

EFFECT OF AGE AND GENDER ON CONSUMER PREFERENCE FOR PHYSICAL ATTRIBUTES OF RICE

S.A.M.H.Senarath¹, G.C. Samaraweera², R. Hafeel³,

^{1,2}Department of Agriculture Economics and Extension, Faculty of Agriculture, University of Ruhuna, Sri Lanka

³Rice Research Station, Ambalantota, Sri Lanka.
samhsenarath@gmail.com , *gangani@agecon.ruh.ac.lk*

ABSTRACT: Rice is a major food in Sri Lankans diet. Different physical attributes of rice are available for human consumption in Sri Lankan market. Physical attributes of rice are related with rice consumption and they might affect on consumer preference. Therefore, this study was conducted to study consumer preference for different physical attributes of rice. Main physical attributes; rice pericarp color, rice grain size and degree of milling were used in this study. Age and gender were considered as main socioeconomic characteristics in this study. A questionnaire survey was carried out by using a purposively sample of 100 consumers in Hambantota administrative complex. The ranking score method and Chi-square test were used for analyzing. The results indicated that based on gender and age categories, most preferred rice pericarp color was red rice. Study reveals that based on gender and age categories, partially-milled rice was the most preferred and long slender (Basmati) was the most preferred rice and short round (Samba) was significant based on age. Overall, based on gender and age of consumers, study recommends red color, long slender, partially-milled rice for Hambanatotota district.

Keywords: Consumer Preference, Rice Pericarp Color, Rice Grain Size, Degree of Milling

INTRODUCTION

Rice (*Oryza sativa L.*) Is the oldest agricultural crop in Sri Lanka (Department of Agriculture, 2008-2010). Rice is the staple food in Sri Lanka and it is important as main convenient meal in almost most of Sri Lankans. Presently, annual rice consumption has already achieved self-sufficient status(Agriculture and environmental statistics, 2010).

The rice consumption in Sri Lanka is varying with consumer preference for different attributes of rice. The preference for different attributes of rice may vary with age, gender, income, house hold number, education level, nationality, race and socioeconomic status, etc (Tengpongsathon and Nanthaicahi, 2006). Different rice types, quality characteristics, product characteristics, physical characteristics, chemical characteristics of rice and experience characteristics of consumer are some factors that can be affecting for consumer preference (Rosa et al, 2016).

Different physical attributes of rice are available. But three physical attributes of rice; rice pericarp color, rice grain size and degree of milling were indicated for this study. Mainly two rice pericarp colors are highly available, red and white. Different degrees of milling level; less- milled rice, partially- milled rice and intensively- milled rice were considered for this study. Also based on different rice grain size mainly four rice types were indicated; short round, intermediate bold, long medium and long slender. Samba was indicated as short rounded grain rice, Nadu was indicated as intermediate bold grain rice, Kora was indicated as long medium grain rice and Basmati was indicated as long slender grain rice.

The present study aimed to identify the consumer preference for different physical attributes of rice. (rice pericarp color, grain size of rice and degree of milling).

METHODOLOGY

Hambantota administrative complex which is in Hambantota division, Hambantota district and most of government institution are housed within the same premises. This complex was selected for considering easy access to the respondents. Purposive sampling method was used as the survey design. A purposive sample of 100 respondents was selected in Hambantota administrative complex from inside workers and outside comers. In order to achieve the objective of the study; identify the consumer preference for physical attributes of rice, the relevant data and information were collected through primary and secondary sources. Primary data were obtained by distributing the questionnaires. The set of questionnaire had two sections. Section one consists of consumers' socioeconomics characteristics such as age, gender, etc. Section two deals with 3 questions regarding the consumer preference for physical attributes of rice and it is contained, consumer preference for which rice pericarp color (red, white), different grain sized rice (short round- Samba, intermediate bold- Nadu, long medium- Kora and long slender- Basmati) and different level of degree of milling (less-milled rice, partially- milled rice and intensively- milled rice).

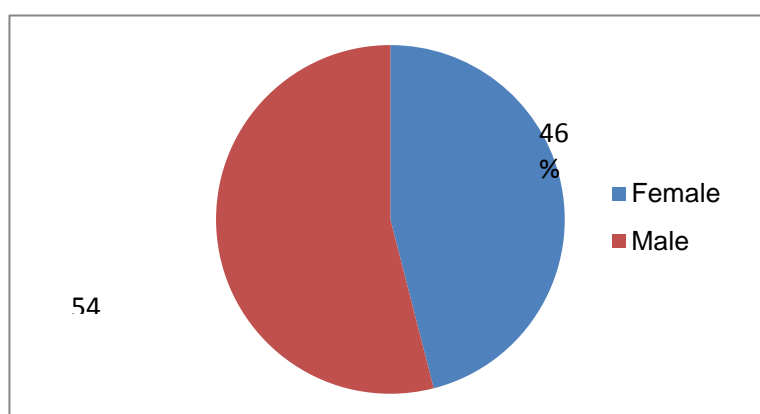
Secondary data were collected from books, related journals and from internet.

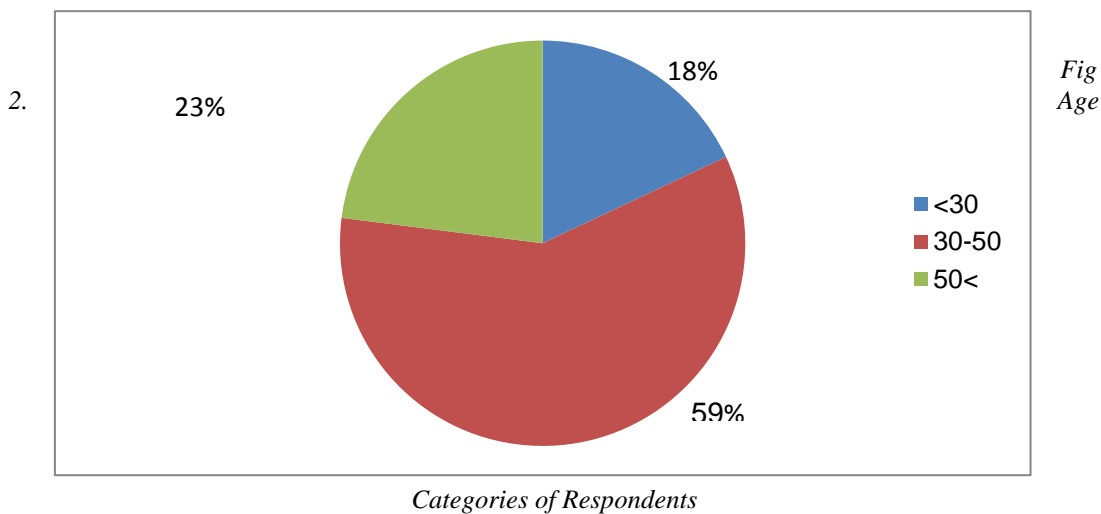
Data processing and analysis was done by different analysis methods. Chi- square test, ranking score method and descriptive analysis were used for analysis. In preference ranking analysis, the score assign to the rank order of preference was in the ratio 3:2:1 for the 1st, 2nd and 3rd ranks respectively. Chi-square test were used for identify significant of the four grain sized rice.

RESULTS AND DISCUSSION

Socio-economic characteristics of respondents

Fig 1. Gender Categories of Respondents





One hundred respondents made up of 46 female and 54 male took part in the survey (Fig 1).

Respondents were categorized (Fig 2) under main three age categories; below 30, 30 to 50 and above 50. Respondents made up of 18 below 30, 59 respondents are between 30 -50 and 23 respondents are above 50.

The consumer preference for different physical attributes of rice (Rice color, grain size of rice and degree of milling).

In considering consumer preference for physical attributes of rice it was seen under this objective. The preference for rice color was shown in Figure 3. It gives the respective percentage under gender. Female has higher preference (34%) for only red rice than male. Also female has high preference for only white rice (6.5%). However, male has no preference for only white rice in this sample.

Fig 3. The Preference for Rice Color under Gender

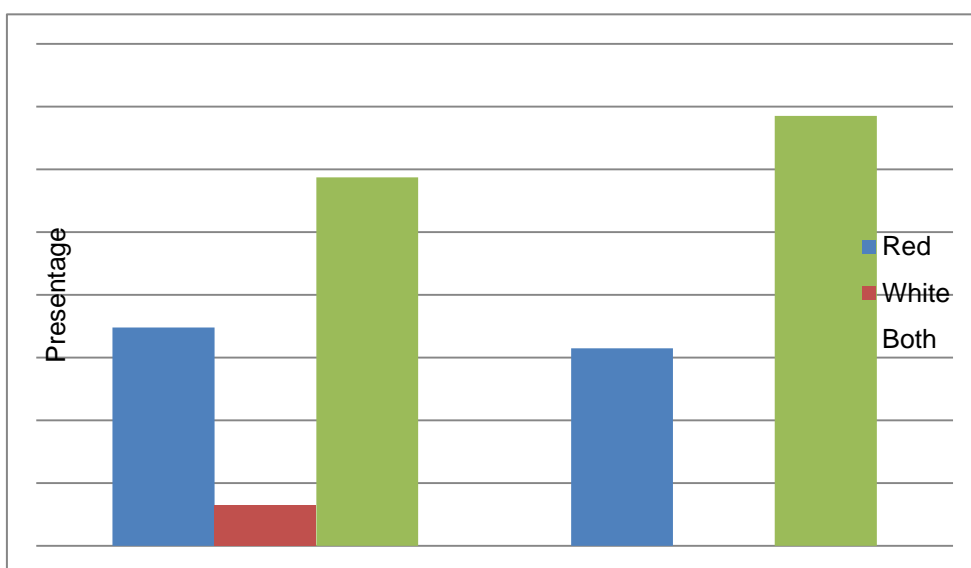
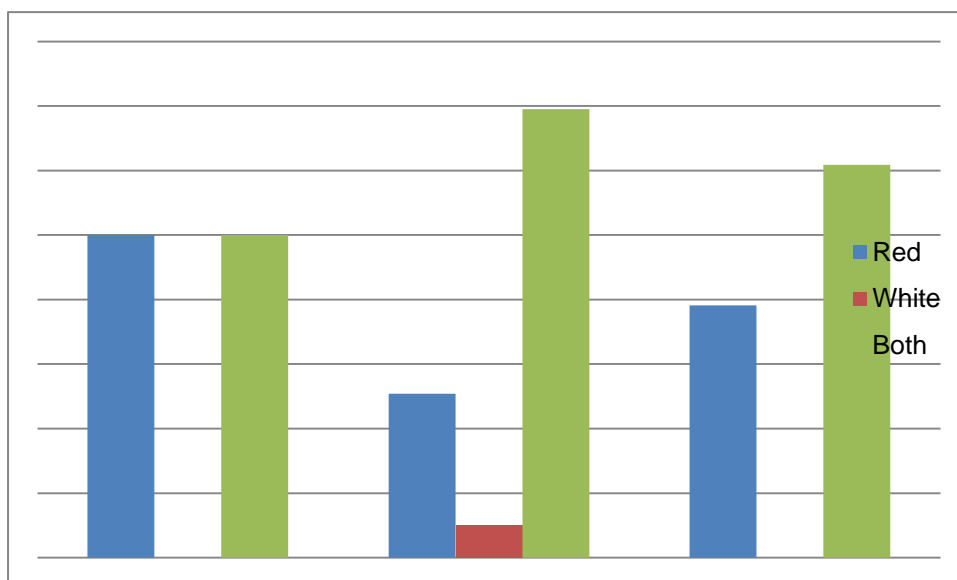


Figure 4 gives the distribution percentage under different age categories; below 30, 30 – 50, and above 50. Respondents, below 30 have 50% preference for only red rice and have no preference for only white rice. Respondents who are in age 30-50 have high preference (69.5%) for both red and white rice and low preference for only white rice (5.1%). Also respondents, above age 50 have high preference for both red and white rice and have no preference for only white rice.

Fig 4. The Preference for Rice Color under Different Age Categories



Therefore, by considering three age categories, age below 30 respondents have high preference for only red rice. The age 30–50 have high preference for both red and white (69.5%).

Considering the population as a whole, the district preference for only red color (33%) and only white color rice preference is 3% of total population. 64% of population prefer for both white and red color rice.

The next investigation was to see the preference for different grain sized rice. The four type of different grain sized of rice were analyzed the order of preference were obtained as used by the past literature (Breckenridge et al., 1979). In this analysis first three preference ranked order was preferred different size of rice grain are given in Table 1. For example, the figure 51 in the second row of the table indicates that 51 people gave short round (Samba) as the second preference of consumers.

Table 1. Consumer Preference for Different Grain Size of Rice - Rank Order Classification

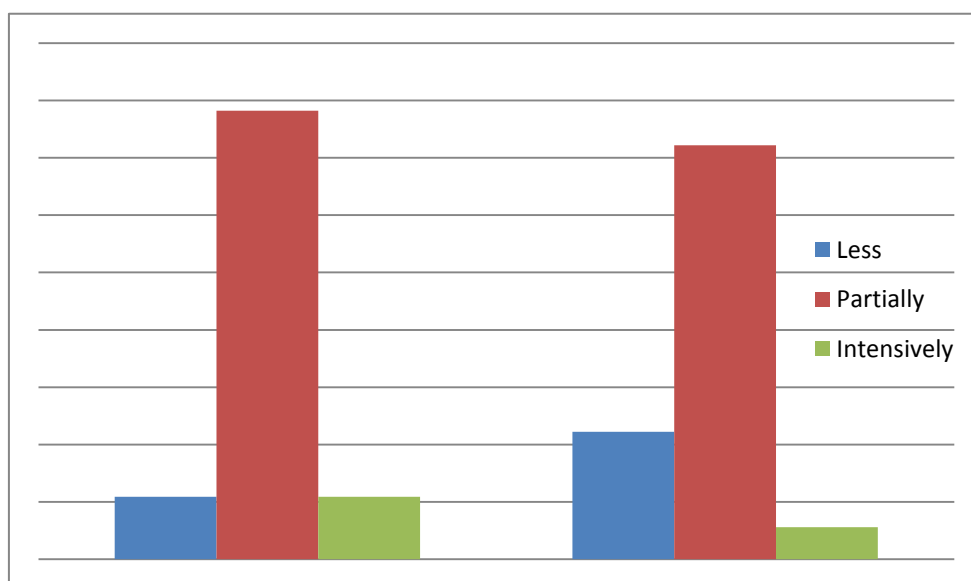
Preference	Rank Order		
	1st	2nd	3rd
Short rounded (Samba)	29	51	10
Intermediate bold (Nadu)	14	8	32
Long medium (Kora)	1	3	10
Long slender (Basmathi)	50	28	6

In order to compare the relative merits of the four different grain size rice, scores have been assigned for their ranks and the weight of sum of frequencies were found; this sum being the final score. The scores, calculated for each type of rice is presented in Table 1.

It is clear that long slender rice (Basmati) has the higher score among four types of different grained size rice. The second preference rice type is short rounded grain size rice (Samba). Third preference of intermediate bold (Nadu) was given.

The next point to be analyzed was the consumer preference for different level of degree of milling. This was studied by considering three main categories, less-milled rice, partially milled rice and intensively milled rice. Figure 5 gives the corresponding percentages under gender. Also considerable proportion of female (78.2%) was preferred for partially milled rice and same preference for intensively milled rice and less- milled rice.

Fig 5. Preference for different degree of milling rice under gender

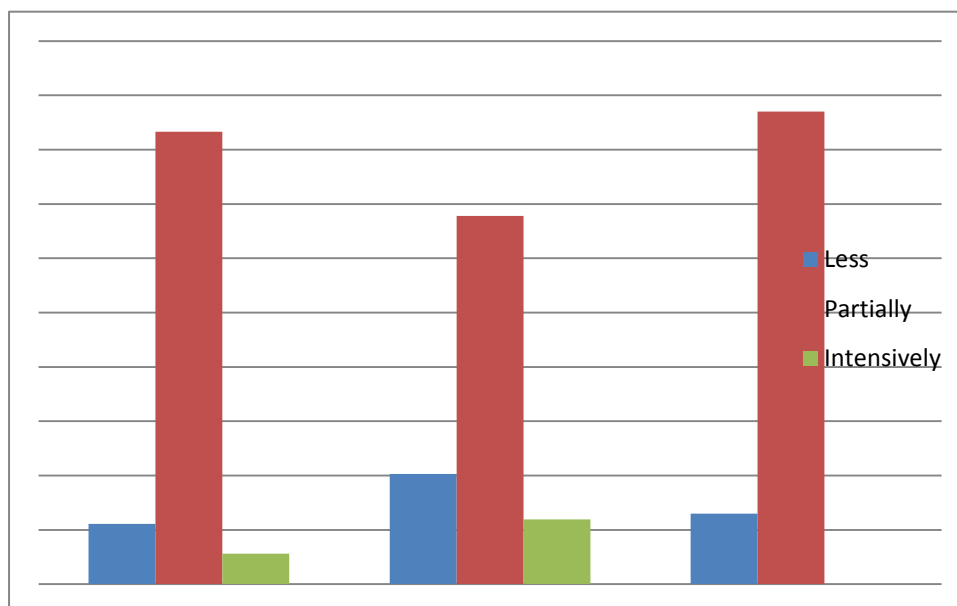


By considering gender, male also has high preference for partially-milled rice. Male has high preference (22.2%) for less milled rice than female. But female has high preference (10.9%) for intensively-milled rice than male.

By considering different age categories (Fig 6), each age categories 1st preference was partially-milled rice. Respondents, age 30-50 have high preference for less-milled rice (20.3%) than other two age categories. Age above 50, has no preference for intensively-milled rice.

Considering the proportion as whole (Fig 6), the district preference for partially-milled level (75%) was most preferred level degree of milling level and second preferred milling level was less-milled rice.

Fig 6. Preference for different degree of milling rice under different age categories



CONCLUSION

The final conclusion with respect to preference shown by each category as whole population, the highest preferred rice pericarp color was red rice and highest preferred degree of milling level was partially- milled rice. Red color, long slender, partially-milled rice is the most preferred rice type in Hambanatotota district.

REFERENCE

- Agriculture and environmental statistics of Sri Lanka (2010), department of census and statistics, Sri Lanka. [Online], Available: <http://www.statistics.gov.lk/agriculture/Paddy%20Statistics/PaddyStatsPages/SelfsufficiencyRateofRice.html> [29 September 2016]
- Anang, B.T, Adjetey, S.N. & Abiriwe, S.A., 2016. Consumer Preferences for Rice Quality Characteristics and the Effects on Price in the Tamale Metropolis, Northern Region, Ghana. *International Journal of AgriScience*, Vol. 1(2)(January 2011), pp.67–74.
- Article of rice quality factors [Online], Available: <file:///E:/4-2%20Research/references/Reference%20articles/google%20articles/Quality%20factors%20-%20Ricepedia.html> [30 August 2016]
- Article of rice sector development in Sri Lanka (2008), Department of Agriculture, [Online], Available: http://www.doa.gov.lk/index.php/en/images/stories/site/PDF/Projects/AWRN/Rice_AWRN.pdf [25 September 2016]
- Asante, M.D. et al., 2013. Farmer and consumer preferences for rice in the Ashanti region of Ghana : Implications for rice breeding in West Africa. *Journal of Plant Breeding and Crop Science*, 5(12), pp.229–238.

- Azabagaoglu, M.O. & Gaytancioglu, O., 2009. Analyzing consumer preference to different rice varieties in turkey. *Agricultura Tropica ET Subtopica*, 42(3), pp.118–125.
- Breckenridge, C, Hussein, S, Kularatne, A.G, Abeyasekera & Nadesan, M.T., 1979. Survey to determine Rice Consumer Preference in the Kandy District. *Tropical Agriculturist*, Vol. cxxxxv (1979)
- Breckenridge, C., 1979. Rice grain evaluation in srilanka. *Proceeding of the workshop on chemical aspects of rice grain quality, International Rice research institute, Manilla*, pp.175–181.
- Metropolis, T. & Region, N., 2016. Consumer Preferences for Rice Quality Characteristics and the Effects on Price in the. *International Journal of AgriScience*, Vol. 1(2)(January 2011), pp.67–74.
- Tengpongsothon, K, Nanthaicahi, K, Mason, R, Rimkeeree, H., 2006. Consumer preference of rice-based products: cross cultural study between Thailand and Australia. *Journal of Agricultural Technology*, 2(2), pp. 137–153.
- Walisinghe, B R & Gunaratne, L.H., 2012. Consumer Preferences for Quality Attributes of Rice: A Conjoint Analysis. *Sri Lankan Journal of Agricultural Economics*, 10, p.pg 19-30.