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AGRIBUSINESS SYSTEM AND LOCAL WISDOM IN FULFILLING FOOD OF FISHERMEN'S COMMUNITY IN LONTAR VILLAGE, SERANG REGENCY

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ABSTRACT

This research aimed to analyse the agribusiness system and local wisdom in the fulfilment of food, and the mechanism for meeting the food needs of fishermen households in Lontar Village, Tirtayasa District, Serang Regency. Direct interviews were conducted with fishermen living in the coastal area of Lontar Village who are members of the Joint Business Group using a list of questions. The data was analysed using the Food Coping Strategy Index to study the mechanism of fishermen's households for meeting their food needs to increase food security. The research results showed that fishermen's households in Lontar Village rely on coastal agriculture and fisheries business diversification as the main strategy for filling food needs. Based on the Food Coping Strategy analysis, fishermen's households implemented mechanisms to face the crisis with defensive behavior to meet food needs from Level I to Level III. This defensive behavior is dominated by efforts in Phase I, such as looking for a side job (61.11%), gardening (33.33%), raising goats (44.44%), reducing the type of food consumed (66.67%), and reducing meal frequency by 50% of households. On the other hand, the behavior of often using their savings to buy food dominated level II by 16.65%, borrowing money from close relatives by 55.56% and buying food needs by paying later as much as 22.22% of households. Stage III was carried out with migration to cities and abroad by 66.67% of households.

INTRODUCTION

The Sustainable Development Goals (SDGs) promoted by the United Nations, which Indonesia is committed to achieving, are a global program that has 17 goals, one of which is Zero Hunger. These development goals are intended to end hunger, achieve food security and improved nutrition, and promote sustainable agriculture worldwide (United Nations, 2015). Food security, according to Law No. 18 of 2012 on Food, is the condition of food availability for the nation down to the individual, reflected in the availability of sufficient, safe, diverse, nutritious, equitable, and affordable food that does not conflict with the religion, beliefs, and culture of the community, enabling individuals to live healthy, active, and productive lives sustainably. The three main components of food security are food availability, food access, and the utilization of nutrients in food (Abdullah et al., 2017). With various challenges such as climate change, land conversion, and resource degradation of land and water, food security has become one of the crucial sectors in Indonesia.

Lontar Village is one of the villages located in the coastal area of the northern coast of Banten Province. The majority of the livelihoods of the people in Lontar Village are fishermen. This village was initially an aquaculture area covering approximately 700 square meters. However, this area has suffered from abrasion (erosion) that has damaged the residents' fish ponds and impacted the local economy, especially that of pond owners and workers. This was noted in a study by Soleman et al. (2012), which stated that the northern and western regions of Banten Province are highly susceptible to abrasion and flooding disasters. This vulnerability was also emphasized by findings from Rahmat and Handayani (2021), which indicated that there are eight sub-districts in the northern coastal area of Banten with very vulnerable Coastal Vulnerability Index (CVI), namely Kosambi, Teluk Naga, Pakuhaji, Sukadiri, Mauk, Kronjo, Tirtayasa, and Puloampel. The Coastal Vulnerability Index (CVI) is a method for identifying coastal area vulnerabilities to disturbances from both natural and human activity factors (Bevacqua et al., 2019). To address this, the Lontar Village government collaborates with local residents to carry out mangrove forest conservation efforts. This conservation activity has now developed into mangrove ecotourism in Berangbang Village, Lontar, Serang Regency (Heriati et al., 2020).

The conservation of the mangrove ecosystem provides many benefits to the coastal community of Lontar. This occurs because mangrove forests have several functions, including biological/ecological functions, physical functions, and socio-economic functions, as expressed by Kustanti (2018). The mangrove ecosystem is a system consisting of biotic and abiotic environments that interact within a mangrove habitat (Noor, 2012). The existence of mangrove forests plays an important role as an environmental area and a breeding ground for marine biota, as well as a source of timber products. Mangrove forests also help

stabilize the coastline, protect against abrasion, tsunamis, and tropical storms, and play a crucial role in controlling water quality and mitigating climate change globally.

Based on field monitoring, the current population of mangroves around the ecotourism site is increasing. Local communities, whose main profession is fishing, are also engaging in seaweed cultivation along the coast as an additional source of family income. Seaweed is an important marine commodity that plays a significant role in meeting domestic and international market needs, thus requiring ongoing conservation by seaweed farmers (Fatmawati & Wahyudi, 2016). Seaweed is a raw material with a substantial industrial connection, spanning from food and pharmaceuticals to livestock feed. For coastal communities, seaweed cultivation not only serves as a livelihood for heads of families but also provides opportunities for women to contribute to family income (Adam, 2020).

The fishing community in Lontar Village possesses various forms of local wisdom that have been passed down through generations, such as traditional seafood processing techniques, fisheries diversification, and coastal agricultural practices. This local wisdom not only functions to meet daily food needs but also to maintain environmental sustainability and the continuity of natural resources (Wibowo et al, 2024). However, this potential local wisdom has not yet been fully integrated with more modern and efficient agribusiness systems. Furthermore, agribusiness systems play an essential role in enhancing productivity and efficiency in the food supply chain. In the context of fishing communities, integrating agribusiness with local wisdom can offer sustainable solutions to improve food security and economic welfare.

Based on the above conditions, it is necessary to study the utilization of resources in mangrove areas concerning food coping strategies for fishing households in Lontar Village. Food coping strategies are efforts made by individuals to overcome adverse conditions based on physical, biological, and material capabilities at the household level. Anggrayni et al. (2015) reveal that food coping strategies are implemented to maintain household food security status, particularly regarding food availability. The mechanisms for fulfilling food needs or food coping strategies employed by each household vary according to the problems they face. Based on this explanation, the purpose of this research is to analyze agribusiness systems and local wisdom in food fulfilment and the coping strategy for meeting food needs in fishing households in Lontar Village, Tirtayasa Subdistrict, Serang Regency.

RESEARCH METHODS

The research was conducted in Lontar Village, Tirtayasa Subdistrict, Serang Regency on April - May 2024. The methodology employed in this study is quantitative descriptive research (Sugiyono, 2010). The data sources utilized in this research include both primary and secondary data. Primary data were obtained through direct interviews with respondents, employing a questionnaire and structured questions. The secondary data were gathered from previous studies, books, and official government documents.

Method of Collecting Data

The population of this study consists of fishermen or farmers engaged in developing mangrove areas and cultivating seaweed within the Mangrove Forest Farmer Group, which is a Joint Business Group composed of 18 members. The sample for this study includes the leaders of each Joint Business Group involved in cultivation, considering that each group produces seaweed through cultivation activities conducted in the coastal area of Lontar Village.

Data Analysis Method

Analysis of Mechanisms for Fulfilling Food Needs at the Household Level

The Food Coping Strategy Index is used in this research to analyze the use of mangrove areas to increase income, as a mechanism for meeting household food needs to gain food security. Maxwell (2001) states that there are four general categories which are individual measures of Food Coping Strategy which are determined based on location and culture as follows:

1. Reduction in preferred and expensive foods
2. Increasing short-term food access, such as loans, assistance, searching for types of food that are rarely consumed under normal conditions, and using food supplies for consumption
3. Reduction in the number of members in feeding (short-term migration).
4. Changes in food distribution (wife's priority for children, especially boys, limiting meal portion sizes, skipping meals or even not eating all day).

The Food Coping Strategy behaviour group is divided into several levels and classified into several levels as shown in Table 1.

Table 1. Food Coping Strategy Levels Based on Behavioral Groups

Type	Income Group	Behavior
Level I	A. Increasing income	1. Looking for a side job 2. Plant edible plants in the garden 3. Raising chickens, etc
	B. Changes in Eating Habits	4. Buy cheaper food 5. Reduce the type of food consumed 6. Change food purchasing priorities 7. Buy food of lower quality 8. Reduce food portions 9. Collect wild foods
	C. Increased access immediately to food	10. Receive government food assistance 11. Receive food assistance from relatives 12. Barter for food
	D. Changes in food distribution and frequency	13. Making changes to food distribution 14. Reduce the frequency of food consumption
	E. Going through the days without food	15. Fasting
Level II	F. Added access immediately to buy food	16. Take savings for food 17. Pawn assets to buy food 18. Sell unproductive assets 19. Sell productive assets 20. Borrow money from close relatives 21. Borrow money from distant relatives 22. Buy food with debt
Level III	G. Drastic steps	23. Migration to cities/villages 24. Overseas migration 25. Giving children to relatives 26. Divorce

Source : Maxwell (2001)

RESULTS AND DISCUSSION

Local Wisdom in Fulfilling Food for Fishermen's Communities Based on Coastal Agriculture and Fisheries Business Diversification

A part of the community in the coastal village of Lontar, besides engaging in fishing activities, also develops coastal agriculture as an effort to meet daily food needs and improve economic welfare, as stated by Nasution, A., & Harahap, R. (2018). Coastal agriculture involves planting various suitable crops for coastal land conditions, such as coconuts, bananas, and vegetables that match the conditions and environment of the coastal village. The types of plants cultivated in the coastal agriculture of Lontar Village include coconuts, bananas, and vegetable plants.

Coconut plants are a versatile commodity for human life, including for the coastal community, where almost all parts of the coconut plant can be utilized for both food and non-food needs, as well as environmental purposes (Jumiati et al., 2013). As a food source, coconut fruits can be consumed directly or processed into various food products. Young coconuts can also be eaten fresh or used as ingredients in various local dishes. Economically, coconut products have high economic value and can be sold in local and regional markets. The income from selling coconut products can be used to buy other food necessities, thereby strengthening household food security. Additionally, coconut trees play an ecological role in preventing coastal erosion and protecting agricultural land from strong winds and sea waves, thus maintaining the stability of the agricultural land used for planting other food crops.

Hariani, S. A., et al. (2024) stated that bananas are also an important crop in coastal agriculture in Lontar Village, supporting food needs such as: 1) Source of Carbohydrates: Bananas can be consumed directly or processed into various food products such as banana chips and banana flour. 2) Sustainable Production: Bananas can produce fruit all year round, providing a stable and sustainable food source for the community. 3) Additional Income: The sale of fresh bananas and their processed products provides additional income for fishing families. This income can be used to meet other food needs, increase food diversification, and reduce dependence on fish catches.

Cultivating vegetable crops can also be a mechanism to meet the food needs of fishing households in the coastal village of Lontar. Planting vegetables such as spinach, water spinach, and chili on coastal land provides significant contributions to food security, such as: 1) Source of Nutrition: Vegetables provide various vitamins, minerals, and fibers that are important for community health. Consuming fresh vegetables helps meet daily nutritional needs. 2) Food Diversification: By planting various types of vegetables, the community can enjoy a greater variety of foods, which is important for

nutritional balance and health. 3) Food Security: Local vegetable cultivation ensures the availability of fresher and more affordable food, especially when external supplies are disrupted. 4) Reduced Expenditure: Growing vegetables reduces the need to buy vegetables from outside the village, thereby reducing household expenses and increasing economic food security.

Coastal agriculture in Lontar Village, with main crops such as coconuts, bananas, and vegetables, plays a crucial role in supporting the community's food security. Through food source diversification, increased income, and provision of diverse nutrition, coastal agriculture helps the fishing community meet daily food needs and improve economic welfare. These practices not only support food security but also contribute to environmental conservation and the sustainability of natural resources.

Local Wisdom in the Agribusiness System of the Fishing Community in Coastal Lontar Village

Lontar Village has great potential for developing agribusiness based on local wisdom through the utilization of natural resources such as mangroves and seaweed. The management of these resources not only plays a role in food security but also serves as a driving force for the local economy through various micro, small, and medium enterprises (MSMEs) and ecosystem-based tourism in Lontar Village, such as:

1. Technological Improvement in Processing: Combining traditional processing techniques with modern technology to increase efficiency and product quality based on mangroves and seaweed. Mangrove products: Utilization of mangroves for food products such as syrup, dodol (a traditional confectionery), and mangrove flour. Although the technology used is still simple, it meets consumer needs. The process involves drying, packaging, and purifying the products to make them more durable and economically valuable.
2. Seaweed Products: Seaweed can be processed into various products such as agar, chips, and cosmetics. Enhancing technology in the agar extraction process and seaweed processing into value-added products can improve quality and competitiveness in the market. For added value and product diversification, Wiranata et al. (2018) revealed that seaweed has high starch, cellulose, and water content, making it suitable for bioethanol production, which requires energy and water in its process.
3. Community Empowerment: Involving the community in agribusiness training and education to enhance their skills and knowledge, especially in mangrove and seaweed processing. Mirajiani et al. (2023) stated that empowerment supports the sustainability of the fishing community in coastal development by integrating ecological, economic, and social aspects for a sustainable future. Empowerment is carried out through various

activities such as training in how to process mangroves and seaweed into high-economic value food and non-food products. Continuous education can be provided, including techniques for the cultivation, processing, and marketing of mangrove and seaweed products.

4. Business Group Formation: Establishing food processing business groups based on mangroves and seaweed can enhance collaboration among community members, allowing them to share knowledge and experiences, and strengthen production capacity. One example is the Mangrove Food Processing Business Group, which can produce syrup, dodol, and mangrove flour using modern processing technology to ensure hygienic and high-quality products. Another example is the Seaweed Processing Business Group, as stated by Hubeis & Trilaksani (2020), which develops products such as agar and seaweed chips using efficient processing technology and markets products through digital platforms to reach a wider market.
5. Development of Micro, Small, and Medium Enterprises (MSMEs): Supporting the establishment and development of sea-based MSMEs to enhance product value and create jobs. Mangrove-based MSMEs focus on derivative products from mangroves such as food, beverages, and health products. Support in the form of access to capital, business management training, and product marketing is very necessary. Seaweed-Based MSMEs: Development of MSMEs that process seaweed into food, cosmetics, and pharmaceuticals. Access to modern processing technology and wider markets will be very helpful.
6. Mangrove Tourism: The development of community-based tourism is characterized as a form of locally positioned development that uses tourism to generate economic, social, and cultural benefits within a community (Wadu & Mbana, 2024). Developing mangrove tourism as an economic source for the local community. Educational tourism that invites visitors to understand the mangrove ecosystem and its benefits can increase environmental awareness and provide additional income through tourism services, local product sales, and eco-tourism activities. Mangrove ecotourism can develop mangrove-based tourist destinations that offer educational and recreational experiences for visitors, including activities such as mangrove forest tours, mangrove processing learning, and local product sales.

Integrating local wisdom in the agribusiness system through processing enhancement, community empowerment, and MSME development can increase product value and economic welfare in Lontar Village. Utilizing resources such as mangroves and seaweed, as well as developing mangrove-based ecotourism, are concrete examples of how local wisdom can be

integrated with modern agribusiness to create jobs, increase income, and maintain environmental sustainability.

Food Coping Strategy Analysis of Fisherman Community in Lontar Village Based on Agribusiness System and Local Wisdom

Analyzing the food coping strategies of the fisherman community in Lontar Village based on the agribusiness system and local wisdom involves exploring how the community uses local knowledge and agribusiness systems to face food security challenges.

Table 2. Distribution of Food Coping Strategy Level I

Behavior	Answer	Qty	
		n	%
Looking for side jobs	Never	2	11,11
	Sometimes	2	11,11
	Ever	11	61,11
	Often	0	0,00
	Always	3	16,67
Total		**18**	**100**
Planting plants in the garden	Never	7	38,89
	Sometimes	**5**	27,78
	Ever	**4**	22,22
	Often	**2**	11,11
	Always	**0**	0,00
Total		**18**	**100**
Raising chickens, ducks, goats, etc	Never	9	50,00
	Sometimes	0	0,00
	Ever	8	44,44
	Often	0	0,00
	Always	1	5,56
Total		**18**	**100**
Buying cheaper food	Never	15	83,33
	Sometimes	0	16,67
	Ever	3	12
	Often	0	0
	Always	0	0
Total		**18**	**100**
Reducing the type of food consumed	Never	12	66,67
	Sometimes	0	0
	Ever	6	33,33
	Often	0	0
	Always	0	0

Behavior	Answer	Qty	
		n	%
Total		**18**	**100**
Changing food purchasing priorities	Never	1	5,55
	Sometimes	7	38,88
	Ever	11	61,11
	Often	0	0
	Always	0	0
Total		**18**	**100**
Buying food with lower quality	Never	10	55,56
	Sometimes	3	16,67
	Ever	5	27,78
	Often	0	0,00
	Always	0	0,00
Total		**18**	**100**
Reducing food portions	Never	12	66,67
	Sometimes	0	0,00
	Ever	5	27,78
	Often	1	5,56
	Always	0	0
Total		**18**	**100**
Collecting food from wild plants	Never	7	38,89
	Sometimes	2	11,11
	Ever	8	44,44
	Often	1	5,56
	Always	0	0,00
Total		**18**	**100**
Receiving government food assistance, for example the Poor Rice program	Never	7	38,89
	Sometimes	1	5,56
	Ever	6	33,33
	Often	3	16,67
	Always	1	5,56
Total		**18**	**100**
Receiving food assistance from relatives	Never	12	66,67
	Sometimes	3	16,67
	Ever	2	11,11
	Often	1	5,56
	Always	0	0,00
Total		**18**	**100**
Barter food	Never	11	61,11
	Sometimes	3	16,67
	Ever	1	5,56

Behavior	Answer	Qty	
		n	%
	Often	3	16,67
	Always	0	0,00
Total		**18**	**100**
Receiving food from neighbors	Never	8	44,44
	Sometimes	2	11,11
	Ever	4	22,22
	Often	4	22,22
	Always	0	0,00
Total		**18**	**100**
Changing food distribution	Never	10	55,56
	Sometimes	3	16,67
	Ever	4	22,22
	Often	1	5,56
	Always	0	0,00
Total		**18**	**100**
Reducing meal frequency	Never	5	27,78
	Sometimes	4	22,22
	Ever	9	50,00
	Often	0	0,00
	Always	0	0,00
Total		**18**	**100**
Going through the days without food (Fasting)	Never	18	100
	Sometimes	0	0
	Ever	0	0
	Often	0	0
	Always	0	0
Total		**18**	**100**

Source: Primary Data (Processed), 2024

The fisherman community in Lontar Village employs various coping mechanisms to meet their household food needs, which are generally indicated by the following behaviors:

1. Side Jobs. About 61.11% of respondents have taken on side jobs in addition to their main occupations as mangrove and seaweed farmers. These side jobs include selling goods, construction work, and labor.
2. Gardening for Food Needs. Only 22.22% of households have ever planted crops in gardens for daily food needs, with 11.11% doing so frequently. Meanwhile, 38.89% have never done so.
3. Goat Farming. About 44.44% of households have raised goats for food needs, and 5.56% always do so.

4. Buying Cheaper Food. About 83.33% of households have never bought cheaper food as a coping strategy to meet their food needs.
5. Reducing the Types of Food Consumed. About 66.67% of households have reduced the types of food consumed, and 33.33% have done so occasionally.
6. Changing Food Purchase Priorities. About 61.11% of households have changed their food purchase priorities, such as prioritizing vegetables, legumes, meat, and fish. This change is also related to urgent non-food needs, such as paying electricity bills or school fees.
7. Purchasing Lower-Quality Food. About 27.78% of households have purchased lower-quality food, while 55.56% have never done so.
8. Reducing Meal Portions. About 66.67% of households have never reduced meal portions as a coping mechanism.
9. Receiving Food Assistance from Relatives. About 66.67% of households have never received food assistance from relatives, while 16.67% have done so occasionally.
10. Food Exchange with Neighbors. About 16.67% of households have occasionally exchanged food or received food from neighbors, while 61.11% have never done so.
11. Changing Food Distribution. About 55.56% of households have never changed food distribution as an effort to meet food needs. This change is made to ensure access to food even when income or food prices fluctuate.
12. Reducing Meal Frequency. About 50.00% of households have reduced meal frequency, while 27.78% have never done so and 22.22% have done so occasionally.
13. Skipping Days Without Eating. 100% of households have never skipped a day without eating or fasting because they were unable to meet daily food needs.

Table 3. Distribution of Food Coping Strategy Level II

Behavior	**Answer**	**Qty**	
		n	**%**
Use savings to meet food needs	Never	14	77,78
	Sometimes	0	0,00
	Ever	1	5,56
	Often	3	16,67
	Always	0	0,00
Total		**18**	**100**
Pawning assets to buy food	Never	16	88,89
	Sometimes	0	0,00
	Ever	2	11,11

Behavior	Answer	Qty	
		n	%
	Often	0	0,00
	Always	0	0,00
Total		**18**	**100**
Selling unproductive assets to meet food needs	Never	15	83,33
	Sometimes	0	0,00
	Ever	3	16,67
	Often	0	0,00
	Always	0	0,00
Total		**18**	**100**
Borrowing money from close relatives to meet food	Never	4	22,22
	Sometimes	3	16,67
	Ever	10	55,56
	Often	1	5,56
	Always	0	0,00
Total		**18**	**100**
Borrowing money from distant relatives to meet food needs	Never	13	72,22
	Sometimes	4	22,22
	Ever	0	0,00
	Often	1	5,56
	Always	0	0,00
Total			**100**
Buying food with debt	Never	10	55,56
	Sometimes	1	5,56
	Ever	4	22,22
	Often	3	16,67
	Always	0	0,00
Total		**18**	**100**

Source: Primary Data (Processed), 2024

The analysis of the Food Coping Strategy at Level II, as shown in Table 3, reveals behaviors in coping mechanisms and meeting household food needs as follows:

1. Withdrawing savings for food needs. 5.56% of households have withdrawn savings for food needs, 16.65% have done so frequently, and 77.78% have never done so. This indicates that most households are able to cope with daily food shortages.
2. Pawning assets to buy food. 88.89% of households have never pawned assets to buy food, while 11.11% have done so.

3. Borrowing money from close relatives for food. 55.56% of informants have borrowed money from close relatives to meet food needs, while 22.22% have never done so. This is usually done to meet food needs in urgent situations.
4. Buying food with debt. As a coping strategy or mechanism for meeting household food needs, 22.22% of households have bought food with debt, while 55.56% have never done so. This is one of the household's strategies to meet food needs.

Table 4. Distribution of Food Coping Strategy Level III

Behavior	Answer	Jumlah	
		n	%
Migrate to the city	Never	12	66,67
	Sometimes	6	33,33
	Ever	0	0
	Often	0	0
	Always	0	0
Total		**18**	**0**
Migrate abroad	Never	6	33,33
	Sometimes	0	0
	Ever	12	66,67
	Often	0	0
	Always	0	0
Total		**18**	**0**
Giving children to relatives	Never	0	0
	Sometimes	0	0
	Ever	0	0
	Often	0	0
	Always	0	0
Total		**18**	**0**
Divorce	Never	0	0
	Sometimes	0	0
	Ever	0	0
	Often	0	0
	Always	0	0
Total		**18**	**0**

Source: Primary Data (Processed), 2024

The analysis of the Food Coping Strategy at Level III, as shown in Table 4, reveals behaviors in coping mechanisms and meeting household food needs as follows:

1. Migrating to the City. 66.67% of households have never migrated to a larger city to seek higher income during the off-harvest season, while 33.33% have done so occasionally.
2. Migrating Abroad. 66.67% of households have sought work abroad for higher income, while 33.33% have never done so.

The analysis of food coping strategies at the household level shows that coping mechanisms in response to economic crises are employed from Level I to Level III. This indicates that the strategies applied are still quite resilient, but care must be taken to prevent them from becoming less resilient. Although actions at Levels II and III have been taken, behaviors at Level I still dominate. Widiati & Azkia (2023) state that if households only employ food coping mechanisms at Level I, then the household is still in food resilient.

Levels of Food Coping Strategy of the Fishing Community in Lontar Village Based on Agribusiness Systems and Local Wisdom

Based on the analysis of the Food Coping Strategy, fishing households employ mechanisms to cope with crises in meeting food needs through resilience behaviors from Level I to Level III. Table 5 shows that actions at Levels II and III have been implemented, but behaviors at Level I still dominate. This indicates that the strategies applied are still quite resilient. Nevertheless, this needs to be a concern for households and other stakeholders to continue to strive to improve the well-being of coastal communities, especially in Lontar Village, so that the level of food fulfillment does not decline to the point of being less food resilient.

Table 5 shows that the dominant food coping strategy or community behavior is at Level I. This indicates that coping at Level I is a simpler action, such as reducing the types of food consumed or changing food purchasing priorities. The analysis shows that most households remain at this level, which reflects that despite economic challenges, the fishing community in Lontar Village is still able to manage the food crisis in ways that are not extreme. This finding emphasizes the coping strategy in the form of fiscal efforts. As Lailiyah et al. (2018) stated fishermen make economic efforts by looking for side jobs and participating in cooperative savings and loan activities or fellow fishermen's social gatherings.

Table 5. Level of Household Coping Strategy

RT 1	RT 2	RT 3	RT 4	RT 5	RT 6	RT 7	RT 8	RT 9	RT 10	RT 11	RT 12	RT 13	RT 14	RT 15	RT 16	RT 17	RT 18
1	1	1	1	1	1	1	1	1	1	1	1	1		1	1	1	1
1	1	1	1			1	1	1	1	1	1			1	1	1	1
1			1		1	1	1	1	1					1	1	1	1
		1	1	1	1			1	1	1				1	1	1	1
1		1	1		1				1	1			1	1		1	
1		1	1		1				1	1	1		1	1		1	1
1	1	1	1		1	1			1	1	1		1	1		1	1
		1	1	1		1		1	1		1		1			1	1
1	1	1	1	1		1	1	1	1	1	1	1	1	1	1	1	1
1	1	1	1	1		1	1	1	1	1	1	1	1	1	1	1	1
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
1	1	1	1		1	1	1	1	1	1	1	1	1	1	1	1	
1	1	1	1		1	1	1	1	1	1	1	1	1	1	1	1	
2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
1	1	1	1	1	1		1			1	1		1				
1	1	1	1	1	1		1	1		1	1	1	1	1	1	1	
	2	2					2			2		2		2		2	
							2			2		2		2		2	
			2				2					2			2	2	2
	2	2	2		2		2			2	2	2		2	2	2	2
	2		2		2		2			2	2	2	2		2	2	
	2	2	2	2	2		2		2	2	2	2	2	2	2	2	
	3		3			3											3
	3			3	3	3	3							3			
										3							
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

Source: Primary Data (Processed), 2024

Score 1 for action group of Food Coping Strategy level I
Score 2 for action group of Food Coping Strategy level II
Score 3 for action group of Food Coping Strategy level III
No actions for Food Coping Strategy

Besides being dominated by level I coping strategy behavior that shows community resilience, Table 5 also illustrates the limitations in terms of income and access to more diverse resources to support the fulfilment of food needs. Behavior at Levels II and III is also carried out by several households in the strategy of fulfilling food needs. Several households have implemented strategies that lead to extreme behavior, such as borrowing money from close family, taking savings, or even migrating abroad to seek higher income (Level III). While this indicates a good adaptive mechanism, these steps also reveal that fishing households sometimes have to sacrifice long-term assets or move out of their economic zone to survive. Migration to big cities or abroad is a notice that some households are under greater financial pressure, especially during the lean season. However, this can also be interpreted as an effective strategy to obtain higher incomes and support household food needs. This finding is aligned with research (Yuniarti & Sukarniati, 2021) that fishermen carry out a network strategy by borrowing money from relatives and financial institutions, and carry out an active strategy by selling assets and migrating.

Local empowerment can be achieved through the development of agribusiness and MSMEs. The potential for developing mangrove and seaweed-based agribusiness in Lontar Village can be a solution to increase household income, and reduce dependence on migration or extreme coping strategies. Management of natural resources such as mangroves and seaweed not only provides food security but also strengthens the local economy through MSMEs and ecosystem-based tourism. The progress of mangrove-based ecotourism can also be a food management strategy that not only increases income but also strengthens environmental sustainability. By improving processing technology, improving infrastructure and empowering communities through training, Lontar Village can utilize the potential of its region to achieve stronger food security. Stakeholders, including local governments and related institutions, need to focus on improving the quality of life of coastal communities, such as providing access to capital, skills training, and supporting infrastructure. This is in line with the findings (Ahsan, Mardjitulastri, & Hifni, 2023) that strategies to improve the economic resilience of coastal residents can be carried out by developing cooperation with provincial governments and the private sector to expand tourism infrastructure. Overall, although the food management strategy of fishing communities in Lontar Village is quite resilient, continuous improvements are still needed in terms of local economic empowerment and access to resources to ensure long-term food security.

CONCLUSIONS AND POLICY IMPLICATIONS

Conclusions

The fishing community in Lontar Village relies on coastal agriculture and diversified fisheries businesses as the main strategies for meeting food needs and improving economic well-being. Key crops such as coconut, bananas, and vegetables play a significant role in providing diverse food sources, offering economic value, and protecting the coastal environment. The development of agribusiness based on local wisdom, especially through the utilization of natural resources such as mangroves and seaweed, presents great potential for the community in Lontar Village. Integrating local wisdom with modern agribusiness systems can increase product value, create jobs, and ensure environmental sustainability.

The analysis of the Food Coping Strategy shows that the fishing community employs various strategies to face economic challenges and meet food needs. Although most households remain resilient, it is essential to ensure that the strategies implemented are more sustainable and not just responsive to crises.

Suggestion

1. Strengthening Coastal Agriculture and Fisheries Businesses: Local government and related institutions can provide support in developing coastal agriculture and fisheries businesses, whether through providing capital, skill training, promoting local productsa, and expanding public and tourism infrastructure.
2. Community Empowerment: Actively involve the community in decision-making related to the development of agribusiness based on local wisdom. Agribusiness training and education need to be enhanced to increase community independence and knowledge.
3. Product Diversification: Encourage the diversification of agribusiness products based on mangroves and seaweed to create higher added value. Innovations in processing and marketing products can increase competitiveness in local and regional markets.
4. Ecotourism Development: Prioritize the development of mangrove tourism as an alternative source of income for the local community. A sustainable ecotourism approach can provide economic benefits and increase environmental awareness.

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