

Household Food Security of Copra Processing Farmers in Northeast Wawonii District, Konawe Islands Regency

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ABSTRACT

Food security is a significant priority for the Konawe Islands Regency government. Kendari City, the island's outermost area, serves as the economic center for the inhabitants. The majority of garden or agricultural goods are sold beyond the island, and residents' necessities, such as food and domestic equipment, are met elsewhere. Under these conditions, achieving food security is critical to improving one's quality of life. Most of the Regency's population works as coconut farmers because coconut is a valuable product in this archipelago. This study examined the household food security of copra processing producers in the Northeast Wawonii District. Household food security for copra processing producers on the island was assessed using the Household Food Insecurity Access Scale (HFIAS). The HDDS (Household Dietary Diversity Score) approach was used to assess the diversity of food consumption among the household farmers. Copra processing farmer households in the district had 80% food security. In contrast, they consume rice, fish, oil, sugar, and spices, the majority of which are sourced locally due to the difficulty of accessing markets beyond the island.

Keywords: household food insecurity access scale, household dietary diversity score, food security, Konawe Island, Northeast Wawonii

INTRODUCTION

Food is a basic human need for survival. Food shortages can have an influence on health and quality of life. Given that farmers generate most of the food, farming households should have enough food security. Individuals' food security status is influenced by the quality and quantity of food they consume. Household food availability is one sign of the achievement of food security in the home. Achieving food security at the household level entails being able to access enough food in adequate quantity, quality, and diversity to meet nutritional requirements. Food security is a critical issue that requires long-term solutions. This is owing to a levelling-off of food production capacity, which is caused, among other things, by the migration of agricultural workers to non-agricultural sectors (Haviz *et al.* 2021; Allen *et al.* 2018).

According to Christiaensen *et al.* (2021), historically, during the process of structural and agricultural transformation, countries experienced a shift from a surplus to a scarcity of domestic labor in the agricultural sector. Food prices declined to counterbalance productivity gains driven by technology in response to income-inelastic demand for food. Inefficient land markets and the delayed development of food value

chains inhibited agricultural consolidation and diversification, while self-employment workers had inadequate social protection. As a result, agricultural revenues have struggled to keep up with more stable and rapidly expanding agricultural incomes. Domestic labor transferred from primary to secondary and tertiary sectors, resulting in intense land use to increase production.

Food insecurity and poverty are closely related. Indonesia, a third-world country, continues to observe an increase in the number of poor people. According to data from the World Poverty Clock 2019, 12,783,505 Indonesians live in poverty or extreme poverty. The 2021 Global Food Security Index study ranked Indonesia's food security remains near the bottom, placing 69th out of 113 nations. This contrasts with Singapore, which is ranked second (Global Food Security Index 2021). Indonesia's food security has not been fully realized, and it is critical to be watchful against future food instability. If this happens, it can have an influence on people's nutritional status (Setyorini *et al.* 2023). Data from the Central Statistics Agency (BPS 2019) recorded that 49.41% of Indonesia's poor households are farmers. Aside from economic concerns, the pandemic can cause interruptions in food availability due to a variety of factors such as income, number of family members, household expenses, and level of education (Aliciafahlia *et al.* 2019; Saputro & Fidayani 2020).

Food security is a significant priority for the Konawe Islands Regency government. The Regency, also

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known as Wawonii Island, is a small island territory surrounded by beaches and water, making access to public services difficult and weather-dependent (Rosmalah 2022; Rosmalah *et al.* 2023). The economic hub of the population is located beyond the island, in Kendari City. Most garden and agricultural goods are sold beyond the island, and residents' requirements, such as food and domestic equipment, are also met outside the island. Under these conditions, achieving food security is critical to achieving a higher quality of life. Most of the population work as coconut farmers, as coconuts are a major commodity in the archipelago. The islanders generally farm using long-held knowledge and local wisdom passed down from generation to generation (Rosmalah *et al.* 2022).

Food security for coconut farmers on Wawonii Island, a small island in Southeast Sulawesi Province, is critical, both economically and socially. Copra producers on the island rely heavily on food security. Here are a few reasons why food security is so important.

Wawonii Island's copra processing farmers rely heavily on copra production and sales for income. Food security ensures the consistent production and supply of copra, the basic material. This helps farmers preserve their income, avoid supply shortages, and increase their economic sustainability.

Copra farmers rely heavily on food security to sustain their livelihoods. Farmers can maintain their own and their families' health by ensuring production and providing access to sufficient and nutritious food. Furthermore, the steady income from copra production enables people to cover fundamental requirements like housing, education, and healthcare. Coconut growers depend on coconuts for their primary source of income. Food security guarantees that enough coconuts are produced to meet local demand as well as external markets. Food security allows farmers to keep their revenue, avoid supply shortages, and increase their well-being.

Copra processing producers' food security benefits the local community. Local communities can ensure a steady and healthful food supply by producing enough copra. This is critical for minimizing reliance on food imports while also ensuring enough local food supply.

To ensure food security for Wawonii Island's copra processing farmers, it is critical to enhance copra output sustainably, maintain and manage natural resources wisely, improve access to contemporary agricultural knowledge and technology, and support farmers' economic sustainability. Appropriate governmental assistance, training, and financing are also required to ensure the expansion and sustainability of copra processing business. Furthermore, building relationships among farmers, the

government, and other relevant parties is critical to promote the growth of this sector and improving the well-being of copra processing farmers. Based on this, this study examined food security and diversity among copra processing farmer households in the Northeast Wawonii District of Konawe Islands Regency.

METHODS

This study was carried out in the Northeast Wawonii District, Konawe Islands Regency, Southeast Sulawesi. Northeast Wawonii District is one of the coconut plantation development areas, with most of its population working as copra processors, with a sample of 30 families from the district. The sample is a subset of the population that acts as the study's data source, and the population is defined by the number of characteristics it possesses. The snowball sampling strategy was utilized, by selecting sample members at random from a population without regard for stratification (Sugiyono 2018).

The Household Food Insecurity Access Scale (HFIAS) was used to quantify household food security among copra processing farmers. The HFIAS technique employs nine specific questions about the household's concerns, availability, and accessibility to food over the last 30 days (Coates *et al.* 2007). Standard scoring techniques were used: 0 points were assigned if the incident described by the question never occurred, 1 point if it occurred once or twice in the past 30 days (rarely), 2 points if it occurred three to ten times (occasionally), and 3 points if it occurred ten times (often).

Household Food Insecurity Access Category for each household were: 1 = food secure, 2 = mild food insecurity, 3 = moderate food insecurity, and 4 = severe food insecurity. In addition to household food security, this study investigated the variety of foods consumed by copra processing farmers. The HDDS (Household Dietary Diversity Score) approach was used to investigate the diversity of food consumption among copra processing farmer families. HDDS is a list of food kinds recommended by the FAO (Food and Agriculture Organization) to reflect a household's economic ability to access a diversity of foods. (Cordero–Ahiman *et al.* 2017). Each food group ingested or not consumed by respondents was assigned a value of 1 or 0, according to the method employed by Kaur *et al.* (2019). Dietary diversity was assessed in three categories: (1) Low (food groups 1–6); (2) Moderate (food groups 7–12); and (3) High (food groups 13–16) (Cordero–Ahiman *et al.* 2017).

RESULTS AND DISCUSSION

Copra Farmers' Income

Food security is inextricably connected to providing the nutritional requirements of individuals and households. Individuals or households facing malnutrition have low levels of food consumption, both in quantity and quality. This can be caused by a variety of circumstances, such as food availability, limited access to food, incorrect food ingredient utilization, or nutritionally insufficient diet (Susanti 2019). Copra growers' income was calculated by subtracting revenue from all expenses. Farmer income is occasionally used to assess the welfare of farming families. Farmers with high incomes are regarded as more prosperous than those with lesser incomes. The results revealed that the lowest copra business income was IDR210,814, and the maximum was IDR521,814, with an average income of IDR345,714 every production cycle. Copra processing took 45 days, thus farmers earn between IDR1,264,884 and IDR3,130,884 per month.

Household Food Insecurity Access Scale (HFIAS)

Food security is described as the availability of requirements for all humans, which must be sufficient in quantity and quality, healthful, and safe for consumption on a long-term basis (Rahmawati *et al.* 2020). Household food supply is a fundamental requirement that must be satisfied. As a result, a food stock is required to cover all the nutritional and energetic requirements of all family members. Food availability is a vital prerequisite, but it is not yet sufficient (required but insufficient) for long-term food intake since achieving food security at the regional and family levels is influenced by a variety of factors. Food security includes not just the availability of food in

sufficient numbers, but also nutritional fulfillment, accessibility, and food quality and safety.

Figure 1 depicts the findings of a family food security assessment of copra growers. It demonstrates that 80% of copra farming households in the Northeast Wawonii District are food secure, whereas 3% are in the severe food insecurity category. Copra farming households are food secure, even though their revenue from copra cultivation is very modest. This is because they did more than only produce copra; they also fish and cultivate plantation crops like cloves, nutmeg, cashew nuts, and others to support their families' needs. This is consistent with Husni *et al.* (2023) findings on the food security of fishermen's households on Medang Island, which was calculated based on respondents' energy and protein consumption, which may be determined by their food consumption. The findings indicated that the resilience of fishermen's homes on Medang Island falls under the category of food-secure households. Farmer households derive revenue not just from fishing but also from non-fishing activities like as farming and muezzin, which were carried out by husbands, and traders and midwives by wives. Fishermen on Medang Island, like copra processing farmers in Wawonii Northeast District, were looking for additional revenue streams from their businesses. Husni *et al.* (2023) found that coastal areas have a higher percentage of food-secure households. Local supportive elements can have an impact on food security in coastal communities. According to the report, fishermen families in Minahasa's coastal communities supplement their income with coconut plantations. However, to suit their nutritional needs, they select less expensive fish. Some coastal villagers have large gardens and yards, allowing them to grow foods other

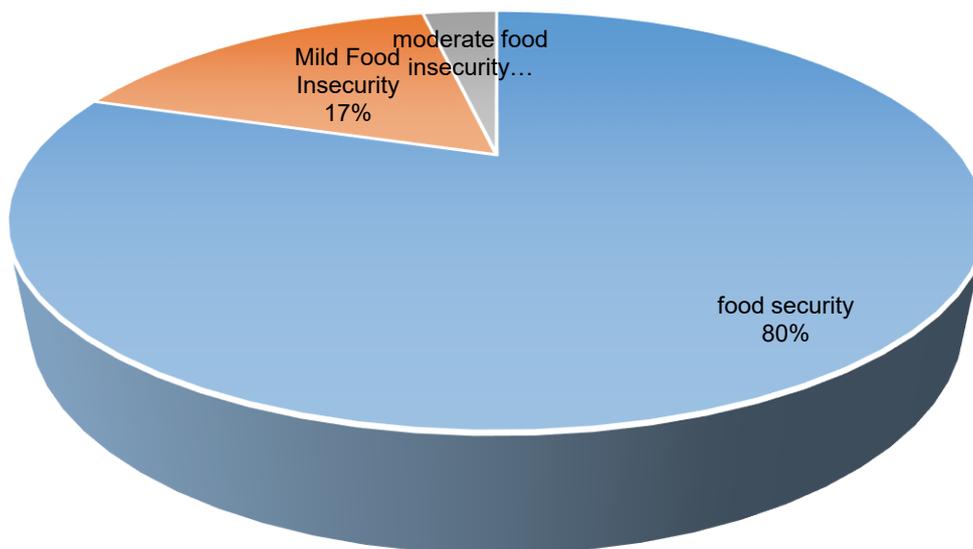


Figure 1 Category of food security regarding copra processing farmers in Northeast Wawonii District, Konawe Islands Regency.

than rice. This can help to improve food security in coastal areas.

Several studies have found that the economic well-being and consumption of farming and fishing households are heavily influenced by the seasonal availability of production inputs to support their farming activities. However, this does not always imply that these homes are food insecure, as both farmers and fishermen have additional sources of income that might help with household food security.

Household Dietary Diversity Score (HDDS)

According to the FAO (2007), the household dietary diversity score (HDDS) is a technique used to assess the level of variation in food diversity consumed by households. The HDDS uses a grouping in the scoring assessment to determine the amount of food consumed. Food diversity refers to increased consumption of diverse food groups that can meet nutritional requirements for good health. Not all foods contain nutrients; consuming a range of foods is intended to meet a person's nutritional needs (Kennedy *et al.* 2013). The following are the findings from an analysis of the dietary diversity consumed by copra processing farmers in Northeast Wawonii District.

Figure 2 depicts the analysis results, which demonstrate that rice, fish, oil, sugar, and spices are the most popular home foods among copra processing farmers in this study area. Meanwhile, eating meat, eggs, veggies, and sugar remain uncommon. This is owing to the district's geographical characteristics, with most of the people living around the coast. The community's livelihoods include not only copra processing growers, but also fishers, whose produce is primarily consumed by family members and the remainder commercialized. This situation influences

the consumption patterns and diversity of household food consumption among copra processing producers. Farmers prefer to eat food that is readily available in their area rather than purchasing it from beyond the island. Consumption of meat, eggs, fruit, and vegetables is likewise classified as low because they must be purchased in Kendari City, which is located beyond the island. Farmers and their families consume less variety meals due to the area's remote environment and distance from markets, preferring to use local foods accessible near their homes. Amalia (2022) found that food consumption in a sample of coastal households in Tanjung Pendam during the COVID-19 epidemic was still primarily rice-based. Bread, cassava, and tapioca flour, which are turned into different foods, are examples of staple food alternatives. Fish, poultry, eggs, tofu, and tempeh are the most common sources of vegetable protein in side dishes. Vegetable consumption is quite good and diverse, while fruit consumption remains low.

CONCLUSION

Copra processing farmer households in Northeast Wawonii District are food secure (80%), even though their income is relatively low, ranging from IDR1,264,884 to IDR3,130,884; however, they can meet their family's food needs. Farmers have additional businesses besides copra processing, including fishing, clove, nutmeg, and cashew nut farms. Rice, fish, oil, sugar, and spices are the most common household foods consumed by copra processing farmers in Northeast Wawonii District, as access to markets outside the island is restricted.

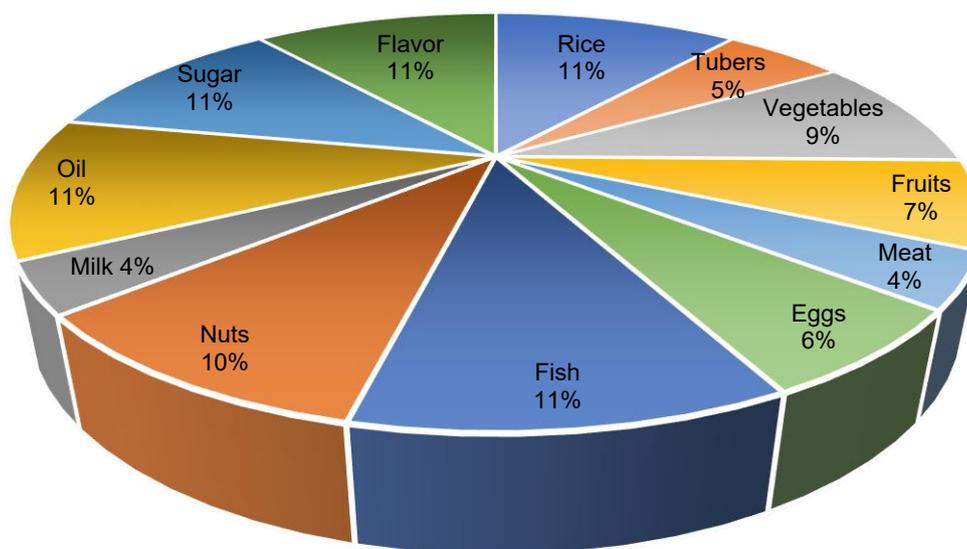


Figure 2 Food diversity of copra processing farmers in Northeast Wawonii District, Konawe Islands Regency.

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