

SOCIAL DEVELOPMENT OF FOOD SECURITY IN MARINGKIK ISLAND VILLAGE, EAST LOMBOK REGENCY, WEST NUSA TENGGARA PROVINCE

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ABSTRACT

This study aims to analyze economic development strategies in increasing food security in Meringkik Island Village, Keruak District, East Lombok Regency. This small village faces various challenges, including limited natural resources, the threat of coastal erosion, climate change, and limited access to basic services. The results of the study show that the people of Meringkik Island have high social resilience in facing limitations and disaster threats. They implement a family-based division of labor system as an adaptation strategy. However, efforts to improve food security still require a more structured approach, especially in developing basic infrastructure, managing the environment, and strengthening community capacity. The recommendations of this study include improving basic infrastructure such as clean water and renewable energy, providing capital schemes for local MSMEs, strengthening disaster mitigation programs, and synergy between the government, the community, and the private sector. A disaster mitigation model that involves stakeholders makes a tangible contribution to increasing participation in the formulation of economic development policies aimed at enhancing sustainable food security.

Keywords: Social Development, Food Security, Adaptation Strategy

INTRODUCTION

This researcher attempted to examine the issues affecting indigenous peoples (Indigenous Studies) on Meringkik Island in two dimensions: social development for water security and socio-economic development for food security, as part of the state defense system. The desired outcome of this research is to protect the local community on Pulau Meringkik from water and food insecurity and to develop social resilience policies within the national defense system.

Indonesia has approximately 17,500 islands (Ningtyas, 2020), forming the Indonesian archipelago, which has the world's second longest coastline at 95,181 km (Nugraha, 2023). This is why it is referred to as an archipelagic state. Its location between two continents makes Indonesia a crossroads for maritime traffic connecting the eastern and western hemispheres. This naturally involves relations between countries and poses major

challenges to the existence and management of the state, especially regarding the management of Indonesia's *Pulau-Pulau Kecil dan Terluar* (PPKT). The existence of these outermost islands affects the extent of the country's sovereign territory, so they need to be managed specifically within state administration (Trisnaputra, 2023).

Law No. 23 of 2014 Article 27 paragraph (1) states that: "Provincial governments are given the authority to manage marine natural resources in the sea within their territory." Previously, this authority was delegated to provincial and district/city governments, as stated in Law No. 32 of 2004 Article 18 paragraph (1) that, "Regions with maritime territories are granted the authority to manage marine resources in their maritime territories up to a maximum of 12 (twelve) nautical miles measured from the coastline towards the open sea and/or towards the archipelagic waters for provinces and 1/3 (one-third) of the provincial jurisdiction for regencies/cities".

As a result, district/city governments no longer have direct authority over the management of water areas and small islands in their vicinity (Sony, 2023). This situation has limited the role of district/city governments and lower levels of government in holistic coastal zone planning and management, particularly in the context of community-based development, which ultimately hinders local governments' responsibility to improve the welfare of coastal communities (Datau, 2019).

The most significant policy for coastal village development after the revocation of regency/city authority over marine resource management is the village fund policy. Law No. 6 of 2014 on Villages provides greater scope for villages, including coastal villages and small islands, to manage local potential based on the principles of recognition and subsidiarity. Coastal villages are the basis of life for traditional fishing communities, coastal indigenous peoples, and maritime economic actors. The Constitution establishes the special right of villages to carry out development based on local potential in the interests of the local community (Rahman, 2025).

Coastal areas have various maritime potentials that can be developed by coastal village communities (Agustin et al., 2019). However, in practice, this often leads to conflicts over authority, particularly in the management of water resources and marine areas among villages, districts/cities, and provinces (Kholik et al., 2024). Law No. 27 of 2007 concerning Coastal Zone and Small Islands Management (amended by Law No. 1 of 2014) attempts to provide a specific legal framework for coastal zone management. However, this law also presents new problems, particularly through the implementation of a permit mechanism for the use of marine space, which often lacks formal legal recognition (Widjaja, 2025).

Maringkik Island is one of Indonesia's small and outermost islands in the province of West Nusa Tenggara (NTB). This small island has an area of approximately 11.6 hectares and is located in the middle of the Indian Ocean, 4 km from the mainland of Lombok Island, directly bordering Australia. The island is inhabited by a fishing community of approximately 2,760 people, comprising 629 families (Profile of Maringkik Island Village, 2025).

Initially, it was only a hamlet under the jurisdiction of Tanjung Luar Village, Keruak Subdistrict, East Lombok Regency, West Nusa Tenggara Province. During its development, this island hamlet was split into Meringkik Island Village under East Lombok Regency Regulation Number 4 of 2012 concerning the Establishment of 19 (Nineteen) Villages in East Lombok Regency. According to the Keruak Subdistrict Secretary, several social issues confront the people of Pulau Meringkik, including air and water pollution, lack of access to public services such as education, health care, housing, and energy. In addition, environmental factors, such as rising sea levels, climate change, and air pollution/tsunamis from the Gulf of Aden and the Indian Ocean, are increasingly causing problems.

These issues have led to high disaster vulnerability on Meringkik Island. Geologically, Meringkik Island is a coral reef, making vegetation scarce and leaving food security uncertain. Access to clean water remains very difficult. The wells made by local residents taste salty or contain brackish water (East Lombok Regency Community and Village Empowerment Office, 2025). The population of Meringkik Island Village continues to grow, while the area is shrinking due to coastal erosion caused by high tides and large waves. This is what makes the tsunami vulnerability on Meringkik Island very high (Interview with the Head of the Keruak Subdistrict Government, 04/18/2025).

Based on the 2024 APBDes document for Pulau Meringkik Village, the village revenue of Rp. 1,265,064,677.00 is allocated as follows: village administration Rp. 550,353,677.00; village development Rp. 423,986,000.00; community development Rp. 196,875,000.00; village community empowerment Rp. 0.00; disaster management, emergency, and urgent situations in the village Rp. 72,000,000.00; and capital participation payments Rp. 25,000,000.00.

Through the village fund program, the people of Meringkik Island receive support to organize village administration and development as well as community empowerment, which directly affects the social resilience of the local community, especially in efforts to overcome social vulnerability due to the lack of natural resources, including limited productive land, fresh water supply, and basic infrastructure in Meringkik Island Village.

To realize President Prabowo's vision of Together Indonesia Advances Towards a Golden Indonesia in 2045 and the mission of strengthening the country's defense and security system and encouraging national independence through self-sufficiency in food, energy, water, creative economy, green economy, and blue economy (Asta Cita 2). In this position, human and natural resources, as local potential, should be developed in accordance with local and regional potential so that they can become competitive and serve as a value of disaster resilience that meets the community's water and food needs. To achieve this, it is important to first empower the communities of small and outermost islands by improving their economic conditions, water and food sufficiency, and efforts to increase the competitiveness of local production.

Research by Fadri Alihar (2018) shows that policies for managing Indonesia's outermost islands face four main problems: 1) vulnerability to foreign control due to

minimal supervision, 2) the threat of sinking due to abrasion and the expansion of neighboring territories, 3) the large number of uninhabited islands, resulting in a weak sense of Indonesian identity, and 4) the government's lack of attention to the empowerment of local communities (Alihar, 2018). Among these four factors, the presence of residents plays a crucial role in maintaining security and asserting the sovereignty of the Republic of Indonesia in the outermost islands. Therefore, the government needs to demonstrate strong political commitment by formulating island-based development programs to improve community welfare and human resource empowerment programs to encourage sustainable development in the outermost small islands.

In addition, research on social development by Irin Oktafiani (2019) shows that three elements of equitable development are still lacking in Eastern Indonesia and development remains a task for the government and policymakers, namely (1) equal opportunities in life, (2) equal attention to community needs, and (3) meritocracy (Oktafiani, 2019). Of these three factors, the availability of natural resources is the most important factor for the community's livelihood. The scarcity of natural resources, including limited productive land, freshwater supplies, and basic infrastructure, is a major obstacle to promoting sustainable development in small island regions.

By focusing on social development for water security and socio-economic development for food security, this paper positions community empowerment in Pulau Maringkik as a strategic pillar within Indonesia's state defense system. The expected contribution is the formulation of policy recommendations that integrate social resilience, maritime governance, and national security in the sustainable management of small and outermost islands

RESEARCH METHOD

The research used a qualitative approach to examine the phenomenon from the perspective of the informants or subjects being studied, namely the Keruak Subdistrict Government of East Lombok Regency, the Meringkik Island Village Government, the private sector, and the Meringkik Island Village community. This study combined institutional analysis and social values to assess the community's economic sustainability, rather than relying solely on formal economic indicators. The data collection techniques used in this study included interviews to identify the problems faced by the local community and their efforts to survive amid water and food shortages; observation to identify sources of water and food, local community activities, and access to public services; and documentation to identify social development policies and programs implemented by the government in Pulau Maringkik Village.

The data analysis employed a qualitative-descriptive approach. The analytical process consisted of systematic data collection, data reduction and grouping based on thematic categories, interpretative explanation of findings, and conclusion drawing. The analysis primarily relied on documentary sources, demographic statistics, regulatory frameworks, and field observations. Interview data were not treated as analytical variables;

rather, they were used to contextualize and support the interpretation of the main data sources.

RESULT AND DISCUSSION

Social Development to Improve Food Security in Maringkik Island Village

Maringkik Island is a small outlying island populated by Bugis and Sasak fishermen. The predominant vernacular is Bugis, with a smaller segment also employing Sasak. Cultural activities closely resemble Bugis culture, particularly at wedding ceremonies and other significant events, which are primarily adorned in a manner characteristic of Bugis traditions.

This culture is an inheritance from their ancestors, encompassing experiences, knowledge, values, and the local community's way of life, passed down through generations in this region. Moreover, the management of piped water is orchestrated by informal administrators established by each local association.

Armed with their knowledge, people can conserve and employ natural resources to adapt to water and food scarcity. According to this assertion, local knowledge systems on weather and disasters constitute a cultural framework that influences collective identity and enhances ecological sustainability. Silitoé posits that culture serves as a cohesive force and a foundation of legitimacy for the adaptive activities of indigenous peoples in relation to their environment (Silitoé, 2007).

Society is an entity that perpetually engages with its environment. Indigenous communities exhibit social processes that demonstrate their collective capacity to adapt, innovate, and modify local knowledge in reaction to external influences such as climate change, modernization, and centralized development strategies (Berkes, 2018). The practice of collaborative efforts in constructing communal wells or employing basic rainwater-harvesting technologies demonstrates that social processes are dynamic, continually adapting to environmental conditions while preserving the community's fundamental values (Agrawal, 2005).

This multifaceted method allows researchers to comprehend adaptive mechanisms. This conceptual paradigm is pertinent to examining water and food security on remote islands, where the interplay among social structures, culture, and adaptive processes is crucial to the sustainability of community life. Indonesia, recognized as an "archipelagic state," is mentioned in ancient literature; the term Nusantara, an alternative designation for Indonesia, derives from "nusa," meaning a cluster of islands, and "antara," denoting a location between other places. Consequently, the term Nusantara inherently signifies the Archipelagic State Conception (Winarwati, 2016). Indonesia comprises 17,499 islands and has a total area of approximately 7.81 million square kilometers. Of this entire area, 2.01 million km² constitutes land, 3.25 million km² comprises islands, and 2.55 million km² represents the Exclusive Economic Zone (EEZ) (Wardana & Basri, 2019).

Indonesia's maritime domain borders 10 nations: India, Malaysia, Singapore, Thailand, Vietnam, the Philippines, the Republic of Palau, Australia, Timor-Leste, and

Papua New Guinea (Silalahi et al., 2021). The westernmost islands of Indonesia require enhanced management to uphold territorial sovereignty, deter smuggling, and regulate marine resources (Trisnaputra, 2023). These islands, which are susceptible to issues with adjacent nations, necessitate significant oversight and scrutiny, particularly those situated in border regions with countries lacking accords with Indonesia (Suharyo, 2019).

Government Regulation of the Republic of Indonesia Number 62 of 2010 about the Utilization of Outermost Small Islands (Article 3 Paragraph (1)) designates Pulau-Pulau Kecil Terluar (PPKT) as a Specific National Strategic Area. A Specific National Strategic Area pertains to state sovereignty, environmental management, and/or global heritage sites, with its development prioritized for national objectives. The Indonesian government has promulgated Presidential Decree No. 6 of 2017 about the Designation of Outermost Small Islands.

According to Presidential Decree (Keppres) Number 6 of 2017 on the Designation of Outermost Small Islands, Indonesia is identified as having 111 outermost small islands. Among the 111 islands, 42 are populated while 69 remain deserted. The outermost tiny islands are distributed among 18 provinces, 27 regencies, 57 subdistricts, and around 350 communities. According to Presidential Regulation No. 78/2005, 17 ministries and entities are designated to coordinate and intervene in development on the remote, tiny islands. Nonetheless, as of now, the poverty rate among settlements on the most remote tiny islands remains exceedingly elevated, at 35 percent over the national poverty average of 10.64 percent.

Coastal regions and remote islands necessitate a distinct approach. All activities on small and remote islands, if inadequately managed, will directly or indirectly affect the territory and sovereignty of the state. If the issue pertains to the stability and sovereignty of the nation, it then falls under the jurisdiction of the government, including local administration. From a protective standpoint, the formulation of policies for managing outer islands should aim to enhance the social, cultural, economic, and political advancement of local communities (Wahyono, 2020), uphold national sovereignty, fortify the sustainability of local communities, and conserve natural resources and national wealth (Setiawan, 2021).

Law enforcement operations addressing transboundary crimes, including the theft of natural resources and breaches of territorial sovereignty, can be more effective when integrated into strategies for controlling outer islands (Simangunsong, 2020). Alongside territorial control for regional security (Nugroho, 2023), the management policy for the outermost islands is anticipated to serve as a catalyst for enhancing social relations, fostering local economic growth, promoting cultural development, and improving connectivity among communities in these islands (Kurniawan, 2021).

The administration of outlying islands is expected to expedite the provision of regional infrastructure and enhance community welfare by implementing development initiatives. The empowerment function necessitates the use of islands adjacent to other nations, particularly for the surveillance of their natural resources, to incentivize individuals

and communities in the remote islands to prioritize and actively engage in environmental conservation, thereby reflecting the nation's advancement at its peripheries.

The application of legislation governing the outermost islands is essential for enhancing income, public health, and education, as well as for fostering the development of public and private resources to facilitate active governmental participation.

The persistent marine governance challenges in the outermost islands, including inadequate execution of government tasks in border regions, necessitate a thorough examination of these concerns in the context of formulating a maritime security governance policy. This study aims to examine strategies for the maritime governance of the outermost islands as a national strategic area from a maritime security perspective.

Coastal communities occupy a critical yet precarious position, especially on tiny, remote islands that are frequently excluded from national development allocations (Bappenas, 2020). Coastal communities are socially, culturally, and economically interconnected with coastal and marine ecosystems (Bailey & Pomeroy, 1996). Exhibiting a unique social structure, principles of collectivism and solidarity, and a tradition of local knowledge transmitted across generations for the sustainable utilization of natural resources, survival in extreme ecological conditions, and customary environmental management (Berkes, 1999).

The settlement of Pulau Maringkik, a group of small islands in East Lombok Regency, encounters significant obstacles in achieving food security for its populace. Food security is influenced not just by economic and technological factors but also by intricate social issues. Social challenges, including inequitable resource distribution, inadequate educational attainment, and constrained local institutional ability, significantly hinder the attainment of sustainable food security. Maringkik Island has a coral reef, resulting in a scarcity of vegetation and rendering the food supply questionable. The necessity for potable water consumption remains exceedingly challenging. The wells constructed by local inhabitants exhibit a saline flavor or contain brackish water (East Lombok Regency Community and Village Empowerment Office, 2019).

Consequently, it is essential to comprehend: 1) social factors affecting food security in Maringkik Island Village; 2) enhancing the welfare of the Maringkik Island Village population; and 3) systematic measures to establish food security in Maringkik Island Village (Andriana, 2017).

The dynamics of food security in Maringkik Island Village

The community of Maringkik Island faces a range of interrelated challenges, including limited access to clean water, food, education, health care, housing, and energy, as well as waste issues originating from the mainland. These conditions are exacerbated by environmental threats such as coastal erosion, climate change, and the risk of storm surges and tsunamis, which increase the region's vulnerability. Furthermore, inadequate dock infrastructure can hinder the distribution of goods and residents' mobility, thereby increasing social and economic risks for the community. Overall, the simultaneous

occurrence of social, environmental, and infrastructure vulnerabilities underscores the need for integrated policies and a sustained government response to strengthen food security and improve the well-being of the people of Meringkik Island.

Ecologically, coastal erosion results from a combination of natural factors, such as ocean waves, and human-driven processes, including global climate change, which drives sea level rise. However, human activities, such as poor coastal zone management and deforestation of coastal vegetation, also accelerate this process. On Meringkik Island, these conditions not only threaten the village's physical sustainability but also affect the local community's food security. Land shrinkage can reduce space for economic activities such as marine aquaculture and processing, which are vital to supporting the livelihoods of coastal communities (Permatasari, 2021). In the case of Meringkik Island, these measures are important for reducing the adverse effects of disasters and supporting sustainable socio-economic development.

This condition can also be explained by Bronfenbrenner's social ecology theory, which highlights the dynamic interactions among social, economic, and environmental factors that shape community vulnerability (Untari, 2023). Resolving this issue requires strategic measures, including disaster risk mitigation, strengthening public infrastructure, and increasing community capacity for local resource management. Economic development programs focused on food security, such as empowering micro-enterprises that produce marine or agro-maritime products, can be a long-term solution. In addition, integrating cross-sectoral policies among local governments, the private sector, and local communities is key to building a resilient and sustainable food security system in Meringkik Island Village.

Improving the Welfare of the Community of Meringkik Island Village

1. Strategies to Improve Community Welfare in Meringkik Island Village

Improved welfare encompasses improvements in overall living conditions, including health, education, and economic well-being (Rosdaniah, 2023). The theory of basic needs emphasizes the importance of meeting basic human needs to achieve well-being (Andriani, 2023). Food security is one of the basic needs that directly contributes to health and well-being. Food security is one of the main dimensions of community well-being, encompassing the availability, accessibility, and stability of food to meet the daily needs of each individual in a sustainable manner. This concept is defined by the World Food Summit (1996) as a situation in which all people, at all times, have physical and economic access to sufficient, safe, and nutritious food to meet their dietary needs, enabling them to live active and healthy lives (Sakharina et al., 2021).

Based on the results of an interview with the Head of Meringkik Island Village, government assistance programs aimed at improving the welfare of the Meringkik Island community include floating fish cages, fishing nets, *Program Keluarga Harapan* (PKH), *Bantuan Pangan Non Tunai* (BPNT), *Bantuan Langsung Tunai* (BLT), and clean water

programs. Meanwhile, no capital assistance is currently available to increase the community's income.

Based on the interview above, the government has launched various assistance programs to improve welfare in Maringkik Island Village. According to the interview results, programs such as floating cages and fishing nets focus on increasing productivity in the fisheries sector, which is the main source of livelihood for coastal communities. In addition, social assistance programs such as the *Program Keluarga Harapan* (PKH), *Bantuan Pangan Non-Tunai* (BPNT), and *Bantuan Langsung Tunai* (BLT) aim to reduce the economic burden on the community, especially for underprivileged households. Clean water programs are also a major concern for meeting the basic needs of communities that often face water shortages.

In addition, integrating aid programs with skills training is essential to ensure that communities have the capacity to make optimal use of aid. This approach is in line with the recommendations of the United Nations Development Programme, which emphasizes that aid programs must be accompanied by capacity building in order to be sustainable (UNDP, 2021).

Thus, the government assistance program in Maringkik Island Village needs to be strengthened in terms of capital and community capacity building. This step will not only improve community welfare but also strengthen local food security through community-based economic empowerment. In fact, before discussing social assistance for communities in need, the government (at the central and regional levels) is pursuing a multidimensional approach to food security in the context of small and outlying islands. Some of the main strategies that can be implemented include: 1) Research on food security in island and outlying areas; 2) strengthening food self-sufficiency based on local potential; 2) Increasing Human Resource Capacity; 3) Strengthening Infrastructure and Distribution Systems; 4) Partnerships and collaboration among stakeholders; and 5) Policies that support food self-sufficiency.

2. Food security research in island and outlying regions.

The first agenda item of this food security strategy is to conduct research on policies to increase prosperity, with the results published in journals. The research topics focus on social and economic development in the context of public policy and its impact on social justice for all Indonesians. The purpose of this research is to identify critical factors influencing central and regional government policies for the fulfillment of people's basic needs. Economic policies that have so far led to an increase in phantom wealth must change course to create real wealth. This can be realized through changes in the indicators measured. If we want to maximize corporate profits, then measuring economic performance with GDP growth is a reasonable step.

However, if the goal of development is public health and nature conservation, then using GDP as an indicator to measure economic performance is the wrong step. This is because the policies put in place actually promote the growth of phantom wealth at the

expense of real welfare for people and the environment. The use of stock market indicators to assess the performance of the real sector, such as industry, can lead to analytical pitfalls. Of course, this is not at all suitable for use in Indonesia.

3. Strengthening Food Self-Sufficiency Based on Local Potential.

Food self-sufficiency is defined as the ability of communities to independently produce and manage food in accordance with local resource potential (Sutrisno, 2022). Food self-sufficiency is defined as the ability of communities to independently produce and manage food in accordance with local resource potential. In this case, the development of sustainable natural potential that prioritizes ecologically-minded production processes is a priority. This practice involves crop diversification and cultivation tailored to local soil and climate conditions, thereby reducing the risk of crop failure. Economic independence is the right and obligation of every citizen to control their economic resources, determine their social and economic priorities, and also trade regulations and foreign investor rules that are consistent with their needs and values.

This economic sovereignty is justified as long as the costs of these decisions are not internalized and borne by others. When setting priorities, communities will benefit most if the majority of their basic needs are met by local businesses that employ local workers and use local resources. Local ownership has a greater interest in the sustainable use of natural resources than foreign ownership. This is because, in the long term, their welfare depends on the ecosystem's sustainability. Business decisions always have consequences for daily life and impact future generations. International trade must also be balanced and mutually beneficial. A country should not incur excessive debt that makes it heavily dependent on loans from other countries. A country should also not claim long-term rights to the natural resources of other countries, such as forests and mines, as this is another form of neocolonialism.

4. Community and Human Resource Capacity Building

Community capacity building through technical training and education on modern agricultural technology can increase food productivity (FAO, 2023). For example, the use of drip irrigation, organic fertilizers, and biological pest management contributes to production efficiency while maintaining environmental sustainability. In an effort to move towards globalization, namely a world without national borders, it is necessary to build economic strength rooted in the community within the framework of local independence. This policy provides strong incentives for each community to live in harmony with the availability of its environmental resources.

However, these communities are also allowed to trade surplus products and freely exchange information and technology. Thus, life will become more natural if we do not have to compete fiercely with neighboring countries or regions for economic resilience. However, prioritizing local independence does not mean closing regional borders with bamboo curtains, but rather managing those boundaries through good exchange. The goal

of this action is a fair trade system where local residents exchange their surplus products for mutual benefit. Trade monopolies must be avoided for the benefit of all communities. Cooperative institutions are the operational answer at the regional level for community independence.

5. Strengthening Infrastructure and Distribution Systems.

Food accessibility can be improved by building infrastructure such as roads, local markets, and adequate crop storage technology. An efficient distribution system helps maintain price stability and ensures food availability for all segments of society. Research shows that disruptions in rice distribution can cause shortages and price increases, affecting people's access to food (Maharani & Puspasari, 2023).

6. Partnerships and Collaboration Among Stakeholders.

A collaborative approach between the government, non-governmental organizations (NGOs), and local communities is an important element in achieving food security. Community-based programs, such as local food banks and food cooperatives, can help meet community needs while fostering social solidarity (Budiman & Liang, 2023).

7. Policy Direction that Supports Food Self-Sufficiency.

The government has an important role in creating a regulatory framework that supports food self-sufficiency. Incentives for farmers, protection of productive agricultural land, and subsidies for agricultural inputs are examples of policies that can accelerate the achievement of food security (Sihombing et al., 2021). Therefore, the steps to achieve national resilience involve shifting from financial indicators to real welfare indicators, such as child mortality rates, nutritional adequacy rates, juvenile crime rates, and other indicators of local community welfare. In addition, for the natural system, biodiversity levels, gas emissions, environmental pollution, land use, and conservation are important measures of local environmental health.

The implementation of these strategies requires a holistic, context-specific approach to ensure that all aspects of food security are addressed. Thus, the welfare of the people of Maringkik Island Village can be significantly improved by strengthening sustainable food security. Other strategies for national prosperity and security include: Household Economy Development and Technology-Based Small and Medium Enterprise Development (Eriyanto, 2011).

8. Developing Home Industries in Maringkik Island Village

Policies on community development and empowerment are often implemented as short-term, project-based initiatives rather than sustainable programs (Wicaksono et al., 2022). This subsection synthesizes findings from the literature, expert consultations, field observations, and professional experience to formulate a practical recommendation: a

Household Economy Development Program. This program is intended to be implemented collaboratively by multiple stakeholders and government agencies.

Lessons from the 1997–1998 monetary crisis in Indonesia provide an important reference for this recommendation. During that period, economic instability led to widespread layoffs and a decline in employment opportunities. Despite these challenges, the national economy maintained a degree of stability due to economic safety nets, particularly through the activities of Micro and Small Enterprises (MSEs) (Sutinah et al., 2020). These enterprises absorbed displaced workers and generated alternative sources of income, demonstrating their strategic role in supporting economic resilience during times of crisis.

The contribution of Micro, Small, and Medium Enterprises (MSMEs) extends beyond employment creation. MSMEs have significantly improved household incomes, especially in rural and agricultural areas. To strengthen their role, the government has introduced various initiatives to improve access to capital and enhance human resource capacity. Empirical evidence suggests that MSME development represents an effective strategy for strengthening economic resilience. Their widespread presence across regions also supports regional autonomy and contributes to the development of disadvantaged areas (Hailuddin et al., 2021).

On Maringkik Island, fishing remains the primary livelihood for most residents. The abundance of marine resources in the Alas Strait and the Indian Ocean provides significant economic opportunities and supports daily household needs. In addition to fishing, community members engage in complementary activities such as goat farming, traditional weaving, and small-scale retail businesses operated from their homes. While fisheries continue to be the backbone of the local economy, heavy dependence on this sector increases vulnerability to environmental changes and resource fluctuations. Consequently, livelihood diversification is essential for strengthening economic stability and food security within the community (Sukesi et al., 2019).

Livelihood diversification has become an important adaptation strategy for the people of Maringkik Island. Women contribute by producing traditional woven fabrics, which serve not only as cultural symbols but also as promising creative-economy products. This activity generates additional household income while preserving local heritage. At the same time, livestock raising and small retail enterprises provide supplementary earnings and reduce reliance on fisheries. According to livelihood diversification theory, a broader range of income-generating activities enhances a community's capacity to withstand economic shocks, fluctuations in fish catches, and the impacts of natural disasters (Ellis, 2000).

Furthermore, diversification contributes to local food security and community welfare. Goat farming provides both income and animal-based protein, while neighborhood kiosks improve access to essential goods not locally produced. From a gender perspective, traditional weaving strengthens women's participation in household economic activities and expands their contribution to community development. This finding is consistent with the

Gender and Development (GAD) approach, which highlights the importance of women's engagement in productive sectors as a driver of inclusive and sustainable local development (Levifolia et al., 2023).

Developing Micro, Small, and Medium Enterprises (MSMEs) in Meringkik Island Village

The development of technology- and entrepreneurship-based MSMEs (Micro, Small, and Medium Enterprises) is a strategic approach to fostering innovation and increasing productivity (Schumpeter, 1934). Innovation theory suggests that technology adoption enhances efficiency and sustainability in resource management (Rogers, 2003). Based on interviews with the Head of Meringkik Island Village, government support for MSMEs is primarily provided through entrepreneurship training and technology utilization programs, particularly the use of social media for business development.

In terms of food security, strengthening MSMEs, especially those engaged in marine product processing, contributes to food availability and accessibility. As a small island with abundant fisheries resources, Meringkik Island has significant potential to develop value-added products such as hygienic salted fish, fish floss, fish crackers, and other processed seafood products. Product diversification extends shelf life, reduces post-harvest losses, and supports the stability of local food supplies.

According to the Food and Agriculture Organization (FAO), food security consists of four dimensions: availability, access, utilization, and stability. Technology-based MSMEs support these dimensions by increasing household income through digital marketing, thereby improving purchasing power and access to nutritious food. Moreover, entrepreneurship-driven food processing promotes better hygiene and production standards, contributing to food safety and quality.

Strengthening technology-based MSMEs also supports water security. On small islands such as Meringkik, freshwater availability is often limited due to dependence on rainfall and scarce water sources. Entrepreneurship training can introduce water-efficient production methods, including improved washing techniques, wastewater management, and water reuse for non-consumptive purposes. This aligns with the sustainable resource management perspective of innovation theory, which emphasizes technology adoption as a means of enhancing both productivity and environmental sustainability (Rogers, 2003).

Improved business management can also increase awareness of ecosystem conservation, particularly the protection of freshwater and marine resources that support fisheries-based livelihoods. Poorly managed production waste may degrade water quality and threaten the sustainability of local economic activities. From the perspective of Entrepreneurship Ecosystem Theory, sustainable innovation is strengthened through supportive institutional environments and resource networks (Isenberg, 2010). As MSMEs expand and household incomes increase, communities gain greater capacity to invest in water storage facilities, simple filtration systems, and community-based clean water

infrastructure. Consequently, economic empowerment indirectly contributes to improved water security.

Overall, technology-based MSME development on Meringkik Island serves not only as an economic growth strategy but also as a mechanism to strengthen food and water security. Economic resilience improves access to essential resources, while sustainable resource management ensures long-term business viability and community welfare. However, the effectiveness of this strategy depends on program continuity, regular evaluation, and a strong support ecosystem. Without follow-up initiatives such as equipment assistance, business mentoring, and performance monitoring, training programs may produce only short-term impacts.

Several challenges remain. Limited educational attainment and technical skills constrain the capacities for business management, financial administration, marketing, and reporting. These weaknesses affect income stability and, consequently, households' ability to consistently secure food and clean water. Access to capital is another obstacle. Although financing schemes such as People's Business Credit (KUR) are available, financial literacy limitations, collateral requirements, and administrative barriers often hinder participation. Insufficient capital restricts innovation and product diversification that could increase value added and strengthen food security.

Market access also remains limited. Product quality inconsistencies and weak distribution networks expose MSMEs to market risks. Therefore, digital marketing through social media and online marketplaces is essential for expanding market reach, increasing competitiveness, and stabilizing household incomes. Institutional strengthening is equally important. Cooperatives and joint business groups have not yet been fully utilized despite their potential to improve production efficiency, facilitate access to finance, provide collective training, and support sustainable resource management. In small-island contexts, such institutions can also contribute to more effective water resource governance.

Technology adoption remains a critical challenge. Limited digital capabilities hinder innovation in production and marketing. According to Entrepreneurship Ecosystem Theory, MSME success depends on an integrated innovation environment involving government, academia, the private sector, financial institutions, and local communities (Isenberg, 2010). To address these constraints, establishing technology-based business incubators linked to the creative industry sector represents a strategic option. This initiative is consistent with national policies that define creative industries as sectors driven by creativity, skills, and talent, generating economic value and employment opportunities. For Meringkik Island, creative industry development can focus on seafood processing, coastal-resource-based handicrafts, and branding strategies that reflect local island identities.

The development of technology-based creative MSMEs can strengthen household economies, increase purchasing power, and improve access to nutritious food and clean water. At the same time, innovation encourages environmentally responsible production practices and more efficient water use. Thus, economic development and resource sustainability can be achieved simultaneously.

Strategic collaboration among government agencies, financial institutions, private enterprises, trade associations, and universities is essential to support technology transfer, business mentoring, financial literacy, and market expansion. Through effective multi-stakeholder collaboration, MSMEs on Meringkik Island can become a driving force for local economic development while strengthening sustainable food and water security in the digital era.

Creating Food Security in Meringkik Island Village

The people of Meringkik Island Village require support from the government and the private sector to develop technology-based and social-entrepreneurship MSMEs that can strengthen the food security system of island communities. This approach aligns with Yunus (2007), who argues that businesses should not only pursue profit but also generate social benefits. Therefore, entrepreneurship development in Meringkik should be oriented toward both economic growth and community welfare.

The development of social entrepreneurship and technology-based MSMEs is particularly relevant given the island's limited natural resources and infrastructure. Strengthening local economic resilience is essential to enable communities to cope with challenges such as water scarcity, food insecurity, and restricted access to services while maximizing their marine resource potential.

Interviews with community leaders revealed that residents have long adapted to these conditions through a family-based economic system. Men generally engage in fishing activities, while women market the catch on the Lombok mainland and manage household finances, including education and daily expenses. This pattern reflects strong adaptive capacity and community resilience. According to Adaptive Capacity Theory (Adger, 2003), resilience is shaped by local knowledge, collective action, and the ability to utilize limited resources effectively. The economic practices of Meringkik residents also resemble a subsistence economy that prioritizes household needs and social sustainability (Ellis, 2000).

Despite repeated relocation offers to mainland Lombok, particularly around Telong-Elong Village in Jerowaru District, residents have consistently refused, emphasizing their attachment to ancestral heritage, family ties, and community life. This finding is consistent with Place Attachment Theory (Altman & Low, 1992), which explains that emotional and cultural bonds to a place often influence decisions to remain despite environmental and economic pressures. Such decisions also demonstrate social resilience, defined as the ability to maintain social values and structures amid external challenges (Adger, 2003).

These findings suggest that development policies should prioritize in-situ community empowerment rather than relocation. Programs should focus on improving basic infrastructure, strengthening local capacities, expanding market access, and promoting environmentally sustainable economic activities.

Furthermore, community welfare should not be measured solely by income indicators, as quality of life encompasses emotional, social, and cultural dimensions. In this

context, entrepreneurship development must take into account local capacities and motivations. Roth (2011), in *The Entrepreneur Equation*, notes that entrepreneurial success depends not only on opportunity but also on the alignment of motivation, timing, capabilities, and risk management. Therefore, the development of social entrepreneurship and technology-based MSMEs on Maringkik Island should be tailored to local conditions to ensure long-term sustainability and resilience.

CONCLUSIONS

This study reveals that Maringkik Island Village faces serious challenges in achieving food security, largely due to limited natural resources, coastal erosion threats, and climate change. The majority of residents work as fishermen, with additional economic activities such as weaving and trading, demonstrating the diversity of economic strategies the community uses to cope with these limitations. Government assistance programs such as floating cages, fishing nets, the Program Keluarga Harapan (PKH), Bantuan Pangan Non-Tunai (BPNT), and Bantuan Langsung Tunai (BLT) have contributed to community welfare.

However, capital support to increase income is not yet available, making it difficult for productive businesses to grow significantly. Technical assistance for entrepreneurship and technology-based Usaha Mikro, Kecil, dan Menengah is a good first step, but it needs to be followed by more sustainable and inclusive policies. The life of the Maringkik Island community also reflects a high level of social resilience. This community shows remarkable adaptability to resource constraints and the threats posed by natural disasters. The local culture that supports the division of roles within the family is key to the island's economic and social sustainability.

To support the community's basic needs while strengthening local food security, local governments need to prioritize the provision of adequate clean water infrastructure and the development of credit programs for the fishing industry or community-based cooperatives. Continuous technical assistance for Usaha Mikro, Kecil, dan Menengah development and technology-based training programs to expand access to digital markets. The government, non-governmental organizations, and the private sector collaborate to design and implement sustainable economic development programs that integrate the local wisdom of the Maringkik Island community. Coastal erosion mitigation strategies need to be implemented through the construction of embankments and mangrove planting, as well as through community education on disaster risk management to build community resilience.

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