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

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Abstract

Technological advances 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. Two groups of factors are procurement, rice parties, and buying methods. Rice properties, varieties, buying preferences, and packaging sizes. The buying process consists of procedures, buyers' practices, and information sources for rice procurement. The data is analyzed using the descriptive and preplan the frequency table matrix. The results showed that households buy rice with considerations such as variety, price, and buying habits.

In comparison, the purchase is carried out 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 stores are chosen by high-income households as places to shop for rice. The source of information about the quality and price of rice is obtained at the site of purchase. The ease of getting rice is secured by packaging, place of purchase, and quality information, which must be considered in the city's development.

Keywords: rice; purchase; preferences

INTRODUCTION

Rice is the staple food of the Indonesian nation, 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 at the household level. Various households were leveled 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, from taste, price, and sup, including procurement methods to meet household consumption needs. Changes in production technology, processing, and marketing systems that create convenience also impact consumer behavior in rice consumption. Consumers prefer procuring 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 research results are expected to be valuable information on developing 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 Makassar, South Sulawesi Province, using a survey method on 60 respondent households in 2020.

Data Types and Sources

Respondents were selected from three residential clusters: housing complexes, urban suburbs, and urban centers. The data used are primary and secondary. In-depth interviews with household consumers obtained preliminary data. Secondary data was obtained from BPS, books, and journals. Respondents were selected from three residential clusters: 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. The exposure category is an analysis framework with factors affecting rice procurement families. The method of categorizing income is sorted from the lowest payment 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 factors in rice procurement: properties and the buying process. Rice properties include characteristics, varieties, buying preferences, and packaging sizes. The buying process consists of the buying method, the buyer on procurement, the buying site, the seller, and information sources for rice procurement. Data is analyzed using the descriptive plan and presented on matrix table frequency.

RESULTS AND DISCUSSIONS

Study Site

Makassar City is the capital of South Sulawesi Province, one of the metropolitan cities in Indonesia. The third-largest city in Indonesia after Jakarta and Surabaya. The total population of Makassar City was 16.83 percent of the total population of South Sulawesi, which was 8,771,970 in 2018. Makassar is a gateway in eastern Indonesia and has become 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 Beneficiaries, And Government Area

No.	Description	
1.	Area	175.77 km^2
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 has a high population density of 8,399 people per square km. In South Sulawesi, the number of poor people is 66,220, or about 4.41. Of the poor population, 341,460 people received Raskin rice, or approximately 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 amount of rice needed daily in Makassar City is 51.26 tons, 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 its 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 also reflects the quality of rice. Variety becomes the primary reference for consumers buying rice, followed by the cost 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 about 75 percent of varieties and prices influence rice consumers. For low incomes, more varieties are used as a reference in purchasing; on the contrary, rice prices are primarily for high-income households. The cost of rice is a reference for the latter group because the price of rice is significantly related to quality. Most of the population, especially those with high standards, do not understand the quality, so the high cost of rice is used to consider rice with high quality. Each variety of rice has its characteristics and has implications for quality and price. About four varieties are widely

known in the city of Makassar. However, known varieties are primarily found in the modern market because they are equipped with good packaging and complete information, including the name of the variety of rice. Many varieties, such as Ciliwung, Ciherang, IR64, are also known in Makassar. However, both varieties are primarily sold in traditional markets that are rarely labeled. Half-holders buy rice with known varieties, and the others do not know the varieties of rice they 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 precise quantities of ric,e cu of Offive typestyles inexact about 29 percent of households, and about 21 percent by other varieties. Three varieties tend to be targeted from outside South Sulawesi: Pandang, Cianjur, and Rojole. The rest are varieties widely grown in South Sulawesi, such as Ciherang, Ciliwung, Celebes, IR64, IR42, etc.

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 town and prefers consuming rice from its land products. Most families 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 minimize 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 primary consideration in buying rice. This indicates that rice is an essential household necessity, and the amount cannot be reduced even though the price 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 per capita consumption levels. This data shows that there is already a downward trend in rice consumption per capita in urban areas and has begun 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 prices according to its preferences.

Procurement Methods

Rice is an essential household need; rice procurement tends to be routine and patterned. Half of the households buy rice in planned form, and others also believe rice in the state that has been patterned or as usual. 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
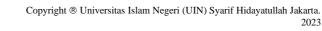
Buying Methods	Low Income	Middle Revenue	High Income	Middle
With Planning	65.00	45.00	35.00	48.33
Permanent Pattern	30.00	55.00	65.00	50.00
Incidental	5.00	0.00	0.00	1.28
Entire	100.00	100.00	100.00	99.62

Table 5 shows the rice procurement for households by planning or had been taking place regularly. Only 5 percent of households think they have bought rice incidentally, meaning it depends on the needs and sustainability of rice procurement. Rice procurement in low-income groups is done by planning; on the contrary, the procurement system has been patterned for high-income households. For example, high-income households already have a subscription to fulfill 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 household procurement and planning methods.

Shopping for household needs can be done by all household members who are grown, but wives predominantly do the procurement of rice. Family members who shop for rice are more varied in low-income and high-income households. There is a slight tendency for wives to be more dominant in rice shopping than husbands. This is because the quality of rice is the primary consideration, and the wife is better known for the quality of rice, either in terms of brand, variety, or place to buy. Moreover, most 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 purchase rice, mainly in high-income households. It differs from the group of low-income families, which is balanced between wife and husband as rice buyers, with 40 percent each. About 19 percent of the purchases are done by other family members, 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 between 10 and 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, about 62 percent of households procure rice with packaging above 10 kg. No family buys rice with packaging above 25 kg. Rice stored for a long time tends to experience changes in taste and decreased quality. Household preferences against the presence of rice at a specific 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 has problems circulating in the market, especially in modern and traditional markets; there are 2kg, 5 kg, 10 kg, 20 kg, and 25 kg. Bulk rice is only found in traditional markets or small groceries. This factor causes consumers to not buy rice in packaging or with a volume greater 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, both low-income households, middle-income households, and high-income households, buy rice two and three times a month but are nominated by families 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 8 shows 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 income level. The place of purchase of consumer household rice is varied based on income level. Low-income households tend to buy rice and small groceries at traditional markets. The site of purchase of rice with the frequency of rice purchases has something to do with the income level of consumer households. Low-income households buy rice thrice monthly in small stores and traditional markets (Table 8). Small stores and traditional markets are the most accessible places to buy rice in 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 small grocery stores because they are 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 conventional market usually at the same time buying 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, high-risk families are still shopping in conventional markets and small grocery stores. Rice can be easily found in grocery malls at slightly more expensive prices, but good quality rice is usually unavailable. While in the traditional market, there is a need for households not available in supermarkets or at cheaper prices in the conventional market. Various varieties with very varied quality demand households to find information to get rice according to preference. The source of information that many homes 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 the Internet or social media. All information is easily obtained because digital technologies such as the telephone and the Internet support it.

CONCLUSIONS AND SUGGESTIONS

Rice consumer households in the city are affected by rice properties, purchasing methods, and income levels. Families buy rice with consideration of the rice situation, such as varieties, prices, and buying habits. The wife or husband carries out the purchase method, with packaging about 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 home of purchase. Rice is a basic necessity with the elasticity of

inelastic demand, so the ease of securing rice is considered in developing rice marketing in the city, such as packaging size, place of purchase, and quality information.

REFERENCE

Aoki, Keiko, Kenju Akai, Kiyokazu Ujiie, Takeshi Shimmura, and Nariaki Nishino. 2019. "The Impact of Information on Taste Ranking and Cultivation Method on Rice Types That Protect Endangered Birds in Japan : Non-Hypothetical Choice Experiment with Tasting." *Food Quality and Preference* 75(April 2018):28–38.

Bairagi, Subir. 2017. "Determinants of Consumer Preferences for Rice Attributes : Evidence from South and Southeast Asia Determinants of Consumer Preferences for Rice Attributes : Evidence." 1–33.

Custodio, Marie Claire, Rosa Paula Cuevas, Jhoanne Ynion, Alice G. Laborte, Maria Lourdes Velasco, and Matty Demont. 2019. "Trends in Food Science & Technology Rice Quality : How Is It Defined by Consumers, Industry, Food Scientists, and Geneticists ?" *Trends in Food Science & Technology* 92(September 2017):122–37.

Ehiakpor, Dennis Sedem, Justice Apumbora, Gideon Danso-abbeam, and William Adzawla. 2018. "Households' Preference for Local Rice in the Upper East Region, Ghana." 2017.

Lwin, Hnin Yu. 2017. "Market Integration Analysis in Selected Rice Markets of Myanmar." (October 2005).

Mada, Universitas Gadjah. 2018. "RICE MARKETING EFFICIENCY IN SRAGEN REGENCY Efisiensi Pemasaran Beras Di Kabupaten Sragen." 29.

Metropolis, Tamale, Northern Region, Benjamin Tetteh Anang, Sidney Nii, Adjei Adjetey, and Stanislaus Addy Abiriwe. 2014. "Consumer Preferences for Rice Quality Characteristics and the Effects on Price in Consumer Preferences for Rice Quality Characteristics and the Effects on Price in the Tamale Metropolis, Northern Region, Ghana." (January 2011).

Murti, Joni, Mulyo Aji, and Agung Widodo. 2010. "KABUPATEN JEMBER DAN FAKTOR YANG MEMPENGARUHINYA." 4(3).

Nurmalina, Rita, and Pudji Astuti. 2012. "Diterima 15 Januari 2011/Disetujui 9 Februari 2011." 1(1):42–47.

Rutsaert, Pieter, Matty Demont, and Wim Verbeke. 2013. "For Rice in Africa." (October 2014).

Science, Environmental. 2021. "Marketing Efficiency In Rice Commodity Supply Chain Management In Kalukku District, West Sulawesi Province Marketing Efficiency In Rice Commodity Supply Chain Management In Kalukku District, West Sulawesi Province."

Takeshima, Hiroyuki, and Salau Sheu. n.d. "Demand Characteristics for Rice, Cowpea and Maize Seeds in Nigeria – Policy Implications and Knowledge Gaps." (8).