

# Determine Consumer Preference for Rice Types in Hambantota District, Sri Lanka

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**Abstract:-** Rice is a major food in Sri Lankans diet. Different types of rice are available for human consumption and rice types are related with rice consumption in Sri Lanka. Rice type can be described based on mainly quality characteristics, physical characteristics and chemical characteristics of rice. Therefore, this study was conducted to determine consumer preference for rice type in Hambantota district, Sri Lanka. Main three physical attributes and two rice types were used for this study. Physical attributes of rice such as rice color, rice grain size, and degree of milling were considered for the study. Main rice types considered were raw rice and parboiled rice. A questionnaire survey of consumer preference for rice was carried out by using a purposively sample of 100 consumers in Hambantota administrative complex considering the easy access to respondents with different occupation categories. Data analysis was done by using preference ranking methods. Moreover, Chi-square test was used for identify the significant of characters. The study revealed that consumers' most preferred rice color was red color rice. Based on rice grain size long slender (Basmati) was the most preferred. The majority (75%) of consumers preferred partially-milled rice. Raw rice had higher preference. Therefore, according to the present study, the most preferred rice types were long slender (Basmati) rice and partially-milled red color raw rice in Hambantota District, Sri Lanka.

**Key words:** Consumer preference, Raw rice, Parboiled rice, Rice color, Rice grain size, Degree of milling

## I. INTRODUCTION

Rice (*Oryza sativa L.*) is the main agricultural crop in Sri Lanka. Rice is the staple food in Sri Lanka. It is important as main convenient meal in almost most of Sri Lankans. Present rice production has already achieved self-sufficient status (Walisinghe and Gunaratne, 2012).

The rice consumption of consumers is varied with consumer preference for different types of rice and different attributes of rice. The preference of consumer may depend on socio-economic characteristics such as age, gender, income, house hold number, education level, nationality, race and socioeconomic status, etc (Tengpongsothon and Nanthaicahi, 2006).

Mainly different types of rice are available. In this study, raw rice and parboiled rice are considered. Physical attributes of rice were also indicated for this study. Physical attributes of rice are referred as grain length, stickiness, aroma, texture, flavor and price (www.ricepedia.com). Physical attributes of rice; rice color, rice grain size and degree of milling level were considered for the study.

Table 1 Selected attributes and their levels

Attributes	Levels
Rice color	Red
	White
Rice grain size	Short rounded (Samba)
	Intermediate bold (Nadu)
	Long medium (Kora)
	Long slender (Basmati)
Degree of milling	Less-milled rice
	Partially-milled rice
	Intensively-milled rice

Rice production in Sri Lanka is mainly concentrated on increasing rice production and produce rice varieties which give maximum yield. But low attention is given for the consumer preference. Therefore compatibility of consumers' preference and his rice consumption is questionable.

The objectives of this study is,

1. To find the consumer preference for different physical attributes of rice.
2. To identify the consumer preference for different types of rice.
3. To suggest recommendation to uplift the local market of rice in Hambantota district, Sri Lanka.

This study is appropriately needed to identify the consumer preference and expectations for rice consumption. It is important to producers and marketers to enhance their rice production and rice contribution to the market according to the requirement of preference of consumers. Especially, it is inspire to approach to rice variety improvement based on rice attributes which are preferred by consumers in Hambantota district.

## II. MATERIALS AND METHODOLOGY

A survey of consumer preference will be carried out in Hambantota district, Southern province, Sri Lanka. Hambantota administrative complex which is in Hambantota division, Hambantota district and most of government institution are housed within the same premises was chosen as purposively. Hambantota administrative complex was selected by considering easy access to the respondents with different occupation categories. In this research, purposively sampling

method will be used as survey design. The consumer preference study will be conducted among adult rice consumers (Above age 18) since they could make own decision for selecting a rice based on their preference. A purposively sample size of 100 will be used for the study. 100 respondents will be selected in Hambantota administrative complex from inside workers and outside comers.

In order to achieve the objective of the study the relevant data and information were collected though primary and secondary sources. Primary data were obtained by distributing the questionnaires.

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

Data processing and analysis was done by using ranking method and Chi- square test was used for identify the significant. In 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 (Breckenridge, et al 1979).

$$\frac{(3f_{i1}+3f_{i2}+3f_{i3})}{6}$$

Where  $f_{ij} = [(i= 1, 2, \dots, n) : (j= 1, 2, 3)]$ , is the frequency for rank 'j' corresponding to attributes number 'i' (Breckenridge, C, 1979).

### III. RESULTS AND DISCUSSION

#### Socio-economic characteristics of respondents

Figure 1 The characteristics of respondents based on Occupations

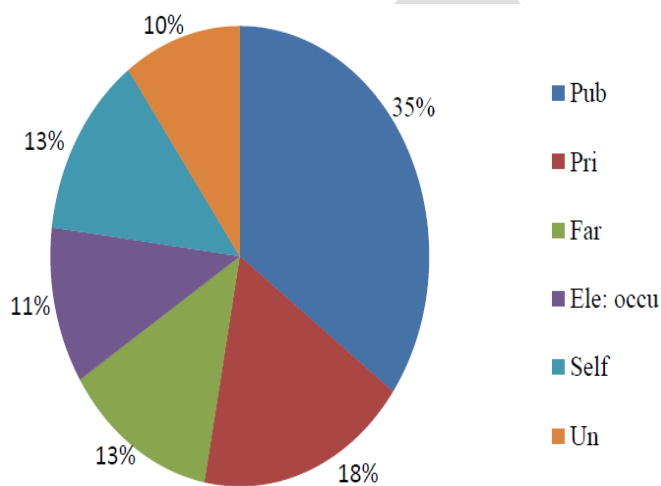


Figure 1 showed that there were majority of respondents (35%) were public workers, Second portion of respondents (18%) were private workers, both farmers and self-employed occupation categories had same portion (13%) of population.

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

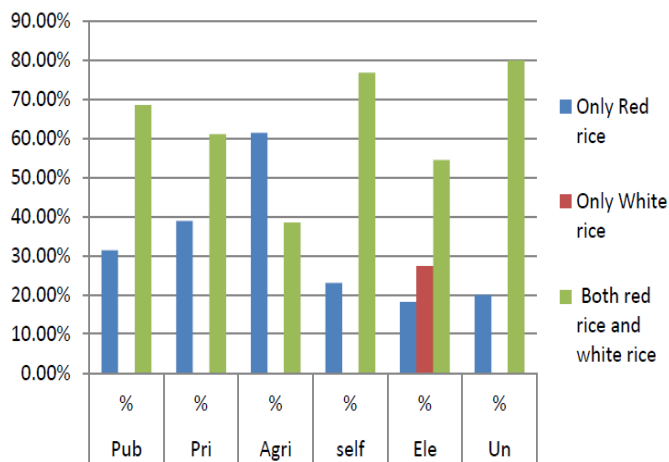


Figure 2 Consumer preferences for rice color classified under different occupation

Figure 2 gives the corresponding distribution together with the respective percentage under different job categories. Red color rice against white color rice was clearly seen red color rice (33%) is the most preferred rice color (33%). 64% of population, they prefer both red and white rice.

In order to compare the relative merits of the four different grain size rice, scores have been assign for their ranks and the weight of sum of frequencies were found; this sum being the final score.

This 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 (Breckendrich et al., 1979). In this analysis first three preference ranked order was concerned.

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	08	32
Long medium (Kora)	01	03	10
Long slender (Basmati)	50	28	06

The results corresponding to people who preferred different size of rice grain are given in Table 1 For example, the Table 1 in the second row of the table indicates that 51 people gave short round (Samba) as the second preference of consumers. The scores, calculated for each type of rice are 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.

Chi-square test showed that these characteristics were not significant,

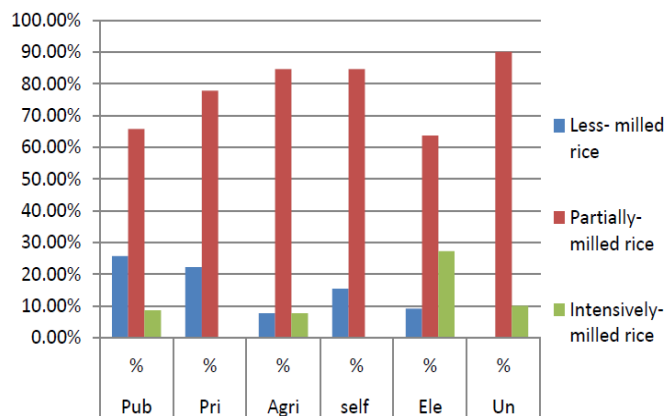


Figure 3 Consumer preferences for different level of degree of milling under different occupation

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 3 gives the corresponding frequencies and percentages. It was clearly seen that a considerable proportion of population prefers for partially milled rice (75%).

To identify the consumer preference for different types of rice (raw rice and parboiled rice)

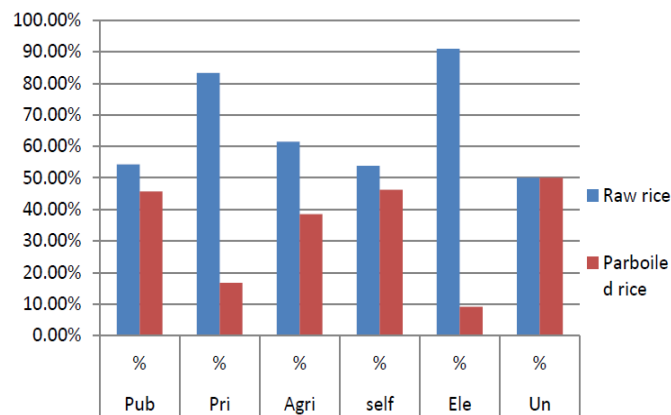


Figure 4 Consumer preferences for different type of rice

The rice type preferred when selecting rice for daily consumption. Figure 4 gives a classification for preference between raw rice and parboiled rice. It shows that with each occupation groups, raw rice was the first choice. Parboiled rice was the second choice.

#### IV. CONCLUSION AND RECOMMENDATIONS

The study found that, of the selected rice attributes and rice types, consumers preferred rice color was red color rice than white color rice. The majority of consumers preferred partially- milled rice. Raw rice had higher preference compared to parboiled rice. Therefore, most common rice type was partially-milled red color raw rice. Long slender (Basmati) had high preference compared to Samba, Nadu and Kora because of its grain size. Therefore, study recommends of producing partially-milled red color raw rice for the consumers in Hambantota district, Sri Lanka.

The findings from this study are useful for the rice producers and sellers who are from Hambantota District to recognize to consumer expression about their preference. Also it will inspire to approach to rice variety improvement and technological improvement in Hambantota District. Also these findings are important to international rice exporters who export rice to Sri Lanka.

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