTP for white rice and brown rice than category 3 by 3.36 and 8.74 respectively, *ceteris paribus*. Awareness and environmental education interestingly affects WTP in positive direction. Both are leading to an increase in WTP by 2.44 and 3.11 respectively than category 3, *ceteris paribus*.

The effect of labelling is also positive which means the probability of category 2 than category 3 increases by 1.16 if labelling changes from 0 to 1, *ceteris paribus.*

Coming to category 4 which is willingness to pay for neither white nor brown rice(or non-WTP for both kinds of rice), it can be seen in table 6c, Perception , share of brown rice, distance, HHS has came out to be significant . While perception and HHS decreases the probability of non-WTP for neither of rice by 0.052 and 0.03 respectively than category 3, *ceteris paribus*, on the other hand distance and share of brown rice increases the probability of non-WTP for both rice by 0.019 and 0.03 respectively than category 3, *ceteris paribus.*

Table 6: Results of Multinomial Logit Model for RICE

	Pr(White Rice, Brown Rice)		Pr(White Rice, No Brown Rice)		Pr(WTP No white Rice, No Brown Rice)	
Variable	Coefficient	Marginal Effect	Coefficient	Marginal Effect	Coefficient	Marginal Effect
yearsedu	0.001 (0.02)	0.001	-0.068 (-0.46)	0	-0.034 (-0.36)	-0.004
age	0.022 (1.22)	0.003	-1.782*** (-20.48)	0	0.011 (0.53)	0.0006
envedu	-0.614 (-1.42)	-0.105	25.244*** (24.23)	3.11	-0.041 (-0.09)	0.014
gender	0.86** (1.91)	0.124*	-0.506 (-0.28)	-3.96	0.532 (1.06)	0.038
monthinc	-0.608 (-1.45)	-0.096	14.122*** (7.34)	3.36	-0.251 (-0.45)	0.011
Hsize	0.177 (0.95)	0.024	-4.201*** (-5.21)	0	0.173 (0.83)	0.015
Perception	-0.190 (-1.01)	0.017	-8.906*** (-12.17)	0	-0.479* (-1.83)	-0.052*
Distance	-0.36** (-2.31)	-0.05**	9.688*** (24.83)	2.84	-0.257* (-1.66)	-0.019
Label	-0.587 (-1.20)	-0.074	30.895*** (11.12)	1.16	-0.814 (-1.55)	-0.085
Sharewr	-0.196 (-1.10)	-0.029	8.307*** (16.79)	8.74	-0.127 (-0.59)	-0.009
Sharebr	0.230 (1.00)	0.027	-8.436*** (10.58)	0	0.385* (1.88)	0.039*
HHS	0.071 (0.43)	0.020	-3.782*** (11.37)	0	-0.264* (-1.74)	-0.034**

awarenes s	0.061 (0.37)	0.003	19.658** * (20.85)	2.44	0.234 (1.14)	0.026
constant	-0.70 (-0.36)	-	111.07** * (17.04)	-	0.783 (0.38)	-

Note: Absolute values of z-statistics in parentheses *-significant at 10%, **-significant at 5% and ***-significant at 1%

4.4.2 FLOUR

The results are shown in table 7.Category 3 is the base category. For category1 which is probability of WTP for both wheat and multigrain flour, share of multigrain flour and wheat flour, labelling, monthly income and gender are significant. A 1% increase in share of multigrain flour decreases the probability of WTP for both kinds of flour by 0.02 than category 3, *ceteris paribus*.The effect of labelling is also positive which means the probability of category 2 than category 3 increases by 1.16 if labelling changes from 0 to 1, *ceteris paribus*. An increase in income by 1 lakh increases the probability by 0.06 than category 3

Table 7: Results of Multinomial Logit Model for FLOUR

	Pr(WTP Wheat Flour, Multigrain Flour)		**Pr(WTP Wheat flour, no multigrain flour)**		**Pr(WTP No Wheat Flour, No Multigrain Flour)**	
Variable	Coefficients	Marginal Effects	Coefficients	Marginal Effects	Coefficients	Marginal Effects
yearsedu	-0.051 (-0.49)	-0.002	-0.013 (-0.07)	-6.81	-0.046 (-0.41)	-0.003
age	-0.025 (-0.99)	-0.001	0.074** (1.92)	9.24	-0.004 (-0.20)	-0.002
envedu	-0.021 (-0.03)	-0.002	1.045 (1.10)	0.0001	0.113 (0.20)	0.01
gender	1.278** (2.02)	0.072**	0.190 (0.19)	0.00	-0.069 (-0.13)	-0.014
monthinc	1.008** (2.37)	0.066** *	-0.614 (-0.68)	-0.00	-0.383 (-0.51)	-0.042
Hsize	0.060 (0.25)	0.003	0.556 (0.77)	0.00*	0.0039 (0.01)	-0.00
Perception	-0.114 (-0.38)	-0.003	-0.299 (-0.47)	-0.00	-0.479 (-1.60)	-0.043*
Distance	-0.179 (-0.90)	-0.010	-0.314 (-1.10)	-0.00	-0.056 (-0.33)	-0.0039
Label	-1.518** (-2.27)	-0.120*	14.07*** (17.57)	0.01	-0.434 (-0.73)	-0.027
Sharewf	0.6446** * (2.47)	0.040** *	-0.358 (-0.49)	-0.00		
Sharemf	-0.379* (-1.66)	-0.022	0.739* (1.86)	0.00	-0.163 (-0.76)	-0.012
HHS	0.041 (0.19)	0.003	0.058 (0.21)	8.99	-0.186 (-1.11)	-0.017
aware	0.111 (0.45)	0.005	-0.544 (-1.03)	-0.00	0.253 (0.93)	0.022
constant	-2.295 (-0.95)	-	-20.009 (-3.66)	-	1.309 (0.55)	-

Note: Absolute values of z-statistics in parentheses *-significant at 10%, **-significant at 5% and ***-significant at 1%

ceteris paribus. *Ceteris paribus*, the probability of category 1 than category 3 increases by 0.124 if there is a primary shopper changes from male to female. For category 2, share of multigrain flour and labelling are significant. For share of multigrain flour, the marginal effect is 0 which means a 1% change does not cause any impact on probability of WTP for both the flours. The probability for WTP than category 3 is expected to increase by 0.011 if labelling influences purchasing decision. For category 4, no variable is significant.

4.5 Willingness to Pay Amount

As shown in table, the WTP amount won't be uniform across all individuals. The market survey done at various organic stores reveals that different food grains carry different price premium and this amount also differ within the same food grain category. In case of white rice, around 25% are willing to pay 15.15% whereas 13.12% are willing to pay 100% premium. Percentage of consumers who are not willing to buy organic white rice is 16.25%. The average willingness to pay is 35.71% as can be seen in table 8. For brown rice, 38.12% consumers are not ready to buy brown rice whereas 16.8% consumers are willing to pay 14.7% and only 3.75% are willing to pay 2.94%. The mean WTP for brown rice is 6.21%. In case of wheat flour, only 14.37% consumers are not willing to pay anything whereas 43.12% consumers are willing to pay 50% premium. The mean premium percentage is 47.39% which means on an average consumer are willing to pay 47 percent extra to procure organic wheat flour. In case of multigrain flour, maximum people are willing to pay 80% and the percentage of people who are not willing to buy are 22.5%. The average willingness to pay is 74%.

Table 8: Premium Percentage of White Rice, Brown Rice, Wheat Flour and Multigrain Flour

White Rice		**Brown Rice**		**Wheat Flour**		**Multigrain Flour**	
Premium(%)	**consumers who are WTP premium(%)**	**Premium(%)**	**Consumers who are WTP premium(%)**	**Premium(%)**	**Consumers who are WTP premium(%)**	**Premium(%)**	**consumers who are WTPpay premium(%)**
100	13.12	14.7	16.87	111.11	17.5	166.66	5.62
51.72	13.75	11.76	15	50	43.12	160	8.12
46.15	14.37	8.82	10.62	33.33	16.25	120	22.5
29.41	16.87	5.88	15.62	11.11	8.75	80	25.62

15.15	25.62	2.94	3.75	0(will not buy)	14.37	28.57	15.62
0(will not buy)	16.25	0(will not buy)	38.12			0(will not buy)	22.5
Mean WTP=35.71%		Mean WTP=6.21%		Mean WTP=47.39%		Mean WTP=74.33%	

5. CONCLUSION

On the basis of findings it can be said that there is a high degree of awareness among consumers regarding problems of soil quality, usage of fertilizers and pesticides, organic foods etc. but here there is a caveat. Out of 16.75 million population of Delhi the study undertook 160 samples(40 from each zone) which is very small. So, it is difficult to comment on the bigger picture from findings of such a small sample. But, from here one thing can be said that although, factors affecting willingness to pay and amounts differ among consumers but consumers are ready to accept organic foods realizing their benefits. This in itself is a big sign of hope from demand side.

The findings suggested that apart from awareness as a determinant, there are other factors affecting consumer's decisions. In some cases, awareness was not a significant factor. Therefore, to motivate demand side strong efforts are required from supply side as well as government to make consumers aware about organic foods which means supply and demand side has to act simultaneously supporting each other.

A market for product exists when there are buyers and sellers for that product. In case of market for organic foods both demand side and supply side are weak. To boost supply side, demand side has to grow, which will grow when buyers will show their willingness to pay. This will act as an important signal to sellers who think that domestic market is weak and they will suffer if they sell their produce in domestic market. The end result of this will be that, farmers who are still doing farming using conventional practices will be motivated to adopt organic farming. As, a result of which, organic farming can be undertaken on a much larger scale. Hence, demand side can act as a major driver for sustainable agriculture.

6. ACKNOWLEDGEMENT

This study is a shorter version of my master's dissertation. I would like to express my sincere gratitude to Prof. Kanchan Chopra(former director of Institue of Economic Growth, Delhi and Visiting Professor, TERI University), my thesis supervisor, for her continuous support and scholarly inputs.

REFERENCES

[1] Ahmad Siti Nor Bayaah & Nurita Juhdi(2010), Organic Food: A Study on Demographic Characteristics and Factors Influencing Purchase Intentions among Consumers in Klang Valley, Malaysia, International Journal of Business and Management, Vol.5, No.2, February 2010

[2] Ghorbani M. & S. Hamraz(2009), "A Survey on Factors Affecting on Consumer's Potential Willingness to Pay for Organic Products in Iran (A Case Study)", Trends in Agriculture Economics 2(1): 10-16, 2009

[3] Gil J.M., A.Gracia & M.Sánchez(2000), "Market segmentation and willingness to pay for organic products in Spain", International food and agribusiness management review, 3 (2000) 207–226

[4] Gurung Kritika , Prerna Sharma & Mandeep Dhalor(2013), "Comparative Study of India's Organic Agriculture with the leading countries: Europe and U.S.A", IOSR Journal of Agriculture and Veterinary Science, 2(4): 26-39

[5] Karl-Göran Mäler, Jeffrey R. Vincent (Edited) (2005): Hand Book of Environmental Economics: Valuing Environmental Changes, Volume 2, Elsevier/North-Holland, Amsterdam

[6] Mitchell, R. C., and R. T. Carson, (2005): "Using Surveys to Value Public Goods: The Contingent Valuation Method", Resources for the Future, Washington D.C.

[7] Piyasiri and Ariyawardana. 2002, "Market Potentials and Willingness to Pay for Selected Organic Vegetables in Kandy",Sri Lankan Journal of Agricultural Economics. Volume 4. Part 1. Pp.107-119.

[8] Remaud Dr. Hervé, Dr. Simone Mueller, Phoebe Chvyl & Prof. Larry Lockshin(2008), "Do Australian Wine Consumers Value Organic Wine?", 4th International Conference of the Academy of Wine Business Research, Siena 17-19th July 2008 Refereed paper

[9] Rodríguez Elsa, Victoria Lacaze & Beatriz Lupín (2007),"Willingness to pay for organic food in Argentina: Evidence from a consumer survey", Contributed Paper prepared for presentation at the 105th EAAE Seminar'International Marketing and International Trade of Quality Food Products', Bologna, Italy, March 8-10, 2007

[10] Singh V.M(2009), "Micronutrient nutritional problems in soils of India & Improvement for Human & Animal Health", Indian J. Fert;Vol.5(4),pp.11-16.19-26&56

[11] Voon Jan P., Kwang Sing Ngui & Anand Agrawal(2011), "Determinants of willingness to purchase organic food: an exploratory study using structural equation modelling", International Food and Agribusiness Management Review, Volume 14, Issue 2, 2011

[12] Wooldridge, Jeffrey M. Econometric Analysis of Cross Section and Panel Data.Massachusetts: MIT Press 2001

[13] Yue Chengyan, Frode Alfnes & Helen H. Jensen (2009), "Discounting spotted apples: inspecting consumer's willingness to accept cosmetic damage", Journal of Agriculture and Resource Economics, 41,1:29–46