Household Willingness to Pay for Indigenous Chicken: A Case Study of Batticaloa Municipal Area

K Thirumarpan[1]*
[1]Department of Agricultural Economics, Faculty of Agriculture, Eastern University, Vantharumoolai, Sri Lanka

Abstract
Indigenous chickens are reared by many rural households in the country, but their contribution to food security at both, household and national levels is not well understood. This study aimed to analyse the household willingness to pay for indigenous chicken meat and egg in Batticaloa Municipal area of Batticaloa district. Hundred chicken consumers were taken randomly and they were interviewed at the selling site of chicken. Contingent Valuation method was used for valuation. Results revealed that despite the high price, majority of the consumers preferred indigenous chicken. Average price of indigenous chicken meat was Rs. 1050/ kg, but the consumers were willing to pay Rs. 860/ kg. And mean egg price of indigenous chicken was Rs. 25.50/egg whereas price of layer egg was Rs. 14.50/egg. Findings of the study revealed that the consumer willingness to pay for the indigenous chicken meat was significantly and positively influenced by age and mean household income ($p< 0.05$). And family size significantly and negatively ($p<0.1$) influenced the willingness to pay for the indigenous chicken meat. Results of the study suggest the dominance of consumer perception for indigenous chicken and wealthier and older consumers were more likely to pay for indigenous chicken. It is recommended that policy instruments should be designed to improve the awareness of households on consumption of harmless food and rearing of indigenous chicken will become as an essential source of income for resource poor families which finally enhance the food security status of households.

Keywords: Contingent Valuation, Household willing to pay, Indigenous chicken
****Corresponding author***: skrish_16@yahoo.com

Introduction

Indigenous chickens are one of the few types of livestock that cause little impact on the environment and that require few inputs in order to yield a significant output in terms of meat and eggs (Alders and Spradbrow, 2001). Indigenous chickens have many advantages over exotic breeds such as, they can be fed on home-made feed rations, tolerance to many diseases, low production cost, better taste of egg and meat etc. Eggs from village chickens are preferred by consumers because of their yolk colour and flavour (Wattanachant *et al.*, 2004). Nowadays they are mostly preferred than broiler chickens because broilers are fed with very high amount of antibiotics, growth hormones and additives to increase the weight, which is very harmful to human health. In a study by Gueye *et al* (1998), the price of indigenous chicken was based on the owner of a bird and the size of the bird. Other factors that influence the pricing of village chickens are the season, plumage colour and sex of a bird as they are associated with socio-cultural uses of these birds (Dana *et al.*, 2010).

Nowadays consumer perceptions are shifting more towards the organic food consumption, which maximizes the consumption of indigenous chickens in the country. Within this context this study was conducted to find out the consumer willingness to pay for Indigenous chicken meat and egg in the Batticaloa municipal council area and to estimate the factors affecting the willingness to pay.

Materials and Methods

This study was done in the Batticaloa Municipal Council which is the local authority for the city of Batticaloa in Eastern Sri Lanka. Hundred chicken consumers were taken randomly and they were interviewed at the selling site of chicken. Structured pre tested questionnaires were used in the study to collect the data. Respondents willingness to pay for indigenous chicken meat and egg was the key interest in the study. Data on socio economic status of the households, prices of chicken meat and egg were also collected. Contingent Valuation method was used for valuation. Descriptive statistics and frequency distribution were used to analyze the socioeconomic characteristics of the respondents. Multiple regression model was used to determine the factors affecting willingness to pay.

Results and Discussion

Socio demographic and economic profile of households

It was revealed that the average family size of the respondents was 4.60. Average monthly income of sampled household was Rs. 55447.50 with the minimum of Rs. 14500.00 and

maximum of Rs. 125,000.00. Results also indicated that the most of the household heads were educated up to tertiary level (45%) followed by 41% up to higher education.

Purchasing Habits of chicken-consuming households

Although broiler chicken was most often sold in Batticaloa municipal area and despite the price difference, majority (76%) of the consumers preferred indigenous chicken meat. The rest preferred the broiler chicken because of their availability and their huge amount of flesh. 68% of the consumers preferred Indigenous chicken egg.

Mean price

It was found that price of indigenous chicken meat (Rs. 1050/ kg) was nearly 2 times higher than the price of broiler chicken (Rs. 510/ kg). The results was in accordance with the results by Gueye *et al* (1998) where in his study reported that indigenous chicken meat was 13% and 27% higher in market and supermarket compared to prices of meat from commercial chickens. Mean egg price of village chicken was Rs. 25.50/egg whereas price of layer egg was Rs. 14. 50/egg. This was in accordance with the results in a study by Kyvsgaard *et al.*, where it was found that egg prices were about 30% higher for traditional family based poultry production than the semi-industrial systems in North Western Nicaragua.

Factors affecting the willingness to pay of village chicken

The results of the regression model on the factors affecting the household willingness to pay for the village chicken egg revealed that age of the respondent ($p<0.05$) and education level of the respondent ($p<0.1$)significantly influences willingness to pay. The coefficient of determinant(R^2) is 0.372, suggesting that 37.2% variation in willingness to pay for indigenous chicken egg is accounted for by variations in the selected explanatory variables. On the other hand, consumer willingness to pay for the indigenous chicken was significantly and positively influenced by age and mean household income ($p< 0.05$). This results was consonance with the results of the study of Bett *et al.*, (2013). Coefficient of family size with regard to willingness to pay for village chicken meat was significant and negative at 10% level of confidence, indicating that the higher the family size the lower is the willingness to pay for village chicken meat. Results suggested that the dominance of consumer perception for indigenous chicken and wealthier and older consumers were more likely to pay for indigenous chicken (Table 1).

Conclusion

This study set out to investigate the household willingness to pay for indigenous chicken in Batticaloa municipal area of Batticaloa district.

Table 1: Estimates of the regression analysis results

	Dependent variable	
	Willingness to pay for Village chicken egg	**Willingness to pay for Village chicken meat**
Explanatory variables	**Co efficient (Std. error)**	**Co efficient (Std. error)**
Age of Respondent	0.03 (0.01)**	0.15(0.06) **
Education level of the Respondent	0.25 (0.13)*	2.85 (1.2)
Average Monthly Household Income	1.4	2.6 (1.01)**
Family Size	.02 (0.07)	-3.5 (2.1) *
Constant	17.26 (.78)***	73.71(66.61)***
R squared	0.410	0.43
Adjusted R squared	0.38	0.36

Notes: Standard errors are in parenthesis.
****Significance at 1% level **Significance at 5%level*
**Significance at 10%level*

How much willing to pay

The result of this study showed that the mean willingness to pay of households was Rs 860.00/kg for village chicken meat and Rs. 22.50/egg of indigenous chicken.

Results revealed that despite the high price, majority of the consumers preferred indigenous chicken. Price of indigenous chicken meat was Rs. 1050/ kg, but the consumers were willing to pay Rs. 860/ kg. Mean egg price of indigenous poultry was Rs. 25.50/egg whereas price of

layer egg was Rs. 14. 50/egg. Findings of the study revealed that the significance of age and mean household income in determining consumer willingness to pay for the indigenous chicken positively and family size negatively. Results of the study suggested that the dominance of consumer perception for indigenous chicken and wealthier and older consumers were more likely to pay for indigenous chicken. Therfore, policy instruments should be designed to improve the awareness of households on consumption of harmless food and rearing of indigenous chicken will become as an essential source of income for resource poor families which finally enhance the food security status of households.

References

Alders, R. G. and Spradbrow, P.B. 2001. Controlling Newcastle Disease in Village Chickens: a field manual. Canberra, Australian Centre for International Agricultural Research. Monograph 82. 112pp.

Bett, H. K., K., J.P., U. Nwankwo, W. Bokelmann., 2013. "Estimating consumer preferences and willingness to pay for the under utilised indigenous chicken products. Food Policy, 41(10): 218-225

Dana, N., Dessie T.,Van der Waaij, L.H., Van Arendok, J.A.M., 2010. Morphological features of indigenous chicken populations of Ethiopia. Animal Genetic Resources 46, 11-23

Gueye, E.F., Ndiaye, A., Branckaert, R.D.S., 1998. Prediction of body weight on the basis of body measurements in mature indigenous chickens in Senegal. Livestock Research for Rural Development 10(3)

Kyvsgaard, N. and Urbina, R., 1996. Supplementing poultry diet with tree leaves or seeds: on-farm research in Nicaragua. Livestock Research for Rural Development, 8(1), 82-90.

Wattanachant, S., Benjakul, S., Ledward, D.A., 2004. Composition, color, and texture of Thai indigenous chickens and broiler chicken muscles. Poultry Science 83, 123-128.