Al-Kharaj: Journal of Islamic Economic and Business
Volume 7 (4), 2025
P-ISSN: 2686-262X; E-ISSN: 2685-9300

Development of the Fisheries Economic Sector in Sula Islands Regency

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Keywords:
Capture Fisheries, Economic Sector, Sula Islands

Abstract

This study aims to analyze the potential, competitive advantages, development prospects, and specialization of commodities in the capture fisheries sub-sector in the Sula Islands Regency. Method: This study uses a descriptive quantitative method by analyzing secondary data from the Sula Islands Regency and North Maluku Province Statistics Agency, as well as primary data obtained through interviews. The data analyzed covers the period 2018-2023. The analyses used include LQ, DLQ, Combined LQ and DLQ Analysis, IS, Shift-Share, and Klassen Typology. The results of the analysis show that skipjack tuna, tuna, and other fish are base commodities, meaning they are able to serve local needs and be exported outside the region. However, from a future prospects perspective (DLQ), only other fish are classified as potential commodities, while skipjack tuna and tuna are categorized as unpromising, indicating a slowdown in comparative growth rates.The combined analysis of LQ and DLQ places Other Fish in Type I (Basic, Prospective), while Skipjack and Tuna are in Type III (Basic, Not Prospective). In terms of specialization, only Other Fish and Skipjack have a high level of specialization for development. Shift-Share analysis shows that Skipjack, Tongkol, and Other Fish have competitiveness (positive Differential Shift), but Skipjack and Tuna experience slow proportional growth (negative Proportional Shift). Klassen's typology classifies Skipjack, Tongkol, and Tuna as Advanced and Fast-Growing Sectors (high contribution and high comparative growth), while Other Fish is classified as a Fast-Developing Sector (low contribution but high comparative growth

INTRODUCTION

Indonesia, as an archipelagic country with enormous fisheries potential, relies on the fisheries sub-sector as a mainstay of its development. In addition, the fisheries sub-sector also has the potential to become the prime mover of Indonesia's economy. However, empirically, the development of the fisheries sub-sector has received little attention, resulting in its contribution and utilization in the Indonesian economy remaining small. To optimize the utilization of fishery resources and make this sector the prime mover of national economic development, accelerated and breakthrough efforts are needed in marine and fishery development, supported by political and economic policies and a conducive social climate. In this regard, coordination and support across sectors and other stakeholders are among the most important prerequisites. (Peraturan Mentri Perikanan RI, 2018)

Fisheries development is linked to national economic growth. The general relationship between fishery resources, production, fishing businesses, government policy, and the market will affect GDP, which in turn will influence national economic growth (Mudiastuti & Nur, 2014)

Marine and fisheries development planning is based on the concept of sustainable development supported by the development of industries based on natural resources and human resources in order to achieve high competitiveness. Three key points will be carried out in relation to the future direction of the fisheries sector, namely building a competitive advantage in the fisheries sub-sector, describing a people's economy system based on fair market mechanisms, and accelerating effective and strong regional economic development by empowering regional economic actors and potential. The revitalization of agriculture, fisheries, and forestry is a step toward realizing this. With revitalization, it is hoped that the fisheries sub-sector will be able to improve the welfare of fishermen (farmers), contribute to non-oil and gas exports, reduce poverty, and absorb the national workforce.(Faisyal & Wulandari, 2015)

Increase in production in the regencies/cities of North Maluku Province shows that the Sula Islands district had the highest catch in the capture fisheries sector from 2018 to 2022, with the highest catch occurring in 2018 and 2022. In terms of production volume, the Sula Islands district ranks sixth out of 10 districts/cities in North Maluku province.(BPS Maluku Utara, 2023), maka dari

The Sula Islands Regency, located in North Maluku Province, has abundant natural resources, particularly in the fisheries sector. With its vast waters and rich marine biodiversity, the fisheries sector in this region has great potential to become one of the main drivers of the regional economy. This sector not only provides employment opportunities for coastal communities but also plays a crucial role in increasing regional income and strengthening food security.(BPS Kabupaten Kepulauan Sula, 2024).

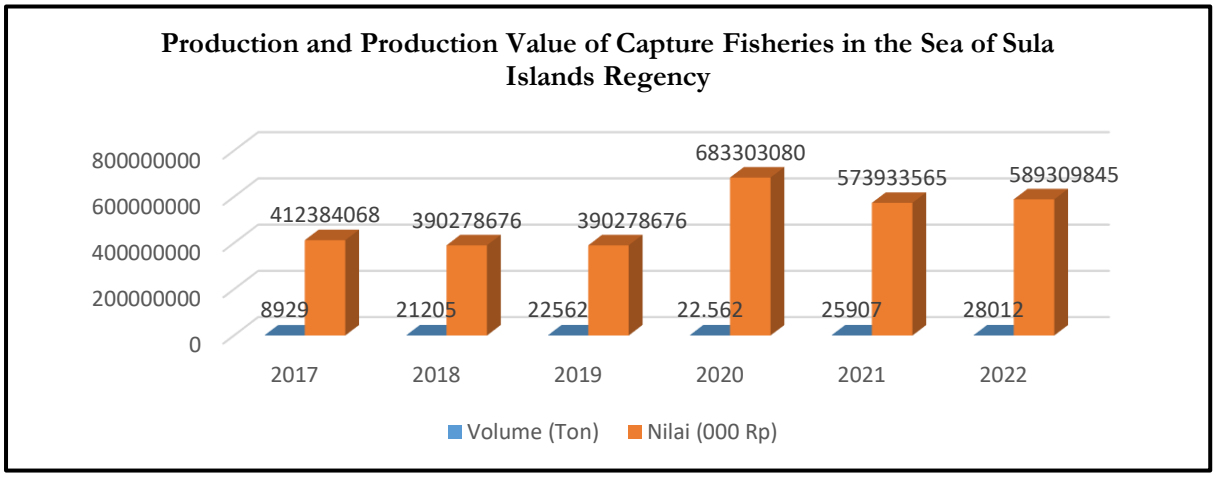

Figure 1. Production and Production Value of Capture Fisheries in the Sea of Sula Islands Regency 2017-2022.

Source: Central Statistics Agency of Sula Islands Regency 20217-2024

As an archipelago, many residents of the Sula Islands engage in fishing as part of their daily activities. The main commodities of the fishing industry in the Sula Islands include skipjack tuna, tongkol tuna, tuna, and others. In 2021, fishery production reached around 25,907 tons, with a production value of around IDR 573,933,565.00. In 2022, the catch was 26,012 tons with a production value of IDR 589,309,845.00.(BPS Kabupaten Kepulauan Sula, 2023).

However, despite its great potential, the contribution of the fisheries sector to the economy of the Sula Islands Regency has not been optimal. The main challenges faced are inadequate infrastructure, limited technology, low market access, and a lack of regulatory and policy support for the development of a sustainable and competitive fisheries sector. In addition, climate change and unsustainable fishing practices also threaten the sustainability of fishery resources in this region.

The development of a competitive fisheries sector is crucial in supporting the economy of the Sula Islands Regency. The competitiveness of the fisheries sector can be enhanced through the application of modern technology, improvement of human resources, infrastructure development, and strengthening market access. In addition, the application of sustainable resource management principles is also key to maximizing the potential of fisheries in this region without damaging the marine ecosystem. The extent to which the potential of capture fisheries in the Sula Islands Regency contributes to the regional economy, as well as the main challenges in developing the fisheries sector in the Sula Islands Regency. This study analyzes the potential of fishery resources in the Sula Islands Regency, including the dominant fish species, production volume, and economic value generated. This aims to provide a clearer picture of the existing potential and how it can be optimally utilized.

METHODS

The method used in this study is descriptive quantitative, analyzing the fisheries potential of the Sula Islands district. This study uses secondary and primary data. Techniques for collecting secondary and primary data: secondary data was obtained from institutions that provide data, the Central Statistics Agency (BPS) of the Sula Islands district and North Maluku province, the fisheries agencies of the Sula district and North Maluku province, and other official institutions. Primary data was collected through direct interviews with people working in the fishing industry in the Sula Islands Regency. The data analyzed was fisheries data from the Sula Islands Regency and North Maluku Province from 2019 to 2023.

Location Quetient (LQ)

Location Quotient (LQ) is a method of analysis used to calculate the export capacity of an economy (region) and also to determine the degree of independence of a sector in that regional economy. One indicator that can describe the existence of a base sector is through location quotient analysis, which can show the strength or size of a sector that plays a role in that region and compare it with the region above it. Mathematically, the LQ value can be calculated using the following formula:

$$LQ = \frac{Vik/Vk}{Vip/Vp}$$

Vik = regional output value (GRDP) (Province/RI) in the formation of Real Regional Domestic Product (GRDP) in the study area; Vk = Total Gross Regional Domestic Product of all sectors in the study area; Vip = Output value (GRDP) of the reference regional sector (Province) in the formation of the reference regional GRDP; Vp = total Regional Domestic Product in all sectors of the reference region.

If the calculation results show that a sector has an LQ value > 1, it means that the sector is a base sector that is a strength of the region in exporting its products outside the region. Conversely, if LQ < 1, then the sector is an importer. Meanwhile, if LQ = 1, then there is a tendency for the sector to be closed because it does not conduct transactions inside and outside the region.

Dynamic Location Quotient (DLQ)

DLQ analysis is used to analyze the leading sectors of a region that can be developed. DLQ analysis can introduce the growth rate of each sector, assuming that each sectoral value added and GRDP has its own average annual growth rate within a certain period.

$$\boldsymbol{DLQ_{ij}= \frac{(1+gtj)/(1+gj)}{(1+Gi)/(1+G)}}$$

Diman DLQij is the Dynamic Location Quotient index; gij is the average rate of sector or sub-sector i in the district; gj is the average growth rate in the district; Gi is the average growth rate of sector or sub-sector i at the provincial or national level; G is the average growth rate at the provincial (national) level; t is the analysis period.

The DLQ value can be seen from: DLQ>1 means that the proportion of the growth rate of sub-sector i to the growth rate of the district/city GRDP n is faster than the growth rate of that sub-sector to the provincial (national) GRDP; while DLQ<1 means that the proportion of the growth rate of sub-sector i to the growth rate of the GRDP of district/city n is lower than the growth rate of that sub-sector to the provincial (national) GRDP; DLQ=1 means that the growth rate of sub-sector i to the growth rate of the GRDP of district/city n is comparable to the growth rate of that sub-sector to the provincial (national) GRDP.

Specialization Index

The specialization index method is a relative measure of a region's specialization in developing certain activities (sectors/subsectors/commodities). The specialization index is calculated based on the formula (Warpani, 1984) in (Riky, et al, 2024).

$$\mathbf{IS} = \sum (\boldsymbol{L_{ip}}/\boldsymbol{L_{p}}) / - (\sum (\boldsymbol{N_{in}}/\boldsymbol{N_{N}}) \mathbf{x\ 100}$$

Where, Lip is the production volume of the economic sector in the analysis region p; Lp is the total of all economic sectors in the analysis region p; Nin is the volume of the economic sector in the reference region n; and Nn is the total of all economic sectors in the reference region n.

Shift-Share Analysis

Shift-Share recognizes differences and similarities between regions or between regions. This analysis assumes that changes in income, production, or labor in a region can be divided into three growth components, namely the regional growth component, the proportional or industrial mix growth component, and the regional share growth component. The Shift Share (SS) formula is as follows:

$$\Delta Yi = PRij + PPij + PPWij$$

Atau secara rinci dapat dinyatakan:

$$Y'ij - Yij = \Delta Yij = Yij\ (Ra - 1) + Yij\ (Ri - Ra) + Yij\ (ri - Ri).$$

ΔYij is the change in sector i income in region j; Yij is the GRDP of sector i in province j in the base year of analysis; Y'ij is the GRDP of sector i in province j in the final year of analysis; Yi is the GRDP of sector i in the entire research area in the base year of analysis; Y'i is the GRDP of sector i in the entire research area in the final year of analysis; Y is the GRDP of the sector in the base year of analysis; Y' is the GRDP of all sectors in the final year of analysis; Rα is Y'../ Y; Ri is Y'i/Yi; r_i is Y'ij/Yij

If the SS value is > 0, it indicates that the sector/commodity has a competitive advantage and is shifting rapidly. Meanwhile, an SS value of 0 indicates that the sector/commodity can be further developed into a base sector/commodity. If the SS value is < 0, it indicates that the sector/commodity does not have a competitive advantage and its growth is shifting slowly.

Analysis Class Typology

This class typology analysis is the most popular model for identifying the level of regional economic development using a database of per capita income and economic growth, divided based on averages.

Table 1. Classen typology criteria for sector i performance in a region

Contribution (y) Growth (r)	The contribution of sector i is greater than the contribution of the province. (yik>yi)	The contribution of sector i in the district is smaller than the contribution of the province. (yik<yi)
The growth rate of the county sector is greater than the growth rate of the province. (rik>ri)	Advanced and fast-growing sectors	Fast-growing sector
The growth rate of the county sector is smaller than the growth rate of the province. (rik<ri)	Advanced and depressed sectors	Relatively underdeveloped sector

rik is the growth rate of sector (i) in the Sula Islands district (k); ri is the growth rate of sector (i) at the North Maluku provincial level (national); yik is the contribution of sector (i) to the total production value of the Sula Islands district's GRDP (k); yi is the contribution of sector (i) to the total production value of North Maluku province's GRDP.

RESULTS AND DISCUSSION

Results of Location Quotient Analysis for the Capture Fisheries Sub-sector in the Sula Islands Regency

Based on the LQ calculation results, the fisheries sub-sector in the table for 2018-2023 shows that the average value of capture fisheries commodities, which form the basis of the sector, includes the following sub-sectors: skipjack tuna, tuna, and other fish sectors are the basis sectors. This economic fisheries sub-sector is a leading sector in the economy and is considered a basis sector because the LQ value is 1.

The fishing sub-sector, namely skipjack tuna from 2021-2023, is the base sector. Skipjack tuna commodities meet the needs of the Sula Islands community, while tuna commodities are the sector with the most base sectors for 6 years. From 2018 to 2020, skipjack tuna could only be supplied within the Sula Islands Regency. However, from 2021 to 2023, this fishery commodity experienced an increase in LQ=2, meaning that it could not only be supplied within the region but also exported outside the region. This increase also occurred in other fish commodities with an LQ value of 2 in 2023.

Table 2. Calculation Results of Location Quotient for the Capture Fisheries Sub-sector in the Sula Islands Regency

Fisheries Sub-Sector Capture Kab Kep Sula	Location Quotient Index Sula Regency						Average	Category
Year	2018	2019	2020	2021	2022	2023		
A. Skipjack tuna	1	1	1	2	2	2	1	base
B. Tongkol	0	0	1	0	0	1	0	Non-basic
C.Tuna	2	2	1	1	1	0	1	base
D. others	1	1	1	1	1	2	1	base

Source: Processed data, 2025

Meanwhile, the fisheries sub-sector that is not a base sector (LQ=0) is tuna. Looking at the base development over five years, tuna is not a base commodity, with an average base value of 0.

Results of DLQ Analysis of the Capture Fisheries Sub-sector in the Sula Islands Regency

The results of the Dynamic Location Quotient (DLQ) analysis show that commodities in the capture fisheries sub-sector have a higher growth rate in the Sula Islands district than in North Maluku province. Commodities in the capture fisheries sub-sector in the Sula Islands Regency that have economic prospects for development to become future leading sub-sectors are found in other commodities in the capture fisheries sub-sector, which will be developed for the advancement of the Sula Islands Regency.

Table 3. Results of Dynamic DLQ Calculations for the Capture Fisheries Sub-sector in the Sula Islands Regency

Sub-sector Capture Fisheries Sula Regency	DLQ Dinamis Capture Fisheries Sub-Sector Sula Regency					Average	Description
	2019	2020	2021	2022	2023		
A. Cakalang	-7	0	-1	-89	0	-19	No Potential
B. Tongkol	11	-92	0	-1	0	-20	No Potential
C.Tuna	-1	0	0	0	0	0	No Potential
D. Lainnya	8	0	0	2	0	3	Potential

Source: Processed data, 2025

However, there is only one commodity in the fisheries sub-sector of the Sula Islands district economy, namely other commodities. Growth in the capture fisheries sub-sector is lower than growth in North Maluku province. The economic prospects for skipjack tuna, tongkil fish, and tuna in this sector are poor, making it difficult to establish a solid economic base for the Sula Islands district in the future.

The fisheries sub-sector for other fish commodities is a basic fisheries sub-sector commodity, and is expected to become the economic base for the fisheries sector in the Sula Islands Regency in the future. For skipjack and tuna fish commodities, the fisheries sub-sector is a leading sector, but it has undergone repositioning and its role has declined, so it cannot be expected to become the economic base for the Sula Islands Regency in the future.

Analysis of the Relationship between LQ and DLQ in the Capture Fisheries Sub-sector of the Sula Islands Regency.

Table 4. Combined analysis of LQ and DLQ shows that commodities in the capture fisheries sub-sector are classified as Type I, Type II, and Type IV.

	DLQ>1	**DLQ<1**
LQ>1	**Type I** **Basic Sector, Prospective.** **1. Other Fish Commodities**	**Type III** **Basic Sector, Not Prospective** **1. Skipjack Tuna Commodity** **2. Tuna Commodity**
LQ<1	**Type II** **Prospective Non-Basic Sector**	**Type IV** **Non-Basic Sector, Not Prospective** **1. Tuna Commodity**

Source: Processed Data, 2025

Analysis of the Specialization Index of the Capture Fisheries Sub-Sector in the Sula Islands Regency

The results of the analysis of the Specialization Index for the fisheries sector in the Sula Islands Regency show that the IS for the Sula Islands Regency is 0.00 or IS<1 for both tuna and tuna fish commodities, indicating that the level of specialization in the fisheries sector in the Sula Islands Regency is low based on the calculation results. This indicates that commodity development in the capture fisheries sub-sector of the economy should focus on developing commodities in sub-sectors with more available resources than in the Sula Islands Regency.

Table 5. Results of Commodity Analysis of the Capture Fisheries Sub-Sector in the Sula Islands Regency

Fisheries Sub-Sector Capture Kab Kep Sula	Fisheries Specialization Index Catch Kab Kep Sula						Average Specialization Index
	2018	2019	2020	2021	2022	2023	
A. Cakalang	-6	-4	2	7	7	6	1
B. Tongkol	-29	-34	-13	-4	-5	-7	-17
C.Tuna	-1	-5	-1	0	0	-3	-1
D. Lainnya	21	7	43	66	64	59	40

Source: Processed Data, 2025

However, there are only two commodities in the capture fisheries sub-sector in the Sula Islands Regency that have a specialization index (IS) of 1 and IS > 1, namely skipjack tuna and other fish commodities. Skipjack tuna has an IS value of 1, while other fish commodities have an index value of 40. Other fish commodities, in addition to having a basic sector level, also have specialization that can be developed. This is evident from the geography of the Sula Islands Regency, which is a regency with a large area and various islands with fishery potential that must be developed.

Shift-Share Analysis of the Capture Fisheries Sub-sector in the Sula Islands Regency

Table 6. Results of Shift-Share Analysis of Commodities in the Capture Fisheries Sub-Sector in the Sula Islands Regency

Fisheries Sub-Sector Capture Kab Kep Sula	SSA Capture Fisheries Sub-Sector Sula Regency		
	Regional Share	Proporsional Shift	Differential Shift
A. Cakalang	8,271	-11,294	2,493
B. Tongkol	-2	7	1,074
C.Tuna	7,416	-10,708	-293
D. Lainnya	-5,078	14,900	22

Source: Processed Data, 2025

1. Regional Growth Components (Regional Share)

Skipjack tuna and tuna commodities found in the Sula Islands Regency, both of which are sub-sectors of the fisheries industry, have a positive regional share value, indicating excellent economic growth. In this case, economic growth in the Sula Islands Regency is very rapid. LQ analysis shows that these two fish commodities in the Sula Islands Regency are in the base sector category. The economic sector of the Sula Islands Regency can be developed very rapidly in the future.

1. Proportional Growth Component (Proportional Shift)

Although there is a temporary impression that the growth of the capture fisheries sub-sector commodities in the Sula Islands district is very rapid, the results of the Proportional Shift calculation for the fishing sub-sector commodities in the Sula Islands Regency are very slow. The fishing sub-sector commodities that are very slow in their economic development are skipjack tuna and tuna. The economic growth of these two commodities is very slow, with negative figures in the calculations. There are two commodities, tongkol fish and other fish commodities in the economic sector of the Sula Islands Regency, where the proportional growth component (Proportional Shift) is very good, showing an increase in growth shift in this sector.

Conceptually, the proportional growth component arises due to differences in commodities and final product demand, raw material availability, and industrial policy. In order to advance the economic sector of the Sula Islands district in the future, which is marked by a positive Proportional Shift value, the local government of the Sula Islands district needs to improve and strengthen the commodities that are currently in operation. Regional Share

3. Growth/Competitiveness (Differential Shift).

Commodities in the fisheries sub-sector of the Sula Islands Regency show growth in regional share (Differential Shift). There are three commodities in the fisheries sub-sector, namely skipjack tuna, tongkol tuna, and other fish, which are highly competitive and contribute to the progress of the fisheries sub-sector in the Sula Islands Regency. This can be seen from the positive value of the Differential Shift analysis. However, while the tuna commodity in the fisheries economic sub-sector has competitiveness, the analysis results show that this sector has a very small (negative) value compared to other economic sectors. To enhance the competitiveness of this economic sector with a very small (negative) value, the government must increase production and develop plans to improve competitiveness in this sector.

Analisis Tipologi Klassen Komoditi Sub Sektor Perikanan Tangkap Kabupaten Kepulauan Sula.

North Maluku Province has an average growth rate in the fishery sub-sector commodities, namely the four fishery sub-sector commodities, skipjack tuna, tongkol tuna, tuna, and other fish commodities. North Maluku Province does not have a good average growth rate, while the average value of these commodities is very positive and is being developed.

Table 7. Results of the Calculation of the Klassen Typology of Commodity Sub-sectors in the Capture Fisheries Sector in the Sula Islands Regency

Business Field	Prov Maluku Utara		Kep Sula		Description
	Average Growth	Average Distribution	Average Growth	Average Distribution	
A. Cakalang	-0.2	19.3	0.0	27.0	Commodities on the Rise and Under Pressure
B. Tongkol	0.1	8.0	1.3	8.2	Advanced and Fast-Growing Sectors
C.Tuna	-0.1	12.4	1.3	48.9	Advanced and Fast-Growing Sectors
D. Lainnya	0.2	60.4	1.8	15.9	Advanced and Fast-Growing Sectors

Sumber: Data Diolah,2025.

The difference in commodity values in the fisheries sub-sector in the Sula Islands district, in terms of average growth, is that only skipjack tuna has a negative value, while other commodities in the fisheries sub-sector, namely tongkol fish, tuna, and other types of fish, have positive values. The average distribution value of fishery sub-sector commodities is positive or good when compared to the average value of North Maluku Province.

The commodities of the fisheries sub-sector economy of the Sula Islands Regency, namely skipjack tuna, tongkol tuna, and tuna, are sectors that have a higher level of sectoral economic growth and sectoral contribution compared to the average commodities of the fisheries sub-sector economy of North Maluku Province. Meanwhile, other fisheries sub-sector commodities are economic sectors with high sectoral economic growth rates, but their sectoral contributions are lower than the average for other fish commodities in North Maluku Province.

Table 8. Comparison of Klassen Typology, Commodities in the Capture Fisheries Sub-sector in the Sula Islands Regency.

Contribution (y) Growth (r)	The contribution of the capture fisheries sub-sector in the Sula Islands district is greater than that of North Maluku province (yik>yi).	The contribution of commodities from the fisheries sub-sector in the Sula Islands district is smaller than that of North Maluku province (yik<yi).
The growth rate of the capture fisheries sub-sector in the Sula Islands district is greater than the growth rate of North Maluku province (rik>ri).	Advanced and Fast-Growing Sectors: 1. Skipjack Tuna Commodity 2. Tongkol Fish Commodity 3. Tuna Commodity	Fast-Growing Sectors: 1. Other Fish Commodities
The growth rate of commodities in the fisheries sub-sector in the Sula Islands district is lower than the growth rate in North Maluku province (rik<ri).	Advanced Sector Under Pressure:	Relatively Underdeveloped Sectors

Source: Processed data, 2025.

CONCLUSION

The fisheries sub-sector for commodities that have economic potential and competitiveness to support the economy of the Sula Islands district is found in skipjack tuna, tuna, and other fish commodities, which are the base sector. However, in the DLQ analysis, these commodities are not considered a potential sector. However, skipjack tuna and other fish commodities have the potential to be developed. Skipjack tuna, tongkol fish, and other fish commodities are competitive. The fisheries sub-sector in the Sula Islands regency is an advanced and rapidly growing sub-sector, but these commodities will also experience pressure from progress.

REFERENCE

Amin,Chairullah. 2012. *Ekonomi Gamalama. Kemandirian Fiskal, Sektor Unggulan dan Daya Saing Wilayah*. LepKhair. Ternate.

Abdullah, Piter, Armida S, Alisjahbana, effendi N & Beoodiono. 2002. *Daya Saing Daerah Konsep Dan Pengukurannya Di Indonesia*. BPFE. Yogyakarta.

Arsyad, Lincon. 1999. *Pengantar Perencanaan Pembangunan Ekonomi Daerah*,edisi kedua. BPFE. Yogyakarta.

Adjisasmita, S, A. *Transportasi Dan Pengembangan Wilayah*. GRAHA ILMU. Yogyakarta.

Angelia, Yuki. 2010. *Analisis Ketimpangan Pembangunan Wilayah Di Provinsi Dki Jakarta Tahun 1995-2008* . Fakultas ekonomi Universitas Diponegoro Semarang. Semarang.

Adiisasmita, Rahardjo. 2005. *Dasar-Dasar Ekonomi Wilayah*. Graha Ilmu. Yogyakarta.

Agus, Andi. 2018. "Pengelolaan Dan Penggunaan Sumberdaya Kelautan / Perikanan (Studi Kasus Kota Ternate , Maluku Utara) Marine / Fisheries Resource Using (Case Study Ternate Manucipality , North Molucca)." *JFMarSci* 1 (June): 93–102.

BPS Kabupaten Kepulauan Sula. 2023. *Hasil Pencacahan Lengkap Sensus Pertanian 2023*. Edited by BPS Kabupaten Kepulauan Sula. *BPS Kabupaten Kepulauan Sula*. BPS Kabupa. Sanana: BPS Kabupaten Kepulauan Sula.

BPS Kabupaten Kepulauan Sula. 2024. *Kabupaten Kepulauan Sula Dalam Angka 2024*. BPS kabupa. Sanana: BPS Kabupaten Kepulauan Sula.

BPS Maluku Utara. 2023. *Hasil Pencacahan Lengkap Sensus Pertanian 2023*. *BPS Maluku Utara*. Ternate.

Daryanto. 2004. *Keunggulan Daya Saing dan Teknik Identifikasi Komoditas Unggulan: Dalam Mengembangkan Potensi Ekonomi Regional*. Agrimedia, 9 (2): 51-62. *http://www.search-document.com/pdf/1/1/Daryanto-2004-Keunggulan-Daya-Saing-dan-Teknik-Identifikasi-Komoditas-Unggula.html.*

Faisyal, Rani, and Cahyasari Wulandari. 2015. "Motivasi Indonesia Dalam Menerapkan Model Kebijakan Blue Economy Masa Pemerintahan Joko Widodo." *Jurnal Transnasional* 7 (1): 1914–28.
https://transnasional.ejournal.unri.ac.id/index.php/JTS/article/view/3189%0Ahttps://transnasional.ejournal.unri.ac.id/index.php/JTS/article/download/3189/3105.

Sjafrizal. 2008. *Ekonomi Regional Teori Dan Aplikasi*. Baduose Media. Padang.

Setiono,NS. Dedi. 2011. *Ekonomi Pengembangan wilayah:* Teori dan Analisis. Fakultas ekonomi Universitas Indonesia. Jakarta.

Samiun,M,M. 2008. *Analisis Perekonomian Provinsi Maluku Utara: Pendekatan Multisektoral.* Institut Pertanian Bogor. Bogor.

Subandi, M.M. 2008. *Ekonomi Pembangunan*. ALFABETA. Bandung.

Tarigan, Robinson. 2005. *Ekonomi Regional Teori Dan Aplikasi*. Bumi Aksara.Jakarta.

Mudiastuti, Retnari Dian, and Taufik Nur. 2014. "Strategi Kebijakan Industri Marine Politan Untuk Mendukung Konsep Maminasata: Model Koseptual Dengan Pedekatan Sistem Dinamik." *Jemis* 2 (2): 20–27.

Muta'ali,lutfi.2015. Teknik Analisis Regional unutk perencanaan wilayah,tata ruang dan lingkungan. BPFG.Yogyakarta.

Mawardi, Ikhwanuddin. 2007. *Perencanaan Pembangunan Wilayah Berdasarkan Konsep Produktifitas Unggulan*. J. Tek.Ling. 8 (2) : 181-182. http://www.search-document.com/pdf/1/1/Mawardi

Peraturan Mentri Perikanan RI. 2018. "Peraturan Mentri Kelautan Dan Perikanan Nomor PER.15/MEN/2010 Tentang Organisasi Dan Tata Kerja Kementrian Perikanan."

Kementerian Kelautaran Dan Perikanan RI. Jakarta: Kementerian Perikanan dan Kelautan RI.

Peraturan Republik Indonesai. 2009. "Undang-Undang Republik Indonesia Nomor 45 Tahun 2009 Tentang Perubahan Atas Undang-Undang Nomor Nomor 13 Tahun 2004." *Peraturan Republik Indonesai*. Jakarta: Repbulik Indonesia.

Windhani, Puput Ayu Pudyastuti Herman Samdodo Kikin. 2018. "Analisis Daya Saing Ekspor Komodiri Udang Indonesia Di Pasar Eropa Tahun 2008-2016." *Journal Proceeding* 8 (1): 1–12.

Widodo,Tri. 2006. *Perencanaan Pembangunan: Aplikasi Komputer Era Otonomi Daerah*. UPP STIM YKPN. Yogyakarta