**HOUSEHOLD PREFERENCES FOR PROCUREMENT OF RICE CONSUMPTION IN MAKASSAR CITY,**

**INDONESIA**

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***Abstract***

Advances in technology in production, rice processing, and community welfare are changing consumer behavior. The purpose of the study is to analyze consumer preferences in rice procurement. This study was conducted in the city of Makassar, South Sulawesi Province with a survey method on 60 households of respondents who were randomly selected in three residential clusters, namely housing complexes, suburban areas, and the middle of the city. The data analyzed is based on the income level of the household. There are two groups of a factor in rice procurement, rice properties and buying methods. Rice properties consist of, characteristics, varieties, buying preferences, and packaging sizes. The buying process consists of methods, buyers, places, sellers, and information sources for rice procurement. The data is analyzed by using the descriptive method and presented on the frequency table matrix. The results showed that households buy rice with considerations, such as variety, price, and buying habits. While the purchase method is carried out either by the wife or husband, packaging 10-25 kg, and shopping at traditional markets and small groceries for low-income households. In contrast, supermarkets and small grocery places are chosen as places to shop for rice for high-income households. The source of information about the quality and price of rice is obtained at the place of purchase. The ease of obtaining rice is affected by packaging, place of purchase, and quality information are factors that must be considered in the development of rice marketing in the city.

**Keywords**: nature of rice; method of purchase: purchasing preferences

**INTRODUCTION**

 Rice is the staple food of the Indonesian nation and is among the countries with the highest per capita rice consumption after Vietnam (Darma et al, 2020). Advances in rice production and processing technology are changing household behavior both in rice procurement and rice consumption in the level household. Various varieties are produced from research with yield processing technology so that the rice produced has high quality and variety. In addition, the increasingly advanced marketing system, provides many choices for consumers, both from taste, price, supply, and rice procurement methods to meet household consumption needs. Changes in production technology, processing, and marketing systems that create convenience also have an impact on consumer behavior.

 One form of consumer behavior in rice consumption is consumer preference in the procurement of rice for household consumption (Ehiakpor et al. 2018). Many rice marketing studies have addressed the demand for characteristics of rice (Custodio et al. 2019),(Takeshima and Sheu n.d.),(Bairagi 2017), (Metropolis et al. 2014)(Aoki et al. 2019), consumer preferences in rice consumption (Nurmalina and Astuti 2012),(Murti, Aji, and Widodo 2010),(Metropolis et al. 2014), (Rutsaert, Demont, and Verbeke 2013), including market integration and marketing efficiency(Mada 2018)(Lwin 2017)(Science 2021).

 This study discusses methods of procuring rice for household consumption based on consumer preferences. Household preferences in rice procurement are part of consumer behavior in consuming rice. Consumer preference for the procurement of household rice discusses the reasons households choose the properties of rice (property) and the method of purchase made. All these reasons and household income levels affect consumer behavior in rice procurement. The results of the research are expected to be valuable information on the development of marketing systems to meet the needs of consumer households. In addition, the development of the distribution industry is increasingly innovative in meeting consumer relations.

**RESEARCH METHODS**

The effect of the community on consuming and holding rice methods changed over time with progress in various fields. The change consists of three aspects. First, changes on the consumer side include the improvement of the total population, increased income, and increased public knowledge. Second, improved rice production and processing technology that produces quality variations. Third, is the advancement of marketing systems that create convenience for consumers to get rice. These three changes boil down to consumer preferences in rice procurement.

**Research Location and time**

 This study was conducted in the city of Makassar, South Sulawesi Province with a survey method on 60 respondent households in 2020.

**Data Types and Sources**

 Respondents were selected from three residential clusters, namely housing complexes, urban suburbs, and urban centers The data used are primary data and secondary data. primary data obtained by in-depth interviews with household consumers. secondary data obtained from BPS, books, and journals. Respondents were selected from three residential clusters, namely housing complexes, urban suburbs, and urban centers.

**Data Analysis**

 The data analyzed is the income level of households classified into three categories, low, middle, and high incomes. The category of exposure as an analysis framework with factors that affect households in rice procurement. The method of categorizing income is sorted from the lowest income to the highest income of the selected respondent, then ordered from the first to twenty as low income, the twenty-first to the 40th order classified as middle income, and the order of forty-one to sixty including high income. There are two groups of a factor in rice procurement, rice properties and the buying process. Rice properties consist of, characteristics, varieties, buying preferences, and packaging sizes. While buying process consists of the buying method, the buyer on procurement, the buying site, and seller, and information sources for rice procurement. Data is analyzed by using the descriptive method and presented on matrix table frequency.

**RESULTS AND DISCUSSIONS**

**Study Site**

 Makassar city is the capital of South Sulawesi province, including one of the metropolitan cities in Indonesia. The third-largest city in Indonesia after Jakarta and Surabaya. The total population of Makassar City is 16.83 percent of the total population of South Sulawesi 8,771,970 in 2018. Makassar is a gateway in eastern Indonesia and becomes a destination city for residents of South Sulawesi both South Sulawesi and those overseas.

Table 1. Area, number of inhabitants, number of poor people, Raskin beneficiary, and government area

|  |  |  |
| --- | --- | --- |
| No. | Description |  |
| 1. | Area | 175.77 km2 |
| 2. | Population | 1,476,282 people |
| 3. | Number of households | 341,460 Households |
| 3. | Number of poor people | 66,220 people |
| 4. | Number of poor rice recipients (Raskin) | 30,401 people |
| 3. | Number of sub-districts | 15 |
| 4. | Number of villages | 153 |

Source: Makassar City in Figure 2019, Beureu Statistics Center, BPS Makassar city.

 Makassar city is a city with a high population density of 8,399 people per square km. The number of poor people is 66,220 people or about 4.41 poor people in South Sulawesi. Of the poor population, 341,460 people received Raskin rice or about 45.91 percent of the total poor population or 2.06 percent of the total population of Makassar City in 2018. It is estimated that the number of rice needs every day in Makassar City is 51.26 tons every day with the per capita rice consumption rate being about 125 / kg per year, not including the need for food from rice.

**Rice Properties (Properties of rice)**

 Rice properties consist of, characteristics, varieties, and buying preferences. All these properties are indoctrinated to affect the procurement of household consumption rice. Rice has different qualities so the price varies. Varieties that reflect many characteristics and at the same time the quality of rice, so it becomes a reference for most consumers in buying. In addition, the price is also a reflection of the quality of rice. Variety becomes the main reference for consumers buying rice, then followed by the price of rice.

Table 2. Number of households with rice properties and income level in rice procurement

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Rice properties | Low income | Middle income | High income | Average |
| Taste (pull, aroma, color)  | 0.00 | 20.00 | 5.00 | 8.33 |
| Purchasing sites | 20.00 | 15.00 | 15.00 | 16.67 |
| Rice varieties | 70.00 | 50.00 | 20.00 | 46.67 |
| Rice prices  | 10.00 | 15.00 | 60.00 | 28.33 |
| Entire | 100.00 | 100.00 | 100.00 | 100.00 |

 Table 2 shows that about 75 percent of varieties and prices influence consumers in buying rice. For low incomes, more use varieties as a reference in buying rice, on the contrary, the price of rice is the main reference for households with high incomes. The price of rice is a reference for the latter group because the price of rice is very related in quality. Most of the population, especially those with high standards do not understand the quality, so the expensive price of rice is used as an assessment to considered rice that has high quality. Each variety of rice has its characteristics and has implications for quality and price. There are about four varieties that are widely known in the city of Makassar. However, known varieties are mostly found in the modern market because they are equipped with good packaging and complete information, including the name of the variety of rice. In terms of many varieties that are also known in Makassar such as Ciliwung, Ciherang, IR64, and so on. However, both of these varieties are mostly sold in traditional markets that are rarely labeled. There are half of the households buy rice with known varieties and the rest do not know the varieties of rice their purchased.

Table 3. Number of households with a preference for rice varieties and income levels in rice procurement

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Variety | Low income | Middle revenue | High income |  Average |
| Ciherang | 5.00 | 15.00 | 0.00 | 4.84 |
| Scented look | 10.00 | 20.00 | 0.00 | 9.68 |
| Cianjur | 10.00 | 5.00 | 0.00 | 6.45 |
| Rojolele | 5.00 | 15.00 | 10.00 | 8.06 |
| Other varieties | 35.00 | 15.00 | 10.00 | 20.97 |
| Don't know | 35.00 | 30.00 | 80.00 | 50.00 |
| Entire | 100.00 | 100.00 | 100.00 | 100.00 |

 Table 3 shows that about 50 percent of the population knows exactly the varieties of rice consumed. Of the five varieties known exactly by about 29 percent of households, and about 21 percent by other varieties. Three varieties tend to be imported from outside South Sulawesi, namely Pandang Wangi, Cianjur, and Rojole. The rest are varieties that are widely grown in South Sulawesi, such as Ciherang, Ciliwung, Celebes, IR64, IR42, and so on.

 Almost all residents in the city consume rice by buying or a small part of the population whose rice is imported from the village. This second group of households has rice fields in the village and has its preferences by consuming rice from its land products. Most households buy rice in the same place, especially residents with low incomes, while high-income households, tend to buy rice that has properties with low consumption levels. The latter group tends to reduce rice consumption because it wants to reduce carbohydrate consumption from rice.

Table 4. The number of consumer households based on buying preferences and income levels of rice procurement consumption

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Preference component | Low income | Middle revenue | High income | Average |
| Eligible purchases | 0 | 21.05 | 5.88 | 8.98 |
| Priced | 15.38 | 10.53 | 15.65 | 13.85 |
| Regular purchases | 69.23 | 47.37 | 17.65 | 44.75 |
| More surprising (Small number in consumption) | 11.54 | 15.79 | 54.71 | 27.35 |
| Other | 3.85 | 5.26 | 5 | 4.70 |
| Entire | 100,00 | 100,00 | 100,00 | 99.63 |

 Table 4 shows that the price of rice is not the main consideration in buying rice. This shows that rice is a basic household necessity and the amount cannot be reduced even though the price of rice increases. Rice as a basic necessity, has a low elasticity of demand or is very inelastic. About 55 percent of households are already concerned about low levels of per capita consumption. This data shows that there is already a downward trend in rice consumption per capita in urban areas and began to follow the pattern of rice consumption of residents of developed countries, such as Japan. About 69 percent of low-income people buy rice in the same place. This group has found a place to buy with quality assurance and price according to its preferences.

**Procurement Methods**

 Rice is a basic household needs, rice procurement tends to be routine and patterned. Half of the households buy rice in planned form and other also in the form that has been patterned or as usual condition. Both of these methods can be taken as established patterns.

Table 5. Number of households based on the characteristics of rice purchase in rice procurement

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Buying methods  | Low income | Middle revenue | High income |  Middle |
| With planning | 65.00 | 45.00 | 35.00 | 48.33 |
| Permanent pattern  | 30.00 | 55.00 | 65.00 | 50.00 |
| Incidental  | 5.00 | 0.00 | 0.00 | 1.28 |
| Entire | 100.00 | 100.00 | 100.00 | 99.62 |

 Table 5 shows that the procurement of rice for households by planning or had been taking place regularly. There is only 5 percent of households think they have bought rice incidental, meaning it depends on the needs and sustainability of rice procurement. Rice procurement in low-income groups is done by planning, on the contrary for high-income households, the procurement system has been patterned. For example, high income household already having a subscription for fulfil their rice needs that is simply booked and delivered. The procurement of rice is not like other daily consumption goods. The mass of rice is heavy, making it necessary for its procurement and planning methods for households.

 Shopping for household needs can be done by all household members who are grown up, but dominantly in the procurement of rice were did by wives. Family members who shop for rice are more varied in low-income households than in high-income households. There is a slight tendency for wives who are more dominant in rice shopping compared to husbands. This is because the quality of rice is the main consideration and wife is better known the quality of rice, either in terms of brand, variety, or place to buy. Moreover, mostly wives comprehend the ins and outs of cooking in the kitchen, including cooking rice.

Table 6. Number of households by the buyer for rice procurement

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Rice buyers | Low income | Middle revenue | High income | Middle |
| Husband | 40.00 | 20.00 | 0.00 | 19.84 |
| Wife | 40.00 | 45.00 | 55.00 | 48.82 |
| Parents | 10.00 | 15.00 | 10.00 | 11.75 |
| Child | 5.00 | 10.00 | 5.00 | 6.75 |
| Servant | 0.00 | 5.00 | 30.00 | 9.80 |
| Other | 5.00 | 5.00 | 0.00 | 3.04 |
| Entire | 100.00 | 100.00 | 100.00 | 100.00 |

 Table 6 shows that 40-55 percent of household members have wives to do rice purchase, especially in high-income households. It is different from the group of low-income families which is balanced between wife and husband as rice buyers, with 40 percent each. About 19 percent the purchase did by other family member nor husband or wife, such as parents of wives or husbands, housekeepers, and others. The virtues of packaging technology and rice information related to quality. There is a straight comparison between income and the size of rice packaging. There is a directly proportional relationship between income level and rice packaging size. The higher the household, the larger the rice packaging purchased. Rice packaging that many consumers like is packaging between 10-25 kg.

Table 7. Number of households based on packaging size and income in rice procurement

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Package size  | Low income | Middle revenue | High income |  Average |
|  < 5 kg | 25.00 | 10.00 | 0.00 | 11.67 |
| 5-10 kg | 35.00 | 20.00 | 20.00 | 25.00 |
| 10.1-25 kg | 40.00 | 70.00 | 80.00 | 61.67 |
| > 25 kg | 0.00 | 0.00 | 0.00 | 0.00 |
| Entire | 100.00 | 100.00 | 100.00 | 98.33 |

 Table 7 shows that there are about 60 householders who have low incomes with rice procurement with 10 kg or less packaging. In contrast, there is about 62 percent of households procure rice with packaging above 10 kg. No household buys rice with packaging above 25 kg. Rice that is stored for a long time, tends to experience changes in taste and decreased quality. Household preferences against the presence of rice at a certain size, are strongly associated with heavy rice mass, so the procurement is not a day, or a week, but tends to be only once a month. Rice that has problems circulating in the market, especially in modern and traditional markets, there are 2kg, 5 kg, 10 kg, 20 kg, and 25 kg. Especially bulk rice is only found in traditional markets or small groceries. This factor makes consumers not buy rice in packaging or rice volume of more than 25 kg. The implication of packaging or bulk rice available in modern and traditional markets is to influence the consumer's household inference to the frequency of rice procurement. Most consumers buy rice two and three times a month, both low-income households, middle, and high, but are nominated by households who buy rice three times a week.

Table 8. The number of households based on purchase frequency and income level in rice procurement

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Frequency procurement  | Low income | Middle revenue | High income |  Average |
| In a month | 0.00 | 5.00 | 10.00 | 4.84 |
| Twice a month | 20.00 | 32.00 | 25.00 | 24.19 |
| Three times a month | 80.00 | 58.00 | 65.00 | 69.35 |
| More than three times a month  | 0.00 | 5.00 | 0.00 | 1.61 |
| Entire | 100.00 | 100.00 | 100.00 | 99.99 |

 Table 18 shows that there is an inverse trend of households buying higher-frequency rice with low incomes, particularly at a frequency of three times a month. Instead, it is straight on the frequency of rice procurement for a month with the level of income. The place of purchase of consumer household rice is varied based on income level. Low-income households tend to buy rice at traditional markets and small groceries. The place of purchase of rice with the frequency of rice purchases has something to do with the income level of consumer households. Low-income households tend to buy rice in small stores and traditional markets a frequency of three times a month (Table 8). Small stores and traditional markets are the easiest places to buy rice with an amount depending on the needs because there is bulk rice available, usually, the volume is less than 5 kg. In addition, low-income households prefer to shop at the small grocery because it is located near their homes or in traditional markets. After all, there are complete daily necessities other than rice at a cheaper price than in supermarkets. At the time shopping at the traditional market usually at the same time buy rice.

Table 9. Number of households based on the location of purchase for rice procurement

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Sellers or buying a site | Low income | Middle revenue | High income | Average |
| Traditional markets | 30.00 | 20.00 | 10.00 | 21.67 |
| Supermarket | 5.00 | 20.00 | 60.00 | 26.67 |
| Small shop | 65.00 | 40.00 | 25.00 | 43.33 |
| Paddle | 0.00 | 10.00 | 0.00 | 3.33 |
| Office | 0.00 | 5.00 | 0.00 | 1.67 |
| Other | 0.00 | 5.00 | 5.00 | 3.33 |
| Entire | 100.00 | 100.00 | 100.00 | 100.00 |

 Table 9 shows that about 95 percent of low-income households shop in traditional and small grocery markets, in contrast to 60 high-income householders buying rice at supermarkets. However, there are still households that are high-risk shopping in traditional markets and small grocery. Rice can be easily in grocery malls at relatively slightly more expensive prices but usually, good quality rice is not available. While in the traditional market, there is a need for households that are not available in supermarkets or at cheaper prices in the traditional market. Variety of varieties with very varied quality, demanding households to find information to get rice according to its preference. The source of information that many households comment on is where to buy rice, then family, friends, and others.

Table 10. Number of households based on information sources and income levels for rice procurement

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Source of information | Low income | Middle revenue | High income |  Average |
| Procurement site (market)  | 40.00 | 45.00 | 55.00 | 46.67 |
| Family /relatives | 35.00 | 25.00 | 20.00 | 26.67 |
| Friend | 0.00 | 0.00 | 10.00 | 3.33 |
| Self-search | 25.00 | 30.00 | 10.00 | 21.67 |
| Promotion  | 0.00 | 0.00 | 5.00 | 1.67 |
| Entire | 100.00 | 100.00 | 100.00 | 100.00 |

 Table 10 shows that about 40-55% of families get information from purchases, followed by 20-35 percent of families and families, and 10-25 percent search for themselves. What is meant to look here is to utilize media, especially internet media or social media. All information is easily obtained because it is supported by digital technologies, such as the telephone and the internet.

**CONCLUSIONS AND SUGGESTIONS**

 Rice consumer households in the city are affected by rice properties, purchasing methods, and income levels. Households buy rice with consideration of rice situation such as varieties, prices, and buying habits. While the purchase method is carried out either by the wife or husband, with packaging inference of 10-25 kg, traditional markets, and small groceries as a place to care like a low-income household. Supermarkets and small groceries are places for high-income households. Sources of information about the quality and price of rice are obtained at the place of purchase. Rice is a basic necessity with the elasticity of inelastic demand so the ease of obtaining rice is a factor considered in the development of rice marketing in the city, such as packaging size, place of purchase, and quality information.

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