

Mapping of food accessibility and affordability conditions at small scale farmers households (case study in Ogan Ilir Regency South Sumatra-Indonesia)

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Abstract

Indonesia faces food security issues, including availability, affordability and staple food prices. The condition of food security affects the ability of households to access and achieve food fulfillment. The study aimed to map the availability and affordability of staple food in Ogan Ilir District, South Sumatra-Indonesia. The staple food accessibility conditions map and Staple food affordability map were carried out through scoring analysis using the class interval method. The result of this study shows that domestic food capacity was in the unfavorable criteria. Food reserves are in the less good criteria. This condition indicates that households do not have staple food reserves at home. The score for supplying food from local sources is in the not good criteria. The food aid condition is not good because there is no food aid, received by the communities. The food logistics system is not in good criteria because the majority of households in the village do not have refrigerators, the people's purchasing power for staple food is good, but other additional food is still unable to be bought. The price of staple food shows a price increase that is quite frequent in rural areas where households have difficulties fulfilling staple food continuously. The household income level shows that when income decreases, they will reduce the amount of food purchased.

1. Introduction

Food security is defined as the availability of sufficient, safe, and nutritious food to meet dietary needs and preferences for an active and healthy life, covering temporality, availability, quality, safety, and cultural preferences (Leroy *et al.*, 2015). Mapping each province's situation is critical for prioritizing policy and performing quick measures to solve food security disparities in Indonesia (Rahayu *et al.*, 2019). Food sustainability is crucial for sustainable development, and mapping food systems helps identify target groups and entry points for improvement using a power/interest matrix (Jacobi *et al.*, 2019). Food Accessibility at small scale farmers will be when the households and all individuals in it have adequate resources to obtain the staple food. This accessibility is influenced by household income, household income distribution and food prices (Rahayu *et al.*, 2019).

Globalization and agrifood supply chains offer benefits like fresh produce and modernization, but increased reliance on imports reduces food and nutrition resilience, as seen in financial, climatic, and pandemic-driven disruption (Jensen and Orfila, 2021).

Small farms require market integration and efficient supply chains. The Rural Development Program support these through Short Supply Chain, promoting short, efficient, and affordable connections between farmers and consumers. New markets are being built in small towns (Toma *et al.*, 2021).

Indonesia faces food security issues, including availability, accessibility, and stability. Food utilization is crucial in efforts, with challenges in agriculture, transportation, and restriction regulation. Opportunities exist (Rozaki, 2021). Regulations govern the responsibilities and powers of Indonesian food control agencies, overseen by central, provincial, and local governments. These regulations cover fresh and processed food types in Indonesia (Barinda and Ayuningtyas, 2022). Premium prices hinder sustainable food consumption, creating affordability for customers by treating liberal spending on alternative foods as prudent while conventional foods are considered imprudent (Bååth, 2022). Agripreneurship techniques can improve food security by ensuring availability, accessibility, and affordability. Policymakers should focus on supply-side and demand-side factors.

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Agripreneurship, in collaboration with donor communities and development partners, can transform the agriculture sector, promoting food security, poverty reduction, and socio-economic transformation (Kazungu and Kumburu, 2023).

Food accessibility, ease of use, availability, and stability. Similarly, accurate and trustworthy food security measurement is needed for any type of analysis, programming, and monitoring related to specific objectives (Manikas *et al.*, 2023). Analyzing food security factors is important for forecasting future shocks, evaluating household reactions to insecurity, and maintaining rural food safety evaluations in the study area (Woleba *et al.*, 2023). The effects of agricultural export incentives on domestic food security show that agro-export promotion negatively impacts urban areas and national levels due to increased food prices. Rural households benefit more, with stronger effects from international market volatility and declines in domestic productivity can further deteriorate access to food (Aragie *et al.*, 2023). Low-income and food-insecure households face challenges in sustaining a nutritionally adequate diet, particularly in childhood, highlighting the importance of addressing household-level factors (Eicher-Miller *et al.*, 2023).

The availability and affordability of food for farming households in rural areas remain a problem, particularly in remote areas far from urban access, where agricultural production activities are still small, with sub-optimal land conditions that cultivate traditionally so that the resulting rice production is insufficient to meet needs. Many farming households in rural Indonesia, particularly in Ogan Ilir Regency, South Sumatra Province, are affected by this condition. The conditions of availability and affordability of food in an area describe the food security conditions, where households can meet their basic food needs under proper conditions, and to fulfill this reason, research needed that explores food security and food availability in Ogan Ilir Regency to obtain an overview of the food security through mapping carried out based on the current situation from the opinions of respondents who represent the population of farming households in food insecure locations. The purpose of this research is to map the conditions of staple food availability and affordability in Ogan Ilir Regency, South Sumatra Province-Indonesia. This study aimed to formulate recommendations for increasing the availability and affordability of food for farming households in rural areas based on the mapping.

2. Materials and methods

The study uses a purposive sampling method to represent the population of Ogan Ilir Regency and gather

opinions on studies. The sample includes 90 respondents within 45 per study area focusing on households with low income and experiencing food insecurity conditions. The research method used is a survey method. Primers and seconds data are the kinds of data used in this study. Data analysis for staple food accessibility and affordability condition performance was conducted using the interval class method, with ordinal scales based on categorical values. Mapping the conditions of staple food accessibility and affordability will be carried out through scoring analysis using the class interval method. Data obtained from the field is processed in various ways. Data will be measured using an ordinal scale based on score assessments, namely: score 1 for the not good category, score 2 for the poor category, score 3 for the good category and score 4 for the very good category.

After scoring, the data will transform into an indicator index. The indicator index value is in the range of 0 – 100. The assessment criteria are divided into four classifications with interval length = $100-0/4 = 25.00$.

3. Results and discussion

3.1 Conditions of staple food availability in Ogan Ilir Regency

Food availability refers to the total food production, including ports and buffer stocks in government granaries. It involves production and distribution at household, community, state, and international levels. Self-production is the primary means for the majority of the hunger. Distribution involves food and products to humanitarian and retail outlets, with well-functioning market systems determining availability (Kumar *et al.*, 2021) Food security, originating in the 1970s, assesses a nation's food availability by estimating kilocalories of domestic and imported foodstuffs (Kolog *et al.*, 2023). The condition of food availability in Ogan Ilir Regency is seen from several indicators, namely the food production capacity, food reserves, provision of food from local resources and food aid. The condition mapping result can be seen in Figure 1.

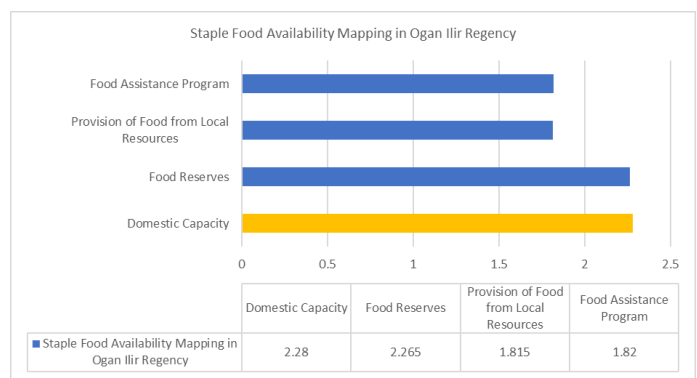


Figure 1. Conditions of staple food availability mapping.

3.1.1 Food production capacity

The growing global population demands food, with healthy nutrition a major issue. Agriculture faces challenges like land competition, water shortages, and climate change while contributing significantly to environmental impacts (Buchholz *et al.*, 2023). The area's agricultural conditions involve mixed farming in the district and subsistence crop production as the primary livestock husbandry livelihood strategy (Bahiru *et al.*, 2023).

Food production capacity describes the amount of food produced at the study locations and the mapping of food availability conditions from production quantities in Ogan Ilir Regency, represented by Soak Bato Village and Lebak Pering Village. The better the production capacity, the higher the food availability in this area.

Based on Table 1, it can be seen that food production capacity measures the quantity of food produced in Soak Bato Village and Lebak Pering Village, affecting food availability in Ogan Ilir District. The data shows that the total domestic food capacity in Soak Bato Village meets the poor criteria with a score of 2.19. This condition can be seen from the statement of respondents that the amount of rice production currently does not meet the needs of consumption at home. Households in this village also do not have ponds or livestock that can be used to meet daily consumption.

According to Table 2, the data shows that having a pond and livestock can be used for food consumption needs, and any excess to being sold meets the score of 1.76 with poor criteria. It shows that in Lebak Pering Village, farming and animal husbandry activities have not been developed much by farming households, so they are not yet able to meet the need for animal food for daily needs from their own production.

3.1.2 Food reserves

National food reserves are critical for ensuring food availability because they protect food vulnerabilities, anticipate supply and price variations, and prepare for natural and societal disasters. In 2020, 27.55 million Indonesians were impoverished, with 70 districts/cities facing food insecurity (Yulianis *et al.*, 2021). Available food reserves describe how much food stock can meet household needs. It determines the condition of household food availability. If the food reserves at home can meet the needs for a longer time, the availability of staple foods is well met. It is an indicator of household food availability.

According to Table 3, the data show that food reserves in Soak Bato Village meet the poor criteria with a score of 2.21. This condition indicates that households in Soak Bato Village do not meet staple food reserves at home. The only food available was rice, while other staple foods were unavailable at home in the form of stock or reserves.

Table 4 shows that having staple food reserves for the next week and month can be an effort to increase the provision of household staple food needs. The conditions in Lebak Pering Village show that many farming households do not provide staple food as food reserves at home one week at a time in the next month. Farming households in this area do not have food reserves. Available food in a day consumed on the same day.

3.1.3 Provision of food from local resources

Provision of food from local resources is one indicator of household food availability, if a household can meet food needs by obtaining its own crops or livestock, food availability will be better. Lebak Pering and Soak Bato villages struggle to provide food from local resources, with crops and livestock insufficient for household needs. Households lack vegetables, fish

Table 1. Soak Bato Village domestic food capacity.

No	Indicators	Average Score	Criteria
Domestic Food Production Capacity			
1	The amount of rice production can meet consumption needs at home	2.07	Poor
2	Growing your own food can be used for food, and the excess can be sold	2.50	Good
3	Having a pond and livestock can be used for food consumption needs, and any excess to be sold	2.00	Poor
Total		2.19	Poor

Table 2. Lebak Pering Village domestic food capacity.

No	Indicators	Average Score	Criteria
Domestic Food Production Capacity			
1	The amount of rice production can meet consumption needs at home	2.41	Poor
2	Growing your own food can be used for food, and the excess can be sold	2.94	Good
3	Having a pond and livestock can be used for food consumption needs, and any excess to sold	1.76	Poor
Total		2.37	Poor

Table 3. Soak Bato Village food reserve.

No	Indicators	Average Score	Criteria
Food Reserves			
1	Have staple food reserves at home such as rice and basic necessities	2.57	Good
2	Have basic food reserves for the next week	2.46	Poor
3	Have basic food reserves for the next month	1.61	Poor
Total		2.21	Poor

Table 4. Lebak Pering Village food reserve.

No	Indicators	Average Score	Criteria
Food Reserves			
1	Have staple food reserves at home such as rice and basic necessities	2.58	Good
2	Have basic food reserves for the next week	2.70	Good
3	Have basic food reserves for the next month	1.70	Not Good
Total		2.32	Poor

ponds, and livestock, limiting self-cultivation opportunities.

According to Table 5, it can be seen that all indicators in providing food from local sources are in the criteria of not being good or not being good. It gives the idea that the provision of food from local resources has not received any attention, and the local community has not yet implemented it to meet the daily food needs of their households. Of course, it requires increased knowledge of agro-silvo-pastoral activities that can be implemented in this location that can increase the availability of staple food for poor households.

According to Table 6, having a fish pond for consumption at home gets the lowest score, 1.47, and the criteria are not good. It demonstrates that the average farming household in Lebak Pering Village does not engage in fishing activities. Despite having appropriate natural circumstances for land pond fishing, farmers are not doing fishing activities in this village due to a lack of understanding.

3.1.4 Food assistance program

Improving local food access and assistance services is crucial for recovery from public health emergencies, especially for those with high food insecurity and disproportionately high prevalence among people (Larson *et al.*, 2021). The food assistance program is one of the factors that can assist households in providing staple food at home. Mapping the condition of food aid in the study area aims to determine the contribution of food aid in assisting the availability of staple food in farmer households.

The data shows in Table 7, that the condition of food assistance in the two villages was not good, with a score of 1.66 in Soak Bato Village and 1.98 in Lebak Pering Village. These two conditions were due to the absence of food assistance received by the people in these two villages. The community feels that there is no food assistance provided by the government, especially food other than rice. For Soak Bato Village, there was absolutely no food aid, while in Lebak Pering Village, food aid arrived but was still very little.

Table 5. Provision of food from local resources in Soak Bato Village.

No	Indicators	Average Score	Criteria
Provision of food from local resources			
1	The average household grows its own vegetables and fruit for food	1.69	Not Good
2	Have a fishpond for consumption at home	1.42	Not Good
3	Have livestock for consumption at home	2.03	Poor
Total		1.71	Not Good

Table 6. Provision of food from local resources in Lebak Pering Village.

No	Indicators	Average Score	Criteria
Provision of food from local resources			
1	The average household grows its own vegetables and fruit for food	2.35	Poor
2	Have a fishpond for consumption at home	1.47	Not Good
3	Have livestock for consumption at home	1.94	Poor
Total		1.92	Poor

Table 7. Food assistance in Soak Bato Village.

No	Indicators	Average Score	Criteria
Food assistance			
1	The amount of food aid received from both the government and other donors is appropriate.	1.65	Not Good
2	The provision of food aid has been felt to be fairly distributed	1.65	Not Good
3	Village residents receive food assistance on a monthly and timely basis	1.69	Not Good
Total		1.66	Not Good

Table 8. Food assistance in Lebak Pering Village.

No	Indicators	Average Score	Criteria
Food assistance			
1	The amount of food aid received from both the government and other donors is appropriate.	2.11	Poor
2	The provision of food aid has been felt to be fairly distributed	2.05	Poor
3	Village residents receive food assistance on a monthly and timely basis	1.79	Poor
Total		1.98	Poor

From the data obtained in Table 8, the recommendation for improvement in providing food assistance is that Village residents receive food assistance on a monthly and timely basis. The assistance provided every month to poor farming households in rural areas is expected to provide increased food accessibility for farming households experiencing food shortages.

3.2 Conditions of staple food affordability in Ogan Ilir Regency

Global population growth demands affordable, nutritious food, requiring agricultural industry improvement (Schulman *et al.*, 2023). The explores how suppliers, intermediaries, and customers in a market-based alternative food network assess the economic value of alternative foods while constructing them as affordable. Alternative food refers to local, small-scale, and organic produce, contrasting supermarkets and industrial production methods. These foods are generally more expensive than conventional, requiring steeper prices to challenge the current system (Bååth, 2022). The condition of food affordability in Ogan Ilir Regency is seen from several indicators, namely the food logistics system, staple food purchasing power, staple food prices, and total household income. The condition mapping result can be seen in Figure 2.

3.2.1 Food logistic system

The logistics system describes the affordability of food for households. The better the logistics or food storage system for the household, the better the affordability of food for the household. In rural farming households, the average staple food logistics system is still manual or traditional so food preservation is also limited in time. On average, households in these two villages have poor food logistics. This is because the majority of households do not have refrigerators, so food

is purchased only for the same day. There is no logistics system for farming households, so this results in potential food insecurity or hunger.

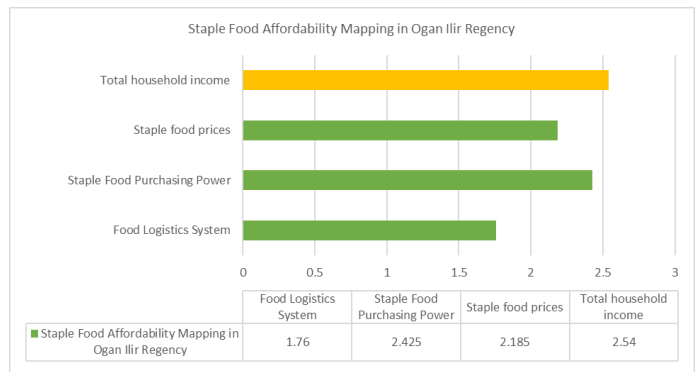


Figure 2. Conditions of staple food affordability mapping.

The analysis results in Table 9 show the lowest score, 2.07, with poor criteria in the indication. Has food storage facilities such as a refrigerator, barn, and so forth. Because the ordinary agricultural household in Soak Bato Village does not yet have food storage facilities in the form of a refrigerator, this situation exists. As a result, the food offered only lasts one day and is quickly eaten. As a result of this scenario, households do not have appropriate food reserves.

Table 10 study findings show a score of 1.34 with the poor criterion for buying food needs all at once for a period of one-month indication, indicating that farmer households lack the ability to purchase food reserves for the next month. It is due to insufficient household income to provide food reserves.

3.2.2 Staple food purchasing power

The specific link between food availability and affordability among regencies and municipalities, with high availability implying a large marketable surplus and high affordability implying a low marketable surplus (Noormansyah *et al.*, 2023). The purchasing power of staple foods for households shows that households have

Table 9. Food logistics system in Soak Bato Village.

No	Indicators	Average Score	Criteria
Food logistics system			
1	Has food storage in the form of a refrigerator, barn, etc.	2.07	Poor
2	Buy food needs at once for a period of one week.	1.76	Poor
3	Buy food needs all at once for a period of one month.	1.34	Not Good
Total		1.72	Poor

Table 10. Food logistics system in Lebak Pering Village.

No	Indicators	Average Score	Criteria
Food logistics system			
1	Has food storage in the form of a refrigerator, barn, etc.	1.64	Not Good
2	Buy food needs at once for a period of one week.	2.35	Poor
3	Buy food needs all at once for a period of one month.	1.41	Not Good
Total		1.80	Poor

access to staple foods that are needed daily. The higher the purchasing power of food, the better the affordability of staple food for the households. Purchasing power is an indicator that the quality of staple foods consumed is better. The results of the study in the two villages in Ogan Ilir Regency show that the purchasing power of the people in this area for staple food is good, the average farmer household is able to buy all types of staple food, but for food other than staple food such as additional types of food such as cakes, snacks, snacks and various drinks such as milk, soda, and others, respectively, are not good.

Tables 11 and 12 demonstrate that the indicator There are additional sorts of food purchased outside of staple foods such as basic foodstuffs and rice that received a poor score (purchasing snacks, cakes, milk, and snacks) since the average farming household cannot afford to buy food other than staple foods. Farmer households never buy snacks, drinks, or other items because their income is insufficient to fulfill their basic food demands.

3.2.3 Staple food prices

The price of staple foods affects the affordability of food for households. The more stable food prices, of course, the higher the ability of households to reach staple foods in the market. Food security can be fulfilled if staple food prices are stable and do not experience large increases so that households are able to continuously provide a daily supply of staple food for their family members. The results of an analysis of staple food prices in Ogan Ilir district show that prices increase quite frequently in rural areas, so households have difficulties fulfilling staple food continuously. Increases in staple food prices that often occur in rural areas are due to a lack of stability in the supply of staple foods to remote areas. Unstable supply causes very frequent price fluctuations, so people have difficulty buying staple foods.

Table 13 shows that the lowest score is 1.73 with poor criteria for the indication. The rise in staple food prices affects daily/weekly/monthly food purchases, demonstrating that the influence of rising and dropping

Table 11. Purchasing power in Soak Bato Village.

No	Indicators	Average Score	Criteria
Purchasing power			
1	All types of staple food can always be purchased	2.61	Good
2	There are additional types of food purchased outside of staple foods such as basic foodstuffs and rice (buying snacks, cakes, milk and snacks)	2.00	Poor
3	Additional purchases of drinks such as (tea, soda drinks, coffee, milk)	2.34	Poor
Total		2.31	Poor

Table 12. Purchasing power in Lebak Pering Village.

No	Indicators	Average Score	Criteria
Purchasing power			
1	All types of staple food can always be purchased	2.88	Good
2	There are additional types of food purchased outside of staple foods such as basic foodstuffs and rice (buying snacks, cakes, milk and snacks)	2.23	Poor
3	Additional purchases of drinks such as (tea, soda drinks, coffee, milk)	2.52	Good
Total		2.54	Good

Table 13. Prices of staple food in Soak Bato Village.

No	Indicators	Average Score	Criteria
Prices of staple food			
1	Food purchasing prices in this village are felt to have increased	2.42	Poor
2	The prices of staple foods sold in this village often change	2.07	Poor
3	The increase in staple food prices influences daily/weekly/monthly food purchases	1.73	Not Good
Total		2.07	Poor

Table 14. Prices of staple food in Lebak Pering Village.

No	Indicators	Average Score	Criteria
Prices of staple food			
1	Food purchasing prices in this village are felt to have increased	2.64	Good
2	The prices of staple foods sold in this village often change	2.76	Good
3	The increase in staple food prices influences daily/weekly/monthly food purchases	1.52	Not Good
Total		2.30	Poor

basic food prices has a significant impact on agricultural households' ability to purchase these staple foods. Rising food prices may force agricultural households to lower the amount of food they buy and consume on a daily basis.

Table 14 shows the lowest score, 1.52, with weak criteria in the indication. If income decreases, it also affects the amount of food purchased; this is connected to purchasing power; if the harvest decreases, the farmer's household income reduces as well, causing individuals to buy food to decrease. Farmers will minimize the quantity and quality of food they consume in order to save money until the harvest returns.

3.2.4 Total household income

Total household income is an indicator of food affordability; the higher the level of household income received, the greater the household's ability to reach staple food to meet the daily needs of the family. The results of the analysis of household income levels in Ogan Ilir District show that the amount of food purchased will follow the income earned by the

household. When income decreases, households will reduce the amount of food purchased, and when income increases, households will try to improve the quality of food consumed. This condition shows that the affordability of staple foods in rural households is highly dependent on the income received by farmers.

The study found low household income diversification, leading to food insecurity. However, income diversification significantly contributes to food security by enhancing access to food. Income diversification and food security have an unbreakable connection. Diversification of income generates more revenue, relieving household financial constraints (Etea *et al.*, 2019).

Table 15 shows that as income falls, so does the amount of food purchased, with a score of 2.00, indicating a low criterion. This situation indicates that when revenue decreases due to crop failure, farming households in Soak Bato Village will reduce the amount of basic food consumed. Households will minimize the types of food and side dishes consumed daily, limiting the quantity and quality of available food, and increasing

Table 15. Total household income in Soak Bato Village.

No	Indicators	Average Score	Criteria
Total household income			
1	The family's current income can afford all the food needs at home	2.34	Poor
2	If income decreases, the amount of food purchased is reduced	2.00	Poor
3	If income increases, the quality of food will be improved	2.84	Good
Total		2.40	Poor

Table 16. Total household income in Lebak Pering Village.

No	Indicators	Average Score	Criteria
Total household income			
1	The family's current income can afford all the food needs at home	2.47	Poor
2	If income decreases, the amount of food purchased is reduced	2.64	Good
3	If income increases, the quality of food will be improved	2.94	Good
Total		2.68	Good

the risk of food insecurity.

Table 16 displays the lowest score. With a score of 2.47 and low requirements, the family's present income can cover all of the family's food demands at home. This is because, in order to cover all of the home's food needs every day, all household members will look for additional work.

3.3 Recommendations for increasing food accessibility and affordability

The scores acquired from this mapping can be used to make recommendations based on the results of mapping factors of food accessibility and affordability for farming households in Ogan Ilir Regency. The lowest possible score indicates that this indicator needs to be improved for the purpose of enhancing food accessibility and affordability in this area. Recommendations for the lowest scores can be seen in Table 17 below.

Table 17 indicates that several indicators of food availability and affordability require improvement, which is critical to ensure the conditions of food accessibility and affordability at the farming household level can improve, and household food security in this village may improve. The recommendation for domestic food capacity in the food accessibility indicators is to increase agricultural yields so that it can meet household consumption needs through agricultural intensification programs as well as carrying out integrated agriculture activities such as agro-silvo-pastory, which could be carried in rural areas with swampy land conditions.

Improvement efforts can be made in the food reserve indicator by preparing staple food reserves in farmer households. It was a problem to buy staple food because the market was only open once a week, which is called a

community market (Pasar Kalangan), so it was necessary to have sufficient food reserves for one week to meet household consumption needs. It is difficult for farming households to have limited purchasing power and revenue. The food amount that can be provided does not have reserves for the next week. The presence of government food aid will undoubtedly be a solution to this problem, as will the opportunity to use your plants.

In the context of affordability indicators, the main food problem in the two research locations is that the average farmer household does not have a good logistics system, where ownership of food storage facilities is insufficient, farmers lack a refrigerator for storing food, and knowledge about food preservation is also limited. This condition can be overcome by providing food storage facilities such as refrigerators through an interest-free loan or credit system for poor households, as well as sharing storage in certain community locations that allow shared food storage.

Farming households are also unable to afford food purchases other than staple foods which is a need for additional food programs provided in this location, therefore can improve the food nutrition and nutrients. Current household income is still not able to meet the household consumption needs properly, which is a need for alternative livelihoods other than farming that can help increase the income of farming households in this area.

4. Conclusion

The conclusion of this study shows that domestic food capacity was in the unfavorable criteria. Food reserves are in the less good criteria. This condition indicates that households do not have staple food reserves at home. The score for supplying food from

Table 17. Recommendations for increasing food accessibility and affordability.

Recommendations Indicators	
Food Accessibility	Food Affordability
Domestic Food Capacity	Food Logistics System
The amount of rice production can meet consumption needs at home	Has food storage in the form of a refrigerator, barn, etc
Having a pond and livestock can be used for food consumption needs, and any excess to sold	Buy food needs all at once for a period of one month.
Food reserves	Purchasing Power
Have basic food reserves for the next week and month	There are additional types of food purchased outside of staple foods such as basic foodstuffs and rice (buying snacks, cakes, milk and snacks)
Provision of Food from Local Resources	Prices of Staple Food
The average household grows its own vegetables and fruit for food	The increase in staple food prices influences daily/weekly/monthly food purchases
Have a fishpond and livestock for consumption at home	Total Household Income
Food Assistance	The family's current income can afford all the food needs at home
Village residents receive food assistance on a monthly and timely basis	If income decreases, the amount of food purchased is reduced

local sources is in the not good criteria. The food assistance condition is not good because there is no food aid received by the communities. The food logistics system is not in good criteria because the majority of households in the village do not have refrigerators, the people's purchasing power for staple food is good, but other additional food is still unable to be bought. The price of staple food shows a price increase causes households to have difficulties fulfilling staple food.

Several indicators of food availability and affordability that require improvement are agricultural intensification programs as well as carrying out integrated agriculture activities such as agro-silvo-pastory. The presence of government food aid will undoubtedly be a solution to this problem, as will the opportunity to use your plants. Providing food storage facilities such as refrigerators through an interest-free loan or credit system for poor households, as well as sharing storage in certain community locations that allow shared food storage and the need for alternative livelihoods other than farming can help increase the income of farming households in this area.

Conflict of interest

The authors declare there is no conflict of interest.

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