Dynamics of Peasants’ Household Rice Consumption in Central Java

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Abstract. This research aimed to discover the dynamics and the peasants’ household rice consumption pattern in Central Java. This research employed a qualitative approach, with the interview and focus group discussion being the techniques of data collection. The research location was selected purposely by taking two regencies constituting the main rice production centers in Central Java: Grobogan and Cilacap. The results show that peasants’ household rice consumption pattern in Central Java was affected by the unhulled rice price, planting pattern, and profit-sharing system. The unhulled rice price affected planting pattern because when the unhulled rice price was low or predicted to be lower in the next harvest season, the rice-rice-palawija (secondary crop) planting pattern would change to rice-rice (secondary crop). Rice would be stored as consumption reserve and marketed gradually as the price increased gradually. If the price condition increased, rice would be marketed by taking the reserve for household consumption. Farmers had a local principle that “rice is a source of life; selling rice means selling the life.” Local wisdom of profit sharing, such as “maro”, “bawon”, “pemajek”, “mrapat”, and “mrotelu”, to areas, the populations of which were tenant farmers, ensured that the rice consumption could be fulfilled through the profit-sharing system.

1. Introduction

Food has a complex dimension, viewed from health, social, culture, and political aspects. Thus, it is unsurprising that food becomes a crucial problem not only to individuals and households but also to the state, because food security is an important precondition supporting the successful development of human resources. In Indonesia, the food consumption pattern is still dominated by rice in addition to tuber, sago, and corn consumption. The average per capita rice consumption of Indonesian people is 81,611 kg/capita/year. The need is supplied from domestic rice production (48,139,000 tons) and imported rice (188,000 tons). Indonesia’s need for rice production is supplied by domestic unhulled rice production reaching 81,388,000 tons and imported rice reaching 3,000 tons [1]. Actually, the Indonesian population have been tried to improve food supply. The number of the population was 237.5 million people in 2010. With a growth rate of 1.49%, this figure is expected to increase to 250 million people by 2020 [2].

Central Java is the province with the third largest population, following West Java and East Java, with the population reaching 33,774,140 people and population growth of 0.15% per year. Considering the data from the Agricultural Main Indicator for Central Java Province in 2016, the number of farm households in Central Java reached 4,290,619 with 5,030,223 farmers, 4,629,877 of which were small-scale farmers. The household food consumption pattern in Central Java reached
more than 49.11% of total expenditure, with 6.76% (IDR 51,180.00/month or 1.469 kg rice per week) being used for food in the form of rice [3]. In relation to the concept of household food security, as suggested by [4], the proportion of food expenditure of ≥60% can be categorized into food-vulnerable and households with food expenditure in proportions of <60% are categorized as food-secure. Therefore, generally, urban households belong to the food-secure category. Meanwhile, rural households also belong to the food-secure category, but because their market place is about 59.2%, the households should be monitored to prevent them from changing into the food-vulnerable category.

The Master plan of Indonesian Economic Development Acceleration and Expansion mentions that food security policy builds on the following principles: (1) considering consumption and production dimensions; (2) sufficient and evenly-spread food supply; (3) consumption diversification and (4) diversification of food production, particularly flour, adjusted with potential local food production. However, what has been specified encounters many constraints and challenges [5]. The main constraints encountered in improving per-capita food production supply are: (1) very limited harvest width growth because of (a) very slow new farmland expansion rate and uncontrolled farm-to-non-farm land conversion; (b) water resource and irrigation performance degradation, and decreased physical and chemical fertility levels of farmland; and (2) the presence of stagnancy in productivity growth [6].

Many constraints with the improvement of food supply and the presence of the government’s policy related to food problems make households, including farm households, experience dynamic consumption, particularly related to rice consumption, moreover in relation to Central Java’s condition in which most farmers are small peasants and land tenants. Thus, the research on farm household’s dynamic rice consumption in Central Java is important to discover the change or the dynamics of rice consumption patterns in farm households.

2. Methodology

This study applied a descriptive qualitative research and aimed at describing the condition occurring in the field related to the objective of the research. The location of research was selected purposely by taking two districts in Central Java (Grobogan and Cilacap), which are becoming rice-producing centers.

Primary data was collected through interview and focus group discussion (FGD) with informants consisting of farmers, head of farmer groups, agricultural extension officers, middlemen, and a representative of related government institutions. Meanwhile, secondary data was collected through documentation and library study. Data validation was competed using data source and method triangulation methods.

3. Results and discussion

3.1. Rice Consumption of Farm Households in Central Java

Rice has long been the basic food for people in Central Java province, particularly after the green revolution program. Rice consumption has not been replaced with other commodities such as tubers (cassava, sweet potatoes, potatoes, and etc.), despite some regions in Central Java mainly producing those commodities. The food diversification program, particularly the promotion of local food by the government, has not been fruitful. Generally, the transformation of the food consumption pattern occurs from basic food to more diversified food. However, it is still difficult in Central Java because the transformation of food consumption at global and regional levels will bring consequence into health consideration [7]. Economic growth, poverty rate, and food consumption patterns are three inseparable phenomena because they are all interrelated either directly or indirectly [8]. Peasants’ production pattern or planting pattern having led to rice-rice-rice or rice-rice-horticulture, gradually contributing to creating the farm households’ consumption pattern to make rice the main food.

Rice as the main product of farming becomes not only the source of income but also “reserve wealth” that can be sold and be consumable food at any time. To both farmers with the status of farm workers and those with the status of sharecroppers, rice is often another form of profit sharing for the
farm they operate. Therefore, rice becomes an economically valued product in the form of both wages and food source. This is in line with a peasant saying as follows:

In addition, being an income source, rice can also be the basic food for the peasants. Paddy reserve can be sold to get some money or processed gradually into rice to be consumed by peasants and their family up to the following harvest season. Primarily, rice remains to be the peasants’ basic source of food, while the rest is sold. Rice is the source of life, so that selling rice is similar to selling the life. (FGD, August 2018)

Many farm households in Central Java are dominated by peasants with the status of sharecroppers, the peasants leasing land to be processed into farmland. Considering the result of the agricultural census in 2013 [9], the number of farm households in Central Java is 16% of the total number of farm households in Indonesia. Meanwhile, the number of land-using households is 18.37% of the total land-using households in Indonesia. Out of this figure, 57% are farm households focusing on rice farms highly dependent indirectly on paddies as the source of income and rice as the basic food source. Unfortunately, 92% of farmers in Central Java are the farmers managing narrow land (< 0.3 hectares), so their farms are inefficient and ineffective. From Table 2, it can be seen that the mean productivity of paddy farm in Central Java is 6.1 tons per hectare. Although productivity rates in Grobogan and Cilacap are higher, the production result still should be shared with land owners as a form of profit sharing or land lease.

Table 1. Number of Farm Household and Farmers in Cilacap, Grobogan, Central Java and Indonesia

| Area                  | Number of Farm Households | Land-using Household | Paddy Farm Household | Number of Farmers (people) | Small Farmers (people) |
|-----------------------|---------------------------|----------------------|----------------------|---------------------------|------------------------|
| Cilacap District      | 253,449                   | 251,064              | 200,940              | 285,064                   | 196,642                |
| Grobogan District     | 264,144                   | 263,968              | 229,845              | 337,448                   | 209,271                |
| Central Java Province | 4,290,619                 | 5,697,473            | 3,288,294            | 5,030,323                 | 4,629,877              |
| Indonesia             | 26,135,469                | 30,419,582           | 17,728,185           | 31,705,295                | 19,015,051             |

Source: [7]

Table 2. Harvested Area, Production, and Productivity of Paddy Farm in Central Java

| Area                  | Harvested Area (Ha) | Production (ton) | Productivity (Ton/Ha) |
|-----------------------|---------------------|------------------|-----------------------|
| Cilacap District      | 132,742             | 861,967          | 6.49                  |
| Grobogan District     | 123,446             | 786,040          | 6.37                  |
| Central Java Province | 1,804,556           | 11,006,569       | 6.10                  |

Source: [7]

3.2. The Factors affecting the Dynamic Fulfilment of Rice Consumption

Overall, household need can be divided into two categories: food and non-food needs. Working law states that the proportion of household expenditure varies corresponding to the income level, family size, and saving. The total proportion of total household expenditure for food tends to decrease arithmetically in line with the increase of income moving geometrically. It means the richer the household, the smaller the proportion of household expenditure for food and, in the poorer household, the proportion of food need is still dominant. BPS divides household expenditure into two groups: food and non-food groups [9].

The change of food demand is as a result of the increase of income, thereby resulting in the change of food volume and type, urbanization impacting on the new eating pattern need, and generally the change of lifestyle. Viewed from the supply aspect, the main factor affecting the supply aspect is
the concentration of economic globalization integration constituting the interrelationship between local production and food supply, the liberalization of foreign investment through multinational corporations, and the reduction of transportation and labour costs [10]. The factors affecting consumption patterns are, among others, (1) society’s income level. Income level can be used for two purposes: consumption and saving; (2) consumers’ taste; (3) product price; (4) the community’s education level. The community’s education level affects behaviour, attitude, and consumption need; (5) the number of family members. The size of the family affects its consumption pattern; and (6) the environment, the surrounding condition, and environmental habits will affect the food consumption behaviour of the local community [11].

Food can be termed as agricultural product because food is the result of active adaptation between human beings/communities and their environment. Therefore, the manifestation of food security should build on local resources and wisdom and it can be a medium of developing culture and a nation’s civilization [12]. Food consumption behaviour is the manifestation of eating habits growing and developing in the family socialization process. Basic food consumption behaviour and type in a family, which have been sent down hereditarily, will create the basic food fulfilment pattern in the family’s environment [13].

The rice consumption pattern that has been rooted in both common households and farm households often presents the dynamics in the attempt of fulfilling the consumption. The dynamic includes two things: the dynamic of rice consumption itself related to the change of rice consumption pattern into other food sources, and the dynamic attempt of fulfilling the rice food source. In the dynamic aspect, food consumption changes as a result of economic growth. The consumption of basic food as carbohydrate sources, such as rice, decreases and shifts to that of ready-to-eat food. In addition, the decreased diversification of basic food indicates that the diversification of basic food is still far below the target. The position of rice as basic food has not been replaceable by other commodities. It is this attempt of fulfilling rice consumption that is dynamic as well [9].

### 3.2.1. Unhulled Rice Price

The dynamics of farm households’ rice consumption in Central Java is highly affected by several factors. The first factor is the unhulled rice price. If the price of unhulled price is low, the farmers tend to store the unhulled rice and will process/sell it when the price increases to meet other household needs. Table 3 shows the difference of unhulled price types in 2013 by its production level from dried unhulled rice harvest to dry unhusked rice.

**Table 3. Unhulled rice price at the farmer level in Central Java**

| Region            | Dry unhulledrice | Dry unhulled rice harvest | Dry unhusked rice | Mean  |
|-------------------|------------------|---------------------------|-------------------|-------|
| Cilacap District  | -                | 4193                      | 5300              | 4262.5|
| Grobogan District | 3,744.64         | 4481                      | -                 | 4190.85|
| Central Java      | 3676.26          | 4342.77                   | 5044              | 4294.24|
| Province          |                  |                           |                   |       |

Source: [7]

“In 2018, the price of dry unhusked rice in both Grobogan and Cilacap reaches IDR 4,200.00 to IDR 4,600.00 per kilogram. Middlemen buy it from the farmers at price of IDR 4,500.00/kg, while Agency for Logistic Affairs (Bulog) buy it at price of IDR 4,060.00/kg. Out of a kilogram of unhulled rice, 60% is predicted to be rice with basic production price of IDR 7,000.00 /kg rice. This price has not benefited the farmers yet because the estimated beneficial price for farmers is about IDR 9,000.00/kg. The fall of price often occurs during harvest time followed with the import of rice.”

Source: Method Triangulation, 2018.

When the prices of both unhulled rice and rice decrease, the farmers sell it reluctantly. In this condition, they end to fulfil the rice consumption more easily because they will store the rice in the
form of dry unhulled rice in large volumes and mill it gradually into rice when the reserved rice is reduced. Otherwise, when the prices of unhulled rice and rice increase, the farmers tend to sell entire harvest results and leave some as needed for their consumption. When their rice reserve is used up, they buy it from the stalls while waiting for the next harvest. The selling price highly affects the dynamics of rice consumption fulfillment. In this case, the farmers should think of land leasing costs and labour costs in their farming activities.

3.2.2. **Planting Pattern**

The price of unhulled rice, in turn, affects the farmers’ planting pattern either directly or indirectly. When the price of unhulled rice increases or is predicted to increase, the farmers tend to use rice-rice-rice crop pattern. However, when the price decreases, the farmers change the planting pattern into rice-rice-horticulture. The fulfilment of rice consumption remain dependent on the reserve (storage). When it is used up during the horticultural planting season, they will buy it from other farmers or stalls. In this condition, the planting pattern also affects the dynamics of peasant households’ rice consumption fulfilment.

| Crop Pattern | Rice Fulfilment Pattern | Notes |
|--------------|-------------------------|-------|
| Rice---Rice----Rice | Reserve | When the price of unhulled rice is good, the natural factor is supported |
| Rice---Rice----Horticulture | Reserve and buying | When the price of unhulled rice decreases, imported rice comes in |

Source: [7]

3.2.3. **Profit Sharing System**

The peasant community in Central Java has many profit-sharing system models; it is because of, among others, the high solidarity and concord between owner farmers and sharecroppers. Cooperation or partnership (gotong royong) has been inherent to the characteristics of Central Java people. Masyhuri [14] mentioned that through economic partnership (profit sharing) in managing farm, even distribution and commonness is established. Those functions indicate that profit sharing creates more evenly distributed economic order. Wahyuningsih [15] added that the implementation of profit-sharing agreements can not only improve the economy but also cultivate solidarity within communities. This can be seen from the concern between farmland owners and sharecroppers manifested into help given to each other when one of them is in trouble. The types of farming using profit-sharing systems in Central Java are presented in Table 5.

| No | Profit-sharing System | Profit-sharing Pattern |
|----|-----------------------|-----------------------|
| 1  | Mrapat(¼)             | A profit-sharing system in which 25% is for farmland owners and 75% for workers/tenants (capital and profit are assumed by both of them) |
| 2  | Mrotelu (1/3)         | Profit sharing during rendeng (rainy) season |
| 3  | Maro(½)               | Capital and profit are divided into two equal parts |
| 4  | Ceblokan/Pemajek (1/6) | A profit-sharing system in which the sharecroppers obtain five parts while the farmers who plant the seed only obtain one part |

Source: FGD, 2018

The profit-sharing systems, as shown in Table 5 are in the form of unhulled rice harvest (rather than money), so that since the cooperation system has taken effect, the peasants (owners, sharecroppers, and workers) have been in the position as investors who will receive and can be said to
consume the rice. The larger the profit-sharing system the sharecropper and the farm workers choose, the more unhulled rice they receive. Thus, the peasants will more likely consume rice.

Profit sharing is the result of an agreement between parties (peasants) voluntarily and without compulsion. The farmland owners and sharecroppers are equally benefited. The owners don’t bother to cultivate their farmland, as there are farm workers cultivating it, and they will just receive the output. The farm workers cultivate other’s farmland without possessing their own land and get the profit share agreed. Profit sharing has two implications: positive and negative. The peasants’ poverty problem undertaking their farming activity is also affected by the existence of local institution. The appropriate business and empowerment model should be applied. The profit-sharing agreement in villages builds on the condition of needing each other’s help, voluntarily and without compulsion. It benefits both farmland owners and share croppers mutually, and it is run hereditarily, encouraged with kinship characteristics and can create solidarity within the community. The implementation of profit sharing aims to create welfare and prosperity for both sharecroppers and farmland owners and can improve the solidarity within the community [16].

4. Conclusion
Central Java peasants consume rice as basic food and tend to be stagnant in the dynamics of food consumption. The peasants, instead, experience the dynamic of fulfilling the rice consumption, as it is affected by (1) the price of unhulled rice, (2) planting patterns, and (3) the profit-sharing system model.

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