



Determinants Of Household Food Security In Pesisir Barat Regency

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ABSTRACT

This study aims to analyze the determinants of household food security in Pesisir Barat Regency. The study uses secondary data from the March 2025 National Socioeconomic Survey (Susenas) with a total sample of 570 households. Household food security is measured using the Jonsson and Toole approach, which classifies households based on energy consumption adequacy. A binary logistic regression model is employed to examine the influence of socioeconomic factors on household food security. The results show that the gender of the household head, per capita expenditure, and household size have a significant effect on household food security. The gender of the household head and household size have a negative effect, while per capita expenditure has a positive effect. Meanwhile, employment status and savings ownership do not have a significant effect. The model demonstrates strong predictive performance, with an overall classification accuracy of 97.5% and a Nagelkerke R Square value of 0.771.

Keywords: Household food security, Logistic regression, Per capita expenditure, Household size.

ABSTRACT

Penelitian ini bertujuan untuk menganalisis determinan ketahanan pangan rumah tangga di Kabupaten Pesisir Barat. Data yang digunakan merupakan data sekunder dari Survei Sosial Ekonomi Nasional (Susenas) Maret 2025 dengan jumlah sampel sebanyak 570 rumah tangga. Pengukuran ketahanan pangan rumah tangga dalam penelitian ini menggunakan pendekatan metode Jonsson and Toole yang mengklasifikasikan kondisi rumah tangga berdasarkan kecukupan konsumsi energi. Metode analisis yang digunakan adalah regresi logistik biner untuk mengkaji pengaruh faktor sosial ekonomi terhadap peluang ketahanan pangan rumah tangga. Hasil penelitian menunjukkan bahwa variabel jenis kelamin kepala rumah tangga, pengeluaran per kapita, dan jumlah anggota rumah tangga berpengaruh signifikan terhadap ketahanan pangan rumah tangga. Jenis kelamin kepala rumah tangga dan jumlah anggota rumah tangga berpengaruh negatif, sedangkan pengeluaran per kapita berpengaruh positif. Sementara itu, status pekerjaan dan kepemilikan tabungan tidak berpengaruh signifikan. Model memiliki tingkat ketepatan klasifikasi sebesar 97,5 persen dengan nilai Nagelkerke R Square sebesar 0,771, yang menunjukkan kemampuan prediksi model yang sangat baik.

Kata Kunci: Ketahanan pangan rumah tangga; Regresi logistik; Pengeluaran per kapita; Jumlah anggota rumah tangga.

INTRODUCTION

Food security is a state in which every individual's food needs are met, as reflected in the availability of sufficient, safe, nutritious, and affordable food to support a healthy and productive life on a sustainable basis (Bapanas, 2022). Household food security is a critical issue in development, particularly in developing countries, as it is directly linked to the well-being and quality of life of communities (Drammeh et al., 2019). Without ensuring food security at the household level, efforts to achieve national food security cannot be fully realized (WFP, 2025). The continuous increase in population year after year has placed pressure on meeting food needs. According to data from the Central Statistics Agency, Indonesia's population in 2025 reached 284.44 million and continued to rise compared to the previous year (BPS, 2025). This population growth has led to an increase in food consumption needs, both in terms of quantity and quality, thereby requiring a food system capable of meeting these needs sustainably (Firdaus & Cahyono, 2017).

As one of the nation's major food-producing regions, Lampung Province makes a significant contribution to the production of agricultural commodities, particularly rice. However, food availability at the regional level does not automatically guarantee food security at the household level (BKP, 2020). This indicates that food security is not determined solely by availability but is also influenced by access to and utilization of food (FAO, 1997). Pesisir Barat Regency is one of the districts in Lampung Province characterized by a coastal geography and a high dependence on the agriculture and fisheries sectors. Based on the results of the Food Security and Vulnerability Atlas (FSVA) mapping, this region is still classified as having a relatively high level of food insecurity and is included in the priority list for intervention (Bapanas, 2023). These conditions indicate that although the potential for natural resources is quite significant, there are still limitations in economic access, food distribution, and food utilization at the household level. Empirically, household food security is influenced by various socioeconomic factors such as the gender of the head of household, employment status, per capita expenditure, the number of household members, and asset ownership (BKP, 2020; Saragih et al., 2021). However, previous studies have yielded mixed results, necessitating a quantitative approach capable of identifying the influence of each factor more accurately (Salasa, 2021).

Given this background, this study aims to analyze the determinants of household food security in Pesisir Barat Regency. Food security was measured using the Jonsson and Toole method based on household energy intake adequacy. Furthermore, an analysis was conducted using binary logistic regression to examine the influence of socioeconomic factors on the likelihood of household food security.

METHODE

This study employs a quantitative approach using secondary data from the March 2025 National Socioeconomic Survey (Susenas) published by the Central Statistics Agency. The unit of analysis in this study is the household, with a sample size of 570 households distributed across Pesisir Barat Regency. The dependent

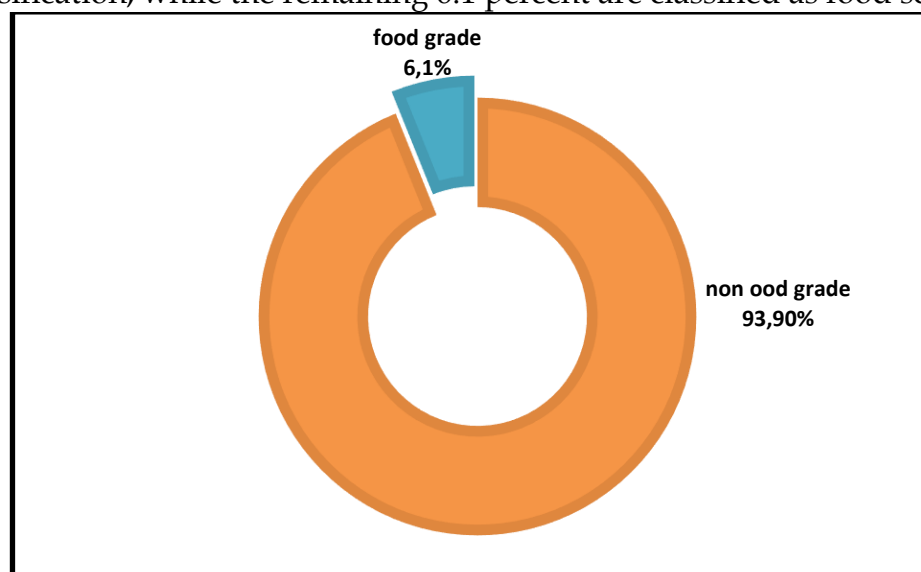
variable in this study is household food security, measured using the Jonsson and Toole method, which classifies households based on the adequacy of their energy intake relative to minimum requirements. Households are categorized as having adequate energy intake if their energy consumption exceeds 80 percent of the recommended requirement; those falling below this threshold are categorized as having inadequate energy intake. The independent variables used include the gender of the head of household, the employment status of the head of household, per capita expenditure, the number of household members, and savings ownership. Categorical variables were coded using dummy variables with a reference category as the basis for comparison in the regression analysis.

The analytical method used was binary logistic regression to examine the influence of independent variables on the likelihood of household food security. Model testing was conducted through a simultaneous significance test using the Omnibus Test, a model goodness-of-fit test using the Hosmer and Lemeshow Test, and an assessment of model fit using the Nagelkerke R-squared value. In addition, partial testing was performed using the Wald test to determine the effect of each independent variable on the dependent variable. All data processing in this study was performed using SPSS version 26 software.

RESULTS AND DISCUSSION

Results

Based on the results of household food security classification using the Jonsson and Toole method, it was found that the majority of households in Pesisir Barat Regency (93.9 percent) are classified as food insecure as food insecure, This high proportion may be influenced by the strict energy adequacy threshold used in the classification, while the remaining 6.1 percent are classified as food secure.



Source : Susenas 2025, data processed

Figure 1. Percentage of Household Food Security Classification in Pesisir Barat Regency.

The results of the logistic regression analysis indicate that the model is statistically significant as a whole, as evidenced by an Omnibus Test p-value of 0.000 (<0.05). Additionally, the Hosmer and Lemeshow test yielded a p-value of 0.982 (>0.05), indicating that the model fits the observed data well. The Nagelkerke R-Square value of 0.771 indicates that the model explains 77.1 percent of the variation in household food security. The model's classification accuracy reached 97.5 percent, demonstrating the model's excellent predictive capability.

In part, the results of the Wald test indicate that the variables of the household head's gender, per capita expenditure, and household size have a significant effect on household food security. Meanwhile, the variables of the household head's employment status and savings do not have a significant effect.

Discussion

Based on the results of the logistic regression analysis, the coefficient values and odds ratios indicate the direction and magnitude of the effect of each variable on the likelihood of household food security.

The variable of household head gender has a significant negative effect on household food security, with an odds ratio of 0.161. This indicates that households headed by men are less likely to be food-secure compared to those headed by women. This finding is consistent with the research by Egah et al., (2023) and Mazenda et al., (2022) which states that women tend to prioritize spending on food and family welfare.

Per capita expenditure has a positive and significant effect on household food security, with an odds ratio of 1.000. Although a one-unit change in expenditure does not indicate a significant change in odds, economically this variable still reflects household purchasing power. These results are consistent with consumption theory, which states that an increase in income will increase consumption, including food consumption Mankiw (2007), and are supported by the research of Ningsih & Sustiyana, (2022).

Household size has a significant negative effect on food security, with an odds ratio of 0.017. This indicates that every increase in household size reduces the likelihood of food security. This finding is consistent with the research by Syamola & Nurwahyuni, (2019) which states that the larger the household size, the greater the consumption burden that must be met.

Meanwhile, the head of household's employment status does not have a significant impact on household food security. This suggests that having a job does not necessarily guarantee that food needs will be met, as not all jobs provide a stable income. This finding is consistent with the research by Santos et al., (2022) which states that income is a more decisive factor than employment status.

Savings holdings also do not have a significant impact on household food security. This suggests that savings have not yet become a major factor in determining food security, which is likely due to limited savings or limited access to financial institutions in the study area.

Overall, the results of this study indicate that economic and demographic factors specifically per capita expenditure and household size are the primary

determinants of household food security in Pesisir Barat Regency. Therefore, efforts to improve food security should focus on increasing household purchasing power and managing household consumption burdens more effectively.

CONCLUSION

This study aims to analyze the determinants of household food security in Pesisir Barat Regency using a binary logistic regression approach. The results show that the majority of households 93.9 percent remain food insecure, while the remaining 6.1 percent are classified as food secure.

Based on the analysis results, the variables of the household head's gender, per capita expenditure, and the number of household members were found to have a significant effect on household food security. The household head's gender and the number of household members had a negative effect, while per capita expenditure had a positive effect on the likelihood of food security. Meanwhile, the variables of the head of household's employment status and savings ownership did not show a significant influence.

The model used is effective in explaining household food security, with a Nagelkerke R-squared value of 0.771 and a classification accuracy rate of 97.5 percent. These results indicate that socioeconomic factors play a significant role in determining household food security in Pesisir Barat Regency.

Overall, efforts to improve household food security should focus on increasing people's purchasing power and controlling the number of dependents in each household. Thus, policies aimed at strengthening household economies are expected to enhance food security in a sustainable manner.

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