ISSN 2810-0182 (Online)
ACITYA WISESA: Journal of Multidisciplinary Research
https://journal.jfpublisher.com/index.php/jmr
Vol. 4, Issue 1 (2025)
doi.org/10.56943/jmr.v4i1.740

The Impact of Rising Rice Prices on the Income and Welfare of Rice Farmers in Klaten

Efi Nikmatu Sholihah
efinikmatus@gmail.com
Faculty of Agriculture, Universitas Slamet Riyadi Surakarta

ABSTRACT

Rice is a major food commodity in Indonesia and plays an important role in people's daily lives. The increase in rice prices can have a complex impact on farmers' incomes. Although it sounds like a profitable thing, the increase in rice prices can also mean higher production costs for farmers, such as more expensive fertilizer and seed prices. In addition to having an impact on farmers' income, the increase in rice prices can also affect the economic welfare of farmers. The economic welfare of farmers is not only related to the income earned but also to the farmer's expenses in each harvest period. The study aims to determine the impact of the increase in rice prices on the income and welfare of rice farmers in Klaten. Data collection was carried out using the interview method with rice farmers in the Sri Makmur Dk. Tempel Farmer Group, Jogosetran Village, Kali Kotes, Klaten. Data analysis was conducted by analyzing costs, revenues, income, and welfare analysis by comparing income and expenditure of farmer households. The results indicate that although farmers' income has increased, their welfare has not improved significantly due to rising production and household costs. This study emphasizes the importance of policies that not only regulate commodity prices but also improve production cost efficiency to enhance farmers' welfare.

Keywords: *Income, Rice Farmers, Rice Price, Welfare*

INTRODUCTION

Indonesia is widely recognized as an agricultural country, with a significant portion of its population engaged in agricultural activities. As a nation endowed with vast agricultural land and abundant natural resources, Indonesia possesses great potential for agricultural development. The agricultural sector plays a vital role not only in meeting the basic needs of the population, such as food and raw materials, but also in supporting broader aspects of national development.

Agriculture contributes significantly to employment, especially in rural areas, and serves as a primary source of livelihood for millions of Indonesians. Moreover, the sector plays a strategic role in ensuring food security, stabilizing rural communities, and driving economic growth through both domestic and international trade. In this context, agriculture is not merely a means of subsistence but also a key driver of progress in the social and economic sectors, contributing to poverty reduction, income distribution, and regional development. Strengthening agriculture, therefore, is essential for achieving sustainable and inclusive national development.

The agricultural sector is one of the most strategic sectors as it serves as a provider of food for society. In 2021, agriculture contributed 13.28% to the national GDP, with 2.60% coming from food crops, including rice (Kusnandar, 2022). Rice cultivation remains attractive to the public as rice continues to be the staple food for the majority of Indonesians, especially in Central Java (*Berita Resmi Statistik*, 2021). According to Central Java Statistics 2024, rice production in the region reached 9,061,714 tons of dry-milled grain (GKG) (Provinsi Jawa Tengah Dalam Angka 2024, 2024).

The agricultural sector plays a critical role in national development, particularly in its capacity to alleviate poverty, generate employment opportunities, and increase household incomes. In countries like Indonesia, where a significant portion of the population depends on agriculture for their livelihoods, the sector holds strategic importance in promoting inclusive economic growth and reducing rural disparities. Agriculture not only serves as a primary source of income for many rural communities but also supports food security and regional stability.

Recognizing this, the Indonesian government places considerable emphasis on improving the welfare of farmers. Given the vast number of people whose lives are directly and indirectly tied to agriculture, enhancing the prosperity of this sector is viewed as essential for achieving broader social and economic objectives. Government efforts have been directed toward providing agricultural subsidies, improving infrastructure, expanding market access, and strengthening institutional support to ensure that farmers benefit from both national development programs and global economic opportunities. By focusing on farmer welfare, the government aims to build a more resilient and productive agricultural system that contributes to long-term national prosperity. One measure of farmer welfare is the income

obtained from agricultural products, which is greatly influenced by the price of grain in the market (Fitri & Hafidzah, 2024). Increasing farmer income is closely related to the stability of grain prices because good prices will have an impact on increasing farmers' purchasing power. Therefore, managing grain prices is crucial in efforts to improve farmer welfare.

From January to March 2024, rice prices in Indonesia have surged significantly compared to previous years. In March 2024, regular rice reached IDR 15,000/kg, while premium rice reached IDR 17,000/kg (Provinsi Jawa Tengah Dalam Angka 2024, 2024). As a staple commodity, rice plays a vital role in daily life. In Klaten, Central Java, rice farming is a major economic sector, with many farmers relying on it (Peroza & Iswarini, 2019). The increase in rice prices has a direct impact on farmers' income, as the selling price of their produce is largely determined by prevailing market conditions. When market prices rise, farmers have the potential to earn higher revenues from the sale of their crops, assuming other factors, such as production costs and yields, remain relatively stable. This relationship underscores the importance of market dynamics in shaping the economic outcomes of farming activities, particularly for staple commodities like rice. However, it may also increase production costs due to higher prices of inputs like fertilizer and seeds (Gapari, 2021).

Besides income, rising rice prices also impact farmers' economic welfare. Welfare is not only determined by income but also by household expenditure during each planting season (Peroza & Iswarini, 2019). Therefore, further research is needed to investigate the impact of rice price increases on the income and welfare of rice farmers in Klaten. Farmers are the backbone of agriculture and the main supporters in providing food for the community. However, in reality, the lives of farmers are often difficult, and their welfare is often neglected. This must be improved because without the welfare of farmers, a country's food security will be disrupted. Farmer welfare is a condition in which farmers can live decently and have access to resources, education, health, and other basic facilities. Farmer welfare plays an important role in the sustainability of a country's food and agricultural system. The level of farmer welfare is often associated with the state of agriculture, which is reflected in the level of farmer income. One of the levels of farmer welfare is the price of paddy and the price of rice (Ilman & Syahbudi, 2023).

Farmers serve as the backbone of agriculture and play a crucial role in ensuring the availability of food for the entire population. Despite their vital contribution, the reality often reveals that farmers face numerous challenges in their daily lives. Their welfare is frequently overlooked, resulting in persistent economic hardship and limited access to essential services. This situation is deeply concerning, as the sustainability of a country’s food security is directly linked to the well-being of its farmers.

Improving farmers' welfare is not only a matter of social justice but also a strategic necessity. Farmers’ welfare refers to a condition in which they can live

with dignity and security, supported by adequate access to productive resources, education, healthcare, and other fundamental facilities. When farmers are empowered and their livelihoods are protected, they are more likely to invest in agricultural innovation, improve productivity, and contribute to the resilience of the food system. Therefore, enhancing the quality of life for farmers is a key element in achieving a sustainable and secure agricultural sector, which ultimately benefits the broader society and national development.

Farmers' welfare has an impact on: Food Security: When farmers feel safe and secure in their lives, they will have the motivation and ability to produce enough food. This will contribute positively to a country's food security. Economic Growth: If farmers have access to fair markets and get fair prices for their crops, they can increase their income and reinvest it into the agricultural system. This will drive economic growth in the agricultural sector and surrounding areas. Food Sovereignty: By increasing the welfare of farmers, they can be more independent in meeting their own food needs and contribute to increasing the country's food sovereignty.

Previous studies have only focused on how farmer welfare is achieved at certain production and price points, but have not considered whether farmer welfare will be affected if there is an increase in prices and an increase in rice prices can also have an impact on increasing the prices of other products such as production inputs used so that the impact of the increase in rice prices cannot reach the optimal point. The study aims to determine the impact of the increase in rice prices on the income and welfare of rice farmers in Klaten.

RESEARCH METHODOLOGY

This research used a descriptive quantitative approach. Primary data was collected through direct interviews with members of the Sri Makmur Farmer Group, Jogosetran Village, Kalikotes District, Klaten Regency. The research was conducted from June to August 2024.

Cost, Revenue, Income, and Feasibility Analysis

Farming costs can be classified into two categories, namely fixed costs and variable costs. Fixed costs are costs that are relatively large in amount and continue to be incurred even though the production obtained is large or small, so the amount does not depend on the size of the production costs obtained. Fixed costs consist of land rent and depreciation of production equipment. Variable costs are costs whose size is influenced by the production obtained. These costs consist of product costs, maintenance, seeds, fertilizers, pesticides, harvest costs, and others.

1. Fixed costs (FC), namely costs that in a certain period remain the same, regardless of the amount of products produced. For example, equipment depreciation, building rent or building depreciation, company taxes, and administration costs.

2. Variable costs (VC), namely costs whose amount changes according to the amount of products produced. The greater the amount of products produced, the greater the amount of variable costs. For example, the cost of raw materials and labor wages are based on the number of products produced.
3. Total cost (TC), namely the sum of all fixed costs and variable costs incurred by the company to produce a number of products in a certain period.

Total Revenue is the result of subtracting the income from the costs incurred (Tahir & Suddin, 2017).

$$TR = P \times Q$$

Where:
TR = Total Revenue (IDR)
P = Price (IDR)
Q = Quantity Produced (kg)

$$NR = TR - TC$$
$$NR = TR\ (TVC + TFC)$$
$$NR = Py\,.\,Y - (Px\,.\,X + TFC)$$

Where:
NR = Net Revenue / Income (IDR)
TC = Total Cost (IDR)
TVC = Total Variable Cost (IDR)
TFC = Total Fixed Cost (IDR)
Py = Output Price (IDR)
Px = Input Price (IDR)
Y = Output
X = Input

1. If TR > TC, then the farm business experiences a profit because the total income is higher than the costs incurred. So the difference between the two is profit.
2. If TR = TC, then the farm business reaches the break-even point, commonly called the break-even point, where the business being run does not experience profit or loss. This point is usually used as the basis for calculating the percentage of profit (profit margin).
3. If TR < TC, then the farm business experiences a loss because the total costs incurred are higher than the total income obtained.

Break Even Point (BEP)

$$BEP\ in\ Rupiah\ = \frac{FC}{1\ -\ \frac{VC}{TR}}$$

Where:
BEP = Break Even Point
Q = Quantities
FC = Fixed Cost
VC = Variable Cost
P = Price
TR = Total Revenue

R/C Ratio

$$\frac{R}{C} = \frac{P\ \cdot Q}{TFC\ + TVC}$$

Where:
R = Revenue
C = Cost
PQ = Price of output
Q = output
TFC = Total fixed cost
TVC = Total variable cost

There are three criteria in the R/C ratio, namely:

1. R/C ratio > 1, then the business is efficient and profitable
2. R/C ratio = 1, then the farming business is BEP
3. R/C ratio < 1, then it is inefficient or detrimental

Welfare Analysis

Welfare is assessed by comparing household income with household expenditures (Komalasari et al., 2020). Another method used to calculate farmer welfare in this study is the good service ratio (GSR) analysis method, which is one of the welfare analysis tools that compares non-farming expenditure with farming expenditure (Hasbiadi et al., 2022).

$$GSR = \frac{\text{Non} - \text{Farming Expenditure}}{\text{Farming Expenditure}}$$

Where:
GSR > 1 means the household economy is less prosperous
GSR = 1 means the household economy is prosperous
GSR < 1 means the household economy is more prosperous

RESULT AND DISCUSSION

Cost, Revenue, and Income Analysis

Feasibility analysis is one of the indicators used to determine whether a farming business is profitable and worth continuing. Before assessing feasibility, a cost analysis must be conducted to gather detailed data. Farmers need to understand their production costs to optimize profits (Muhammad D.A. Edyson, Natelda. R. Timisela, 2015). Costs are categorized into variable and fixed costs. While variable costs change with production volume, fixed costs remain constant. Economists also consider implicit costs—opportunity costs for owned resources. The table below presents the cost, revenue, income, and feasibility analysis before and after the rice price increase:

Table 1. Cost, Revenue, Income, and Feasibility of Rice Farming Before and After the Price Increase

Unit	Before	After
Production (kg)	4,529	4,529
Price (IDR)	7,000	9,000
Revenue (IDR)	**31,703,000**	**40,761,000**
Input Cost (IDR)	4,480,000	5,824,000
Family Labor (IDR)	679,000	679,000
Hired labor (IDR)	5,044,000	6,052,000
Total Cost (IDR)	**10.203.000**	**12,555,000**
Income (IDR) = Revenue – Total Cost	**21.500.000**	**28,206,000**
Break Event Point (IDR)	3,071	3,134
R/C Ratio	3.10	3.24

Source: Primary Data Analysis (2024)

The analysis shows that farmers' income increased after the rice price increased. However, the increase in revenue was also not significant because it was accompanied by an increase in production costs. The increase in production costs is caused by increasing input prices and limited government subsidies. This causes farmers to have difficulty obtaining inputs at subsidized prices and are forced to buy at non-subsidized prices. If farmers do not meet these inputs, the risk of decreased production will be experienced by farmers due to less than optimal management. Rice farming remains feasible as BEP price before and after the price increase < from the prevailing selling price. So that farmers gain profit from the difference in selling price minus the BEP price, and the R/C ratio is > 1, indicating that every IDR 1 spent generates more than IDR 1 in return.

The results of the feasibility analysis conducted showed that the BEP value of the price after the increase in the selling price was IDR 3134 and the selling price at the farmer level was IDR 9000/kg which indicated that farmers had sold the rice they produced at a price much higher than the price at the BEP level, even almost

3 times higher. Meanwhile, from the results of the R/C ratio calculation, it can be seen that the rice farming business carried out is very feasible to be run. This is proven by the large value of the R/C Ratio obtained, which is 3.24, which means that farmer expenditure of IDR 1 will generate income of IDR 3.24. The results of this study can support one of the similar studies conducted by Ningrum & Effendy (2016) which stated that lowland rice farming provides benefits for farmers and is feasible to be run. Overall, lowland rice farming is economically feasible because the average rice farmer is experienced, so the R/C Ratio value is greater than 1 (Mamondol, 2016).

Welfare Analysis

The welfare of agricultural households is commonly assessed by comparing the level of household income with total household expenditures. This approach provides insight into whether a household's income is sufficient to meet its basic needs and support a decent standard of living. Various indicators can be used to evaluate the welfare level of farmers, depending on the focus of the analysis. In the context of this study, the indicator used to measure farmer welfare is economic welfare, which is assessed through the Good Service Ratio (GSR) analysis method.

The GSR method compares the amount of income allocated for productive agricultural activities with the amount used for household consumption. A balanced or favorable ratio reflects that farmers are not only able to meet their daily needs but also reinvest in their farming operations, indicating a healthier and more sustainable economic condition. Conversely, an unfavorable ratio may suggest that household consumption outweighs income, which can reduce the capacity for farm investment and ultimately threaten the sustainability of the farming household. Thus, the GSR serves as a valuable tool for understanding the economic dimension of farmer welfare.

Table 2. Comparison of Income and Expenditures Before and After the Price Increase

Unit	Before	After
Revenue	31,703,000	40,761,000
Farming Expenditure (1 Farming season)	10,203,000	12,555,000
Non-Farming Expenditure (1 Farming season)	10,000,000	14,000,000
Income	**11,500,000**	**14,203,000**

Source: Primary Data Analysis (2024)

Based on Table 2, it is known that farmers' income before the increase in rice prices was IDR 31,703,000 and after the price increase it was IDR 40,761,000 or equivalent to an increase of 28.57%, while expenditures from both farming and non-farming businesses increased from IDR 20,203,000 to IDR 26,555,000 or equivalent to 31.45%. This shows that the increase in expenditure is higher than the increase in revenue.

Based on the results of the welfare analysis by comparing income with farmer expenditure for both farming and non-farming businesses before and after the increase in rice prices, it is known that the increase in selling prices does not have a significant effect on welfare, with net income increasing by only 23% while expenditure increased by 31.45%. This supports Gapari (2021), who argued that rice price hikes do not necessarily translate to significant welfare improvements. Although rice is sold at higher prices, increased production costs reduce net gains. Addressing this gap requires controlling production costs and providing financial and technological support.

$$GSR = \frac{14{,}000{,}000}{12{,}555{,}000} = 1.115$$

Based on the calculation of the Good Service Ratio (GSR), a value greater than 1 indicates that non-farm expenditures surpass farm expenditures, suggesting that a significant portion of farm income is allocated to household consumption rather than reinvested into agricultural production. This pattern can lead to reduced production capital and limited opportunities for farm expansion, thereby negatively impacting the economic sustainability of farming households. For instance, a study by Triyono & Berliani Arifianikmah (2024) Found that rice farmers with a GSR value of 0.98 were considered prosperous, highlighting the importance of balanced expenditure for farmer welfare. Additionally, the Food and Agriculture Organization (FAO) emphasizes that investing in agriculture and rural areas is crucial for ending poverty and hunger, as it enhances food security and improves livelihoods. Therefore, a GSR value exceeding 1 serves as a critical indicator of financial pressure on farming households, underscoring the need for policies that promote sustainable income management and support reinvestment in agricultural production.

CONCLUSION

The increase in rice prices from IDR 7,000 to IDR 9,000 per kilogram has resulted in a rise in farmers' revenue from IDR 31,703,000 to IDR 40,761,000, reflecting a 28.57% increase. However, this growth in income does not lead to a significant improvement in farmers' welfare. During the same period, farmers' expenditures rose by 31.45%, surpassing the rate of income growth. This condition indicates that although farmers earn more from selling rice at higher prices, the additional income is quickly absorbed by increasing production costs and rising household expenses.

The higher costs of inputs such as seeds, fertilizers, and labor, along with the growing needs of daily household consumption, contribute to this imbalance. As a result, the overall economic condition of farming households remains under pressure, limiting their ability to save, reinvest, or expand their agricultural

activities. This situation highlights the need for policy measures that go beyond price increases alone. Efforts are needed to reduce production costs, enhance access to affordable technology, and provide consistent support for sustainable farming practices so that improvements in income can translate into real welfare gains for farming communitie.

REFERENCES

Berita Resmi Statistik. (2021). Badan Pusat Statistik. bps.go.id

Fitri, R. S., & Hafidzah, D. (2024). PENGARUH PERUBAHAN HARGA GABAH TERHADAP KESEJAHTERAAN PETANI DI SUMATERA BARAT. *Inovasi Dan Kreativitas Dalam Ekonomi*, *7*(12), 210–218. https://oaj.jurnalhst.com/index.php/ike/article/view/7680

Gapari, M. (2021). Pengaruh Kenaikan Harga Beras terhadap Kesejahteraan Petani di Desa Sukaraja. *PENSA*, *3*(1), 14–26. https://doi.org/https://doi.org/10.36088/pensa.v3i1.1115

Hasbiadi, H., Syadiah, E. A., & Handayani, F. (2022). ANALISIS TINGKAT KESEJAHTERAAN PETANI PADI SAWAH DI KABUPATEN KOLAKA. *AGRIBIOS*, *20*(1), 161–170. https://doi.org/10.36841/agribios.v20i1.1903

Ilman, S. A., & Syahbudi, M. (2023). Pengaruh Harga Gabah terhadap Kesejahteraan Petani di Sumatera Utara pada Tahun 2020-2021. *El-Mujtama: Jurnal Pengabdian Masyarakat*, *3*(1), 174–183. https://doi.org/10.47467/elmujtama.v3i1.2301

Kusnandar, V. B. (2022). *Ini Kontribusi Sektor Pertanian terhadap Ekonomi RI Tahun 2021*. Databoks.

Mamondol, M. R. (2016). Economic Feasibility Analysis of Rice Field Farming at Pamona Puselemba District. *Jurnal Envira*, *2*(1), 1–10. https://osf.io/3dxk9/download

Ningrum, N. W., & Effendy. (2016). Analisis Pendapatan dan Kelayakan Usahatani Padi Sawah di Desa Laantula Jaya Kecamatan Witaponda Kabupaten Morowali. *Agrotekbis*, *4*(3), 350–355. http://jurnal.faperta.untad.ac.id/index.php/agrotekbis/article/view/31

Peroza, Y., & Iswarini, H. (2019). DAMPAK KENAIKAN HARGA BERAS TERHADAP PENDAPATAN USAHATANI PADI DI KOTA PALEMBANG. *Societa: Jurnal Ilmu-Ilmu Agribisnis*, *8*(1), 28–33. https://doi.org/10.32502/jsct.v8i1.2028

Provinsi Jawa Tengah Dalam Angka 2024. (2024). https://jateng.bps.go.id/id/publication/2024/02/28/980d120f5be18d6400c48b16/provinsi-jawa-tengah-dalam-angka-2024.html

Tahir, A. G., & Suddin, A. F. (2017). ANALISIS PENDAPATAN USAHATANI JAGUNG PADA LAHAN SAWAH DAN TEGALAN DI KECAMATAN ULAWENG, KABUPATEN BONE SULAWESI SELATAN. *JURNAL GALUNG TROPIKA*, *6*(1), 1–11. https://doi.org/10.31850/jgt.v6i1.208

Triyono, & Berliani Arifianikmah, A. (2024). Household Welfare of Rice-fish Farmers: An Income-Expenditure Ratio Approach. *E3S Web of Conferences*, *595*, 01027. https://doi.org/10.1051/e3sconf/202459501027