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***Corresponding author:**

Angky Soedrijanto,

Department of Management, Mahardhika Economic College, Surabaya, Indonesia

Email: angky65@gmail.com

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Implementation Of Geostrategy – Geoecology – Geocultural In Accelerate Blue Economic Development Of Fakfak Regency

Jumadi¹, Angky Soedrijanto², Sri Rahayu², Untung Tamsil³

¹Village Community Empowerment Service, Fakfak Regency Government, Indonesia

²Departement of Management, Mahardhika Economic College, Surabaya, Indonesia

³Regent of Fakfak Regency Government, Indonesia.

Abstract

The research aims to determine strategies for implementing geostrategy-geoecological-geocultural-based development for efforts to accelerate regional blue economy development in Fakfak regency. Descriptive research using a semi-qualitative approach, carried out in coastal areas and small islands. Data was obtained from the conversion of in-depth interview results using weighting techniques. Respondents are coastal communities, small islands, and parties who make policies. The research results show that developing a blue economy must begin with improving community culture through a geocultural approach, and building downstream marine fisheries businesses and building renewable energy sources to take advantage of geoecological advantages.

Keyword: *blue economy, geoecology, geoculture, renewable energy*

1. Introduction

Accelerating economic development in Fakfak district has become a very urgent necessity. Regional financial dependence on Central Government fund transfers has been going on for years without significant improvements in the structure of regional financial revenues, which could reduce financial dependence on the Central Government.

Fakfak Regency was established in accordance with the mandate of Law Number 12 of 1969 concerning the formation of the West Irian Autonomous Province together with 8 other districts, namely Jayapura Regency, Biak Numfor Regency, Manokwari Regency, Sorong Regency, Merauke Regency, Jaya Wijaya Regency and Japen Waropen Regency. In accordance with article 1 paragraph 2, Fakfak Regency covers the territory of the Head of the Local Government of Fakfak, Kaimana and Mimika with the Regency Government domiciled in Fakfak. Fakfak Regency as in accordance with Law 12 of 1969 has an area of 50,542 km² covering 8 sub-districts, namely Kokas District 6,175 km², Fakfak District 6,145 km², Kaimana District 5,500 km², Teluk Arguni District 5,000 km², Etna District 8,000 km², West Mimika District 7,974 km², East Mimika District 7,738 km² and Agimuga District 4,010 km². In the process of its journey, Fakfak Regency experienced regional expansion. In 1999, Fakfak Regency expanded Timika into Mimika Regency in accordance with Law Number 45 of 1999 concerning the Establishment of Central Irian Jaya Province, West Irian Jaya Province, Paniai Regency, Mimika Regency, Puncak Jaya Regency and Sorong City, so that the Fakfak Regency area only covered 5 sub-districts, namely Kokas District, Fakfak District, Kaimana District, Teluk Arguni District and Etna District.

In 2002, Fakfak Regency was expanded into a parent Regency and Kaimana Regency in accordance with Law Number 26 of 2002 concerning the Establishment of Sarimi Regency, Keerom Regency, South Sorong Regency, Raja Ampat Regency, Pengunungan Bintang Regency, Yahukimo Regency, Tolikara Regency, Waropen Regency, Kaimana Regency, Boven Digoel Regency, Mappi Regency, Asmat Regency, Teluk Bintuni Regency, Maybrath Regency, and Wondama Regency, so that Fakfak Regency as the main district currently only has an area of 14,320 km².

Table 1. Fakfak Regency Regional Income

No	Budget	Years		
		2018	2019	2020
1	PAD	39.808.022.201	55.633.248.228	69.824.039.761
2	Transfer fund	875.285.276.022	869.302.985.537	865.496.303.506
3	Others a legal PAD	27.065.799.549	25.051.260.510	36.910.635.874
4	Totally	1.220.020.884.376	1.305.790.181.974	1.346.388.053.430

Source: Regional Financial and Asset Management Revenue Agency (BPPKAD) Fakfak Regency, 2021.

Table 1 above shows that as one of the oldest districts on the island of Papua, Fakfak regency is very vulnerable to very low economic capacity. This causes the development process to be very dependent on transfer funds from the Central Government, and Fakfak regency itself

is still unable to prepare regional development plans independently without relying on a helping hand from the Central Government.

Research (Ariansyah, Amir, & Achmad, 2014) states that the fiscal dependency experienced by local governments must be addressed very quickly through efforts to build accelerated economic growth based on the management of existing natural resources. Furthermore (Hamzah & Agustin, 2020) emphasized that rapidly developing information technology is one of the keys to opening up development planning to catch up with other more advanced regions.

Geostrategy is an important part of the understanding that must be instilled in the public regarding the importance of the archipelago insight as the point of view of one equal, parallel and sovereign entity in the constitutional system in Indonesia (Suradinata, 2001). Research (Makmur & Hadi, 2020) states that development strategies based on geographical conditions in various regions in Indonesia are different because the natural conditions in each region can be very different. Therefore, after the COVID 19 pandemic, development must be reorganized more massively to catch up with development implementation plans affected by the pandemic.

Geoecology is a diction that is able to explain the common thread of the relationship between humans and nature (Anonymous, 2016). Geo comes from the meaning of geography or earth science, while ecology is interpreted as a scientific point of view that prioritizes environmental principles ('eco') or closed or open scope in the scope of everyday human life. Therefore, geoecology also means the boundaries that are necessary and unnecessary, as well as the range of meaningful and non-meaningful things that humans need to do in managing natural resources.

Furthermore (Kapiarsa, Kurniawan, Ali, & Supriyatno, 2020) emphasized that the importance of geoecological studies can help provide complete and accurate information regarding the existing readiness of an area that is to be developed as an economic and government center. Readiness includes various things related to security systems, availability of supporting resources, accessibility, and long-term human movement planning.

Geocultural also involves aspects of geomysticism; This is something that is deeply embedded in the culture of everyday life of the people on the island of Papua. People still have very strong ties to ancestral spirits and natural signs; which will certainly be the main reference when the local community wants to make an important decision. Geocultural is an approach to the culture and customs of a group of people who inhabit an area, where the community really respects natural wisdom according to the geographical conditions of their region.

Fakfak Regency is a strategic area for developing maritime resources. All elements of the blue economy are ideal to be implemented in this region as the main trigger for accelerating economic growth. In the context of the blue economy, efforts to explore fisheries resources that ensure the sustainability of the availability of these resources are a more important point of thought. Aquaculture is a very important option to consider. Research (Rahim, Rukmana, Landu, & Asni, 2021), (Hakim, Supono, Adiputra, & Waluyo, 2018), and (Lailiyah, Rahardjo, Kristiany, & Mulyono, 2018) provides a very promising source of income through program implementation. semi-intensive to super-intensive vaname shrimp cultivation; which can be designed to be environmentally friendly and ensure its sustainability.

The research aims to determine strategies for implementing geostrategy-geoecological-geocultural-based development for efforts to accelerate regional blue economy development in Fakfak regency.

2. Material and Method

Survey research was conducted using a semi-qualitative approach. Research data was obtained from interviews compiled using empirical assessment techniques on the conditions of natural resources, social, economic, technological readiness, sustainability, and culture and customs of coastal communities and small islands in Fakfak district. The research locations include the coast and small islands in: 1) Karas district, 2) East Fakfak district, 3) Wartutin district, 4) Teluk Patipi district, 5) Kokas district, and 6) Arguni district.

Survey research tools are questionnaires, cameras and Android devices, boots, helmets, jackets, as well as land and water transportation equipment including: cars, motorbikes and boats with outboard engines. The research period is 5 months from July to November 2023. Researchers conducted field surveys assisted by a team of surveyors equipped with various skills, including driving boats with outboard engines, and using special motorbikes to penetrate several locations that were difficult to reach when conducting empirical observations. in the field.

2.1 Design Study

The nature of qualitative research requires researchers and a team of surveyors to conduct field visits several times to observe the same object. This is done during the data mining process to gain information that is honest, trustworthy, and can be verified. This includes observations of certain phenomena such as tides, waves, fishing activities, and so on.

2.2 Data Analysis

The success and sharpness of the results of this research data analysis are directly influenced by the researcher's experience and understanding of the empirical conditions of the research location. To support the success of appraisal techniques; So researchers must really select research respondents who have well-recognized competence, capability, integrity, and have an understanding attitude towards survey-based scientific research procedures.

The researcher's experience as an apparatus in charge of empowering village communities, combined with the expertise of other researchers from academic circles and the highest leaders in the region, is the strength of the team that can guarantee the accuracy of the results of this research. Semi-qualitative analysis involves assessment, weighting techniques (changing statements and answers into numbers), and sorting positive and negative notations as symbols of the relationship between the factors studied.

The resulting weight values are then displayed in two qualitative analysis tools, namely: a spider web diagram combined with a gap assessment, and a strength weakness opportunity threat (SWOT) analysis matrix with an assessment using the balanced score cards approach. The numbers and notations produced from these two analytical tools are the basis for discussing research results.

3. Result

The results of the analysis are presented in the following figure;

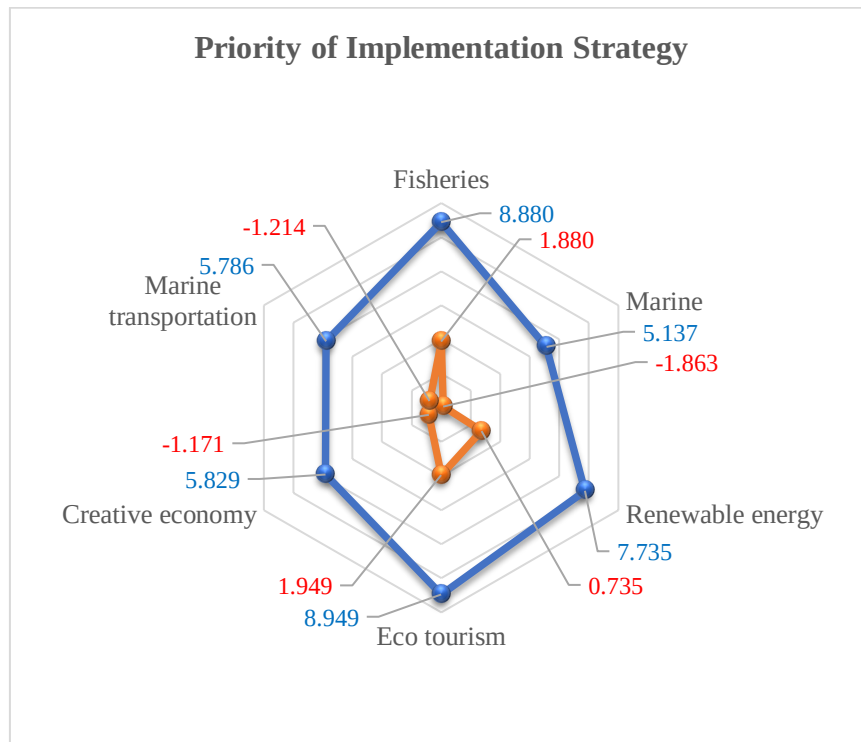


Figure 1. Priority of Implementation Strategy

The picture above shows that there are 3 factors each that have positive gap values and 3 factors that have negative gap values. A positive gap value means that there is good achievement, although it still needs to be continuously improved; and conversely, a negative gap value means that there has been no achievement as expected. Positive gap values are shown by the factors: fisheries (score 1.880), renewable energy (score 0.735), and ecotourism (score 1.949). The thing that needs to be paid attention to is: this positive value is basically a false achievement; because based on empirical observations it appears that it has not really resulted in achieving economic success. This means: there is not yet a large enough value of money that can be generated as income to improve the economic welfare of society. In fact, positive values still indicate that there is great potential that has begun to be exploited.

Negative gap values are shown by marine factors (score – 1.863), creative economy (score – 1.171), and sea transportation (score – 1.214). As with factors that have positive values; then a negative value also indicates things that have not been handled properly, so that they can become an economic resource that can increase income and improve the welfare of society. The expanse of the sea is only a backdrop for life, and only for fishing. The creative economy has potential, but no community has a creative business that can be used as a support for the family economy. The current transportation is basically only to meet the needs of each member of society.

Table 1. SWOT Analysis with Balanced Score Cards

	No	STRENGHT	Skor	WEAKNESS	Skor			
	1	Aquaculture is very suitable to be implemented and developed as an environmentally friendly and sustainable economic source for the community	90	The community does not yet know and understand fish cultivation techniques to be implemented in Fakfak regency	-70			
	2	The marine sector is very suitable for development because the water resources of Fakfak district are very clean and rich in biodiversity	70	The development of the marine sector is still only understood as an effort to explore fishing, it has not yet developed	-70			
	3	Renewable energy is one of the main focuses of energy development for coastal and small island communities by the Central Government	60	Society is not yet fully aware of the importance of using renewable energy as the main energy source for daily life	-90			
	4	Marine tourism is one of the main focuses of community economic development by the Central and Regional Governments	50	The community's managerial ability to manage marine tourism objects is still limited, making it difficult for them to develop	-70			
	5	The creative economy is one of the main focuses of community economic development by the Central and Regional Governments	50	Limited knowledge and skills still hinder the development of the community's creative economy independently	-80			
	6	Efforts to realize sea transportation as connectivity between regions receive priority from the Government.	50	Limited population and small business concerns are obstacles to the development of sea transportation	-60			
No	OPPORTUNITY		S-O		W-O		Strategi SWO	Skor
1	Aquaculture & processing fisheries have great potential to be developed as a leading activity in the blue economy	80		170	Accelerate the development of fisheries cultivation and management oriented towards improving the blue economy of sustainable resources	10	Accelerate the development of fisheries cultivation and management oriented towards improving the blue economy of sustainable resources	180
2	Opportunities for marine development are very much in line	80		150	Develop extensive knowledge for sustainable marine exploration	10	Develop extensive knowledge for sustainable marine exploration	160

	with nature's carrying capacity and efforts to maintain its sustainability				with a variety of environmentally friendly activities		with a variety of environmentally friendly activities	
3	The opportunity to use renewable energy sources is very suitable to existing conditions, climate and the sustainability of natural support	90		150	Make the Government and the entire community aware that it is more important to use renewable energy for sustainable efficiency	0	Make the Government and the entire community aware that it is more important to use renewable energy for sustainable efficiency	150
4	Marine tourism is strongly supported by the readiness of tourist attractions and the attention of other people's expectations because of their beauty	90		140	Establishing collaboration to educate marine tourism management cadres with third parties through business practitioners and higher education levels	20	Establishing collaboration to educate marine tourism management cadres with third parties through business practitioners and higher education levels	160
5	The creative economy is a priority that the Government hopes will grow and develop in regional communities	80		130	Facilitate community members with education or training to develop creative economy product skills	0	Facilitate community members with education or training to develop creative economy product skills	130
6	The development of sea transportation is a priority concern for many parties to improve connections between regions	80		130	Establishing the involvement of business and tourism professionals increases the importance of maritime transportation being encouraged to grow and develop	20	Establishing the involvement of business and tourism professionals increases the importance of maritime transportation being encouraged to grow and develop	150
	THREAD		S-T		W-T		Strategi SWT	
1	Budidaya perikanan terkendala sumber daya manusia yang sedikit dan belum mengenal kemampuan teknis dalam berbudidaya	-70	Establishing cooperation and educating regional sons and daughters to deepen fisheries cultivation competencies at the higher education level	20		-140	Establishing cooperation and educating regional sons and daughters to deepen fisheries cultivation competencies at the higher education level	-120
2	Eksplorasi sumber daya kelautan hanya mengenal capture fishing dan belum mengenal pentingnya budidaya laut	-60	Introducing and developing sea farming and its conservation for the balance of long-term (sustainable) marine exploration	10		-130	Introducing and developing sea farming and its conservation for the balance of long-term (sustainable) marine exploration	-120
3	Energi terbarukan masih dianggap investasi yang mahal dan kesulitan teknis perawatan karena terbatasnya kompetensi teknis masyarakat	-80	Training and implementing and developing habits of using renewable energy with the involvement of third parties (technical universities)	-20		-170	Training and implementing and developing habits of using renewable energy with the involvement of third parties (technical universities)	-190
4	Wisata bahari terkendala potensi jumlah penduduk Fakfak sangat	-60	Establishing cooperation and encouraging the promotion of marine tourism to prospective	10		-130	Establishing cooperation and encouraging the promotion of marine tourism to prospective	-120

	rendah sebagai calon konsumen kepariwisataan		tourists from outside the Fakfak district area				tourists from outside the Fakfak district area	
5	Penumbuhan ekonomi kreatif terhalang oleh keterbatasan pengetahuan tentang dinamika dan daya saing produk di pasaran	-80	Building collaborative partnerships to increase competency and creative skills to create highly competitive products	-30		-160	Building collaborative partnerships to increase competency and creative skills to create highly competitive products	-190
6	Kebutuhan anggaran yang besar menghambat terwujudnya upaya transportasi laut untuk konektivitas antar wilayah	-70	Building third party collaboration to invest and prepare sea transportation for inter-regional connectivity	-20		-130	Building third party collaboration to invest and prepare sea transportation for inter-regional connectivity	-150
		No	SOT strategy		SWT strategy		SWOT strategy	
		1	Establishing cooperation and educating regional sons and daughters to deepen fisheries cultivation competencies at the higher education level	190	Accelerate the development of fisheries cultivation and management oriented towards improving the blue economy of sustainable resources	-130	Accelerate the development of fisheries cultivation and management oriented towards improving the blue economy of sustainable resources	60
		2	Introducing and developing sea farming and its conservation for the balance of long-term (sustainable) marine exploration	160	Develop extensive knowledge for sustainable marine exploration with a variety of environmentally friendly activities	-120	Develop extensive knowledge for sustainable marine exploration with a variety of environmentally friendly activities	40
		3	Training and implementing and developing habits of using renewable energy with the involvement of third parties (technical universities)	130	Make the Government and the entire community aware that it is more important to use renewable energy for sustainable efficiency	-170	Make the Government and the entire community aware that it is more important to use renewable energy for sustainable efficiency	-40
		4	Establishing cooperation and encouraging the promotion of marine tourism to prospective tourists from outside the Fakfak district area	150	Establishing collaboration to educate marine tourism management cadres with third parties through business practitioners and higher education levels	-110	Establishing collaboration to educate marine tourism management cadres with third parties through business practitioners and higher education levels	40
		5	Building collaborative partnerships to increase competency and creative skills to create highly competitive products	100	Facilitate community members with education or training to develop creative economy product skills	-160	Facilitate community members with education or training to develop creative economy product skills	-60
		6	Building third party collaboration to invest and prepare sea transportation for inter-regional connectivity	110	Establishing the involvement of business and tourism professionals increases the importance of	-110	Establishing the involvement of business and tourism professionals increases the importance of	0

				maritime transportation being encouraged to grow and develop		maritime transportation being encouraged to grow and develop	
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Information:

- ✓ There are 6 blue economic factors analyzed, each on the subject according to the serial number in the table.
- ✓ Numerical values were obtained using direct assessment techniques involving all research respondents, and have been tested using a triangulation approach.

4. Discussion

The community's creative economy, along with renewable energy, is the main focus for implementing strategies that must be developed first based on a negative value approach. For areas such as Fakfak district, geostrategically it is clearly understood that there are coastal areas and small islands whose economic development must be aligned so that they grow and develop evenly. Research (Ismail, Iba, Rumagesan, & Istiqomah, 2023) emphasizes the importance of paying attention to coastal and small island communities by encouraging them to develop the creative economy as their economic source and renewable energy as their daily energy source so that the cost burden of using fossil energy can be reduced to as low as possible.

Based on a positive approach, efforts to develop aquaculture, sustainable marine exploration and marine ecotourism appear as open potential that is ready to be developed. Empirical facts show that there are many opportunities for mariculture by developing floating net cages, or revitalizing the cultivation of seaweed and various aquatic plants and corals. This mariculture opportunity is supported by clean waters, as well as many waters in basins or protected by small islands so that they are relatively wave-free and can be used for cultivation. Ocean exploration with wise fishing techniques; then it can be combined with mariculture activities to select fish catches. Economically important types of fish, most of which can be cultivated to obtain a certain weight and size of fish so that their selling value will increase. The geoeological conditions of the coast and small islands of Fakfak district are very suitable for the development of mariculture; including the application of intermediate technology for shrimp cultivation on the coast.

The main challenge that must be considered is the factor of changing the work culture of the local community. Tendency to be spoiled, always hoping for help, and reluctant to work hard to make new breakthroughs for one's own development; is a form of geocultural challenge that must be resolved using various approaches. In order to change cultural culture; So the aspect of education and strengthening the role of traditional leaders, traditional law community leaders and religious leaders by providing technical skills is an option that needs to be considered so that ordinary people will participate in changing their work culture for the better. Research (Ismail, Arbakala, Jumadi, & Soedrijanto, 2023) reports that the Papuan people highly uphold the manners and customs of the cultural heritage of their ancestors. On the other hand, the Papuan people also have openness to change to develop economic resources for their welfare. Therefore, improving the competency, capability and integrity of community leaders is one of the efforts that needs to be made to develop a better work culture for the people of Fakfak regency.

Attention to developing sea transportation specifically in the waters and coasts of Fakfak district requires a strategy that supports efforts to suppress excessive use of fossil energy. The use of electrical energy sourced from renewable energy can be the main option for development in this area; considering the distance and cruising capacity required by sea transportation in Fakfak district waters, generally the distance is relatively short. Research (Harianto, Sinawati, & Fitria, 2022), and (Dewantara, Iradiratu, Rahmatullah, & Winarno, 2019) report on the importance of using ketinting boats with electrical energy from sunlight for fishermen and coastal communities. This does not only reduce the use of fossil fuels but also reduces the costs of raw materials which have been a very heavy burden for coastal communities. This electric ketinting can be used for catching fish or for sea transportation. The geoeological conditions

in Indonesia which are rich in sunlight are the main consideration for the feasibility of using electric powered ketinting boats. Furthermore (Ramadhani, Kusuma, Murtono, & Aji, 2023) emphasized that the need for electric boat propulsion power and the boat's carrying capacity with the type of electric engine needed can be adjusted. Apart from that, maintenance and repair of electrical machines is relatively easier with various simple electrical equipment components that can be obtained anywhere.

Renewable energy will also be very helpful in the fish processing process which is effective and efficient and does not depend on the season. Research (Istiqomah, 2023), and (Istiqomah & Soedrijanto, 2018) report the importance of introducing artificial drying equipment using electric power so that the level of fish drying can be controlled properly. The use of electricity for drying fish with renewable energy sources is a fundamental option in downstream fisheries in coastal areas and small islands, including to reduce the cost of the drying process. Furthermore, research by (Soedrijanto, Istiqomah, & Rizkina, 2020), and (Soedrijanto, Istiqomah, & Soeprijadi, 2021) emphasizes the importance of downstream fisheries businesses producing quality, traceable processed products so that products produced by coastal communities are fit to enter global market competition.

5. Conclusion, Implication, and Recommendation

Culture related to the work culture of coastal and small island communities in Fakfak district is a priority to be fostered, improved and developed into an increasingly productive work culture through various approaches. The ecological conditions of water areas, coastal areas and small islands to develop a very open blue economy must be implemented immediately by starting with improving work culture and building massive renewable energy sources. Empowerment and equitable community welfare can strengthen regional economic development in Fakfak regency which will become a prosperous area at the forefront of Indonesia's maritime areas.

The research results provide implications for the importance of change starting from a geocultural approach. A good society, which still upholds customs and culture, only needs to be fostered and improve its work culture so that it becomes more productive. This is a necessity for Fakfak district as the outermost and underdeveloped region in Indonesia which has abundant marine natural resource potential.

The research results also recommend that the Government be more massive in developing renewable energy sources for communities, especially in coastal areas and small islands, so that their lives become more prosperous. Renewable energy is the main support for the successful implementation of the blue economy.

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