Expectations towards Geographical Indications-Empirical Evidence from India

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Abstract

In India agricultural products bearing Geographical Indication (GI) registration has increased progressively. GI registration is an indication that links the uniqueness of products towards the origin and thus, reduces the asymmetry of information between producer and consumer, ensuring market transparency, price stability and reduction in information costs. GIs can be used as an effective tool for ensuring the quality of the produce as well as developing brands for local agriculture products. Granting GI will assure the success only if the consumer values GI label. So far empirical evidence with respect to consumers' awareness and WTP for GI product is mostly restricted to developed countries. This paper addresses expectations from both sides of market – consumers' WTP (willingness to pay) and producers' WTA (willingness to accept) for the GI product, Palakkadan Matta rice (*Oryza sativa* L) of Kerala, India. The results indicate that the awareness about GI registration is too low among the consumers. Consumers are willing to pay Rs. 5.01 per kilogram additionally, for ensuring the quality of the produce through GI label. Producers are willing to continue the cultivation by accepting an additional amount of Rs.5.82 per kilogram.

Key Words: Geographical Indication, willingness to pay, contingent evaluation willingness to accept, logistic regression,

Introduction

A Geographical Indication (GI) identifies a good as originating in a delimited territory or region where a noted quality, reputation or other characteristic of the good is essentially attributable to its geographical origin and/or the human or natural factors there (ITC, 2009). GI registration is an indication that links the uniqueness of products towards the origin and thus, reduces the asymmetry of information between producer and consumer, ensuring market transparency, price stability and reduction in information costs (Belletti and Marescotti, 2006). GIs can be used as an effective tool for ensuring the quality of the produce as well as developing brands for local agriculture products. The Geographical Indications of Goods (Registration and Protection) Act, 1999 passed by Indian Parliament in December 1999 seeks to provide for the registration and better protection of GIs relating to goods in India. A total of 146 products got GI registration till July 2011. Of the total goods which got GI registration, 60 per cent belongs to handicrafts and 27 per cent to agricultural goods.

Looking from the demand side, consumers are increasingly concerned about food safety and food quality issues value the origin as a useful quality cue. These ongoing developments are reflected in the growing number of products registered under GI act and also a rise in scientific literature investigating questions which are related to geographical indications for food products (Teuber, 2007). Most of these studies have been carried out in developed countries. Detailed knowledge about consumers' awareness and producers' expectations with respect to this certification scheme is still limited in an emerging economy like India. Hence, the present study is an attempt to fill this research gap by presenting empirical results for the GI product, Palakkadan Matta rice in Kerala state, India.

The "Palakkadan Matta Rice" (*Oryza sativa* L) is an indigenous cereal plant of Palakkad in Kerala, India. The "Palakkadan Matta" is a unique cereal having high content of nutrients and special taste. Palakkadan Matta rice received the Geographical Indication Registry of Intellectual Property India right under the Geographical Indication of Goods (Registration and Protection) Act, 1999 in November, 2007. Of the total production of

paddy in Palakkad district, Palakkadan Matta rice comprises about 40 per cent of production.

There are lot of benefits associated with the GI registration and premium pricing being one of them (Barjolle *et al.* 2009). This itself is one of the strong reasons for the farmers who cultivate GI rice to stay in agriculture. Main objective of the GI registration is to ensure the premium price to the product by increased differentiation as a brand. Besides, it also helps in conservation of traditional varieties. Granting GI registration does not guarantee the market success unless it is properly maintained or protected.

First, the paper addresses the consumers' preference for the Palakkadan Matta rice (GI rice) in comparison to other types of rice (Non GI rice) and awareness about GI registration. Secondly, paper investigates whether consumer is valuing the GI label through willingness to pay (WTP). Finally, the expectations from supply side is explored by estimating willingness to continue the cultivation ie., willingness to accept (WTA) and compared with the demand side.

Methodology

Two types of samples were chosen for the study using simple random sampling technique.

1) Sixty farmers who are cultivating Palakkadan Matta rice varieties (GI farmers)

2) Thirty Palakkadan Matta rice consumers

Primary data were collected with the help of structured pretested interview schedule through personal interview method. To know the consumers' willingness to pay for Palakkadan Matta rice as a product with GI label, contingent evaluation was done and to avoid the possible bias, details regarding hypothetical market was explained to the respondents. To know the farmer's willingness to continue the cultivation, contingent evaluation was adopted and to avoid the possible biases, details regarding hypothetical markets and mode of operation were described to the respondents.

Consumer preference analysis

For analyzing the consumer preference for the product, each consumer was asked to rank the products, Palakkadan Matta rice, Red rice and White rice for each attribute. Taste, price, nutritional quality, cooking quality and quality of marketed product were the

selected attributes. For each attribute three ranks were given – high preference, medium preference and low preference with scores as 3, 2 and 1, respectively. Kruskal-Wallis one-way analysis of variance by ranks (K-W Test) is used to know whether there is significant difference in the preference among the consumers towards the three products. Statistic is computed using the following formula.

$$H = \frac{12}{n(n+1)} \sum_{j=1}^{k} R_j^2 / n_j - 3(n+1) \quad \ldots\ldots \quad (1)$$

where, k is the number of samples (here three)

n_j is the number of observations in the j^{th} sample

n is the total number of observations

R_j is the sum of the ranks in the j^{th} sample.

Consumers' willingness to pay (WTP)

Generally, GI products serve as a proxy variable in the consumer's mind for some peculiar attribute of the product and also as a proxy for quality (Hudson, 2007). So there is some intrinsic value of GI held by a consumer that can be captured by providing them information about the location of origin of a good as well as quality and consumers generally are willing to pay more for products with GI label (Giovannucci and Reardon, 2000). A consumer survey was undertaken to study whether the Matta rice consumer also exhibit the similar behavioural trends. Contingent valuation method is used to estimate the WTP. The purpose of the contingent valuation is to estimate individual willingness to pay for the changes in the quantity or quality of goods or services as well as the effect of covariates on WTP (Haab and Mcconnell, 2003). In this case valuation is done by creating a hypothetical or surrogate market like situation and eliciting the consumers' preference and the value for the change. Main problem with existing available product is the poor quality due to counterfeit. It was hypothesized that consumer would pay a premium for GI label as it reduces the information asymmetry and ensure genuineness. In the present study, consumers' preference for the quality ensured product by asking their

WTP for a hypothetical product which is directly marketed by producers themselves with GI label. Here single bounded format of contingent valuation is used.

The consumer's decision to pay for GI product was analyzed in the frame work of Logistic regression. If consumer is willing to pay, a value of one is assigned for the dependent variable and if a consumer is not willing to pay a zero value was assigned. The logistical regression was run using STATA software.

$$Y_i = A + \sum \beta_i X_i + U_i \quad \ldots\ldots \quad (2)$$

Where,

Y_i = Dependent variable

$Y_i = 1$ for consumers who are willing to pay for GI product

$Y_i = 0$ for consumers who are not willing to pay for GI product

X_i = Independent variables determining Y_i

U_i = Error term

The independent variables considered were :

X_1 = Bid value (Rs.)
X_2 = Age (years)
X_3 = Education (years of schooling)
X_4 = Monthly income of household (Rs.)
X_5 = Monthly expenditure on Matta rice (Rs.)

Mean willingness to pay was estimated using the formula

$$WTP^* = GC / |\beta| \quad \ldots\ldots \quad (3)$$

Where GC is grand constant which is the sum of the products of the estimated coefficients times the mean values of the corresponding variables (excluding the bid coefficient)

$|\beta|$ = Absolute value of bid coefficient.

Producers' willingness to accept (WTA)

The farmer's decision to continue the cultivation was also analyzed using logistic regression analysis. If farmer is willing to continue a value one was assigned and if farmer is not willing to continue, a zero value was assigned. The logistical regression is

run through STATA and the mean WTA is calculated using equation 3. The model fitted is given below.

$$Y_i = A + \sum \beta_i X_i + U_i \quad \ldots \quad (4)$$

Where,
Y_i = Dependent variable
Y_i = 1 for farmers who are willing to continue the cultivation
Y_i = 0 for farmers who are not willing to continue the cultivation
X_i = Independent variables determining Y_i
U_i = Error term

The independent variables considered were:
X_1 = Bid value (Rs.)
X_2 = Age (years)
X_3 = Education (years of schooling)
X_4 = Experience in rice cultivation (years)
X_5 = Net returns from matta rice cultivation (Rs./acre)
X_6 = Awareness about GI registration (dummy 1 for aware and 0 for not aware)
X_7 = Area under rice (acre)

Results and discussion

Socio-economic characteristics

The general characteristics of the consumers revealed that most of the consumers belong to high income group (Table 1). Education status was so high in accordance with the high literacy rate in Kerala state. Rural and urban consumers showed almost same level of socio- economic profile. Occupation status showed that all were well employed assuring a high monthly income level. Most of the consumers had small sized family ensuring high per capita expenditure.

Awareness about Geographical indication

Only 17 per cent of the respondents were aware of GI (Table 2). Print media and electronic media were the main source of information (contribution of 40 % each). Low level of awareness about GI registration among the respondents points out the lack of promotional measures.

Consumer preference

The sum of the ranks was highest for Matta rice for the attributes taste and nutritional quality (Table 3), implying that respondents prefer Matta rice because of its taste and nutritional quality. Therefore consumer is identifying the product according to origin linked qualities. Preference for the particular variety of rice produced in the specific area is making the consumers to pay a premium for their diet. So price wise also consumers expressed moderate preference. Consumers were sticking to Matta rice simply because they are used to the taste. As most of the consumers were from medium and high income group, they possess enough income to satisfy the need. Low preference of Matta rice in terms of product and cooking quality was due to the counterfeiting prevailing in the market. This indicates the failure in maintenance of quality of the produce affecting the reputation of the producers.

Consumers' WTP and producers' WTA for GI product

Consumers were asked about their willingness to pay for the quality ensured GI rice. It was explained that quality is assured by means of direct marketing by the producers with a GI label. Most of the respondents were willing to pay a certain amount for ensuring the quality of the purchased produce. From this we can infer that consumers are valuing the GI label. The GI label is a powerful tool to promote the quality and obtain a price premium when the collective reputation is good (Loureiro and McCluskey, 2000).

The additional amount that the farmers were willing to accept for continuing the Matta rice cultivation was Rs. 5.82/kg. The amount they were willing to accept was compared with that of consumer's average WTP and expressed in percentage (Table 4). On an average, if farmers get an additional price which is more than 41.87 per cent of the prevailing price per Kg, they are willing to continue the cultivation in future. Consumers are ready to give 35.74 per cent extra (Rs. 5.01) for quality and origin ensured product.

WTP by consumers is helpful in assuring the producers that there exists a strong demand for the produce. This will act as a driving force for the producers who fear about the feasibility of direct and collective marketing efforts, thereby reducing their

apprehension on the lack of institutional support for marketing. WTP also reflects the possibility of GI registration as strong tool for ensuring the quality of the produce.

Table 1: General characteristics of consumers (n= 30)

Sl. No.	Group	Number	Percentage
I	Age groups		
	a. Up to 25 years	0	00.00
	b. 25- 35 years	12	40.00
	c. 35- 45 years	12	40.00
	d. 45 years and above	6	20.00
	Average age	38.5	-
II	Education		
	a. Primary	0	00.00
	b. Secondary	2	06.67
	c. Higher secondary	4	13.33
	d. Graduation	17	56.67
	e. Post graduation	4	13.33
	f. Above Post graduation	3	10.00
III	Place of residence		
	a. Rural	14	46.67
	b. Urban	16	53.33
IV	Occupation		
	a. Public sector	12	40.00
	b. Private sector	10	33.33
	c. Self employed	8	26.67
V	Income (monthly)		
	a. Up to Rs. 15000	2	06.67
	b. Rs.15000- Rs. 30000	12	40.00
	c. Rs. 30000- Rs. 45000	13	43.33
	d. Above Rs. 45000	3	10.00
VI	Household size		
	a. Up to 3 members	6	20.00
	b. 3- 5 members	13	43.33
	c. 5- 7 members	8	26.67
	d. Above 7 members	3	10.00

Table 2: Awareness about Geographical Indication registration among consumers (n= 30)

Particulars	No. of respondents	Percentage
Aware of GI registration	5	16.67
Source of information		
a. Print media	2	40.00
b. Electronic media	2	40.00
c. Others	1	20.00

Table 3: Estimated Kruskal-Wallis coefficient for preference ranking by consumers (n=30)

Attribute	Sum of the ranks			H statistic
	Palakkadan Matta rice	Red rice	White rice	
Taste	2030	1331	659	53.20***
Price	1533	1972	855	73.42***
Nutritional Quality	2130	1356	638	61.40***
Product Quality	1211	1726	1454	54.16***
Cooking Quality	1412	1331	1481	23.04***

*** denote significance at one per cent level

Table 4: consumers' WTP and producers' WTA

Particulars	Rs./kg (over the prevailing price)
Consumers' WTP	5.01
Producers' WTA	5.82

Factors influencing WTP and WTA

Logistic regression was used to assess the factors influencing consumers' WTP and producers' WTA and the results are presented in the Table 5 and 6.

WTP was positively influenced by expenditure on Matta rice and income. Consumer's affinity towards the product was reflected in the expenditure pattern. Higher the expenditure, higher the affinity and higher will be the WTP. As income increases probability for the payment also increases. Education and age also showed positive relation to the WTP.

Table 5: Estimated logistic regression coefficients on factors influencing consumers' WTP

variable	Co-efficient (β)	Exp(β)
Age (years)	0.2870	1.332
Education (years of schooling)	0.0231	1.023
Expenditure on Matta rice (Rs.)	0.0145**	1.015
Monthly income (Rs.)	0.0003**	1.009
Intercept	-3.5982	0.027
Loglikelihood	-18.94	

Note: ** denote significance at 5 per cent level

Table 6: Estimated logistic regression coefficients on factors influencing producers' WTA

Variable	**Co-efficient (β)**	**Exp(β)**
Age (years)	0.0581	1.059
Education (years of schooling)	0.1453	1.156
Experience in Matta rice cultivation (years)	0.31**	1.405
Net returns from Matta rice cultivation (Rs)	0.0001*	1.000
Awareness about GI registration (Dummy; Yes=1 No=0)	2.904***	18.241
Farm size	0.211	1.235
Intercept	-9.528	0.000
Loglikelihood	-23.80	

Note: *** denote significance at 1 per cent level
** denote significance at 5 per cent level
* denote significance at 10 per cent level

Awareness about GI registration was the major factor influenced the willingness to accept. Farmers who know about the benefits of GI registration are expecting a positive change in the future. As the experience in cultivation and net returns from Matta rice cultivation increases the willingness to continue the cultivation also increases.

Conclusions

Empirical evidence about consumer's readiness to pay for GI label reflects the scope for successful implementation of GI. Consumers are willing to consider GI label as a surrogate for quality of the produce. So GI label can act as an effective tool for ensuring the quality, provided consumer should aware of GI registration. Currently, awareness about GI registration among consumers is too low. Improving awareness among consumers will also support the other initiatives to protect consumer rights. Consumers' WTP also reveal the strong domestic demand. In a developing country like India, domestic demand potential is the driving force for market and is to be harnessed properly. Producers expressed their willingness to continue the cultivation. The additional amount that the producers were willing to accept for continuing the Matta rice cultivation was Rs. 5.82/kg. On an average, if farmers get an additional price which is more than 41 per cent of the prevailing price per kilogram, they are willing to continue the cultivation in future. GI registration is very much helpful to develop brands for local agriculture products. Promotion of local agriculture is a proxy for rural development. Therefore expected benefits of GI can be extended to the context of development of rural area. But granting GI registration does not ensure the success, unless it is legally protected along with other strong promotional and supportive measures.

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