



Empowering Coastal Communities Through Sustainable Fisheries Management in Bulukumba Regency

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Abstract

This study examines the relationship between sustainable fisheries management and coastal community empowerment in Bulukumba Regency, Indonesia. Coastal communities in this region rely heavily on fisheries as their primary livelihood, yet they face increasing challenges such as resource depletion, limited institutional capacity, and socio-economic vulnerability. The research aims to analyze how the implementation of sustainable fisheries management contributes to the empowerment of coastal communities, particularly small-scale fishers. A mixed methods approach with an explanatory sequential design was employed. Quantitative data were collected through household surveys of fishers to assess income levels, participation in fisher groups, access to resources, and perceptions of fisheries governance. Qualitative data were obtained through in-depth interviews, focus group discussions, and field observations involving fishers, community leaders, and governments. The findings reveal that sustainable fisheries management in Bulukumba is in a transitional stage, where policy frameworks exist but implementation at the community level remains inconsistent. Empowerment of coastal communities is categorized as moderate, characterized by partial improvements in capacity-building and livelihood support, but limited in terms of economic independence and decision-making participation. The study also identifies structural constraints such as weak institutional coordination, dependence on middlemen, and unequal access to resources as key barriers to effective empowerment. Despite these challenges, fisheries management initiatives have contributed to increased environmental awareness and strengthened community organization in some areas. The study concludes that sustainable fisheries management has the potential to enhance coastal community empowerment; however, its effectiveness depends on inclusive governance, stronger local institutions, and better integration between conservation objectives and socio-economic development.

Introduction

Coastal areas are among the most dynamic and vulnerable living spaces in the world. More than 40% of the global population lives in coastal areas and relies heavily on marine resources to meet their economic, food, and social needs (Marfai et al., 2018). In the context of global development, coastal areas are also important centers of economic activity, contributing significantly to trade, tourism, and fisheries (Karani & Failler, 2020). However, pressure on marine ecosystems continues to increase due to overexploitation, pollution, and climate change, which threaten the sustainability of coastal resources.

The fisheries sector is a key source of livelihood for coastal communities in various developing countries. Globally, more than 3 billion people depend on fish as a primary source of protein, and approximately 200 million people work in the capture fisheries

and aquaculture sectors (Barange, 2018). However, reports indicate that approximately 35% of global fish stocks are overfished, while most are at their maximum exploitation limits (Link & Wiston, 2019). This situation indicates a sustainability crisis in marine resource management that requires a new, more adaptive and ecologically based approach (Levin & Mollmann, 2015).

From the perspective of common-pool resource theory, marine resources are vulnerable to overexploitation if not regulated by effective institutions (Tilman, 2017). The tragedy of the commons concept explains that without regulation and collective management, shared resources will experience degradation due to individual behavior pursuing short-term interests (Dacko, 2015). Therefore, a governance system is needed that can integrate economic, social, and environmental aspects in a balanced manner (Sari, 2019).

The sustainable fisheries management approach has become an important paradigm in modern marine policy. This approach emphasizes the importance of maintaining a balance between resource utilization and marine ecosystem conservation for future generations (Supriatna, 2018). In practice, ecosystem-based fisheries management and co-management are two widely adopted approaches to improve the effectiveness of fisheries governance (Kenny et al., 2018).

However, the implementation of sustainable fisheries management in developing countries often faces various structural challenges. Limited institutional capacity, weak law enforcement, and low community participation are major obstacles to achieving sustainability (Lihua et al., 2020). Small-scale fishers, as the primary actors in the fisheries sector, are often vulnerable due to unequal access to resources and policies (Satria, 2020). This situation is exacerbated by the dominance of market actors and dependence on unfair distribution systems (Glockner, 2017).

In many coastal areas, including Indonesia, fishing communities face multidimensional challenges encompassing economic, social, and environmental aspects. As the world's largest archipelagic nation, Indonesia possesses enormous marine resource potential, with more than 17,000 islands and vast marine areas (Pardosi, 2016). The fisheries sector contributes significantly to the national economy and provides a livelihood for millions of coastal communities (Febrianti, 2016). However, issues such as overfishing, illegal fishing, and coastal ecosystem degradation remain serious challenges in managing national marine resources (Satria, 2015).

In the context of South Sulawesi, particularly Bulukumba Regency, the fisheries sector plays a strategic role in supporting the local economy. This region is known for its high potential for capture fisheries and strong maritime traditions among coastal communities (Nawastuti, 2018). However, in recent years, pressure on fish resources has increased due to intensified fishing and changes in marine environmental conditions (Salim & Anggoro, 2019). This has resulted in declining catches and unstable incomes for fishermen.

Furthermore, the socio-economic structure of coastal communities in Bulukumba still demonstrates a high level of dependence on middlemen and traditional marketing systems that disadvantage small-scale fishers (Busthanul et al., 2020). Limited access to capital, technology, and market information further weakens fishers' bargaining position in the fisheries value chain (Julianto & Darwanto, 2017). Under these conditions, community empowerment efforts are crucial for increasing the adaptive capacity and economic independence of coastal communities.

The concept of community empowerment is a key approach in community-driven development. Empowerment not only means increasing income but also includes enhancing the social, political, and institutional capacity of communities to manage their own resources (Ahmad, 2019). In the fisheries context, fisher empowerment can be achieved through increased participation in decision-making, strengthening local institutions, and providing access to productive resources (Primyastanto, 2016).

The co-management approach to fisheries management emphasizes collaboration between the government and local communities in decision-making and policy implementation (Linke & Bruckmeier, 2015). This model is considered more effective than a top-down approach because it allows communities to actively participate in marine resource management (Handoko, 2017). However, the success of co-management implementation depends heavily on the strength of local institutions and the level of trust between the actors involved (Akonwi Nebassifu & Majory Atong, 2019).

Although various empowerment programs have been implemented at the local level, their effectiveness varies. Many programs provide short-term assistance without sustainably strengthening the community's structural capacity (Margayaningsih, 2016). This often results in empowerment programs not generating significant economic independence for small-scale fishers. Therefore, a more integrative approach between sustainable fisheries management policies and community empowerment strategies is needed.

Given these conditions, this research is crucial to analyze how sustainable fisheries management can contribute to the empowerment of coastal communities in Bulukumba Regency. The main focus of this research is to examine the relationship between marine resource management policies, local institutional capacity, and the level of empowerment of fishing communities. Thus, this research is expected to provide theoretical contributions to the development of the concept of community-based fisheries management and practical contributions to the formulation of more inclusive and sustainable coastal development policies.

Methods

Research Design

This study employs a qualitative research approach using a case study design to explore the relationship between sustainable fisheries management and coastal community empowerment in Bulukumba Regency. A qualitative approach is considered appropriate because it allows for an in-depth understanding of social processes, local experiences, perceptions, and institutional dynamics related to fisheries governance and community empowerment. Through this approach, the study seeks to explain how sustainable fisheries management practices influence the lives and adaptive capacities of coastal communities.

Study Area

The research was conducted in Bulukumba Regency, South Sulawesi, Indonesia. This region was selected because of its strong dependence on fisheries as a primary livelihood source and its significant role in coastal and marine resource management. Bulukumba is characterized by diverse fishing communities, varying institutional capacities, and ongoing fisheries management initiatives, making it an appropriate setting for investigating issues of sustainability and community empowerment.

Data Collection

Data were collected through in-depth interviews, focus group discussions (FGDs), and direct field observations. In-depth interviews were conducted to gain detailed insights into the experiences, perceptions, and challenges faced by stakeholders involved in fisheries management. Focus group discussions were used to explore collective perspectives and community-level dynamics, while field observations provided contextual understanding of local fisheries activities and social interactions.

Informants were selected using purposive sampling based on their relevance to the research objectives. Participants included small-scale fishers, leaders of fisher groups, officials from the Fisheries Department, community leaders, and other stakeholders involved in fisheries governance and coastal development.

Data Analysis

The collected data were analyzed using thematic analysis. The analysis process involved data transcription, coding, categorization, and identification of recurring themes. Key themes included community empowerment processes, institutional capacity, fisheries governance practices, participation in decision-making, socio-economic challenges, and sustainable fisheries management initiatives. Thematic analysis enabled the researcher to interpret patterns and relationships emerging from participants' experiences and perspectives.

Trustworthiness of Data

To ensure the credibility and trustworthiness of the findings, several validation techniques were employed. These included triangulation of data sources, triangulation of methods, and member checking. Data were compared across interviews, focus group discussions, and observations to enhance consistency and reliability. Member checking was conducted by confirming key findings with selected participants. Furthermore, researcher reflexivity was maintained throughout the research process to minimize potential bias and strengthen the rigor of the study.

Ethical Considerations

All participants were informed about the purpose of the study prior to data collection. Participation was voluntary, and informed consent was obtained from all informants. Confidentiality and anonymity were maintained throughout the research process, and all information was used solely for academic purposes.

Summary of Methodological Approach

Overall, this qualitative methodological framework was designed to provide a comprehensive and in-depth understanding of how sustainable fisheries management contributes to coastal community empowerment in Bulukumba Regency. By focusing on stakeholder experiences, institutional processes, and local realities, the study contributes to the development of community-based fisheries management theory and provides practical insights for sustainable coastal governance.

Results

Condition of Fisheries Management in Bulukumba

Fisheries management in Bulukumba Regency is characterized by a transitional condition between traditional practices and the gradual implementation of modern sustainable

fisheries governance. Most small-scale fishers still rely on conventional fishing methods, with limited access to advanced technology, real-time marine information systems, and sustainable fishing infrastructure. Although various government programs related to sustainable fisheries management have been introduced, their implementation at the grassroots level remains inconsistent. This situation reflects a gap between policy formulation and field-level execution, particularly in ensuring equitable access to resources and effective enforcement of fishing regulations. Furthermore, monitoring and control over fishing activities are still relatively weak, especially in offshore and semi-industrial fishing zones, which contributes to ongoing pressures on marine ecosystems.

From an institutional perspective, fisheries governance in Bulukumba is supported by local government agencies, fisher groups, and community-based surveillance units. However, coordination among these actors is not yet fully optimal, leading to fragmented implementation of fisheries policies. While fisher groups exist in many coastal villages, their institutional capacity varies significantly, with some functioning effectively as platforms for collective action, while others remain largely symbolic. In addition, dependence on middlemen remains a dominant feature in the fisheries value chain, limiting fishers' bargaining power and reinforcing economic vulnerability among small-scale fishing households. These structural constraints indicate that fisheries management is still evolving toward a more inclusive and sustainable model.

Field interviews reveal that many fishers perceive current management systems as only partially beneficial to their livelihoods. One respondent stated:

"We know there are government programs for sustainable fishing, but in reality, we still fish the same way as before. The support is there, but not enough to really change our daily work."

Another fisher explained the institutional challenge in practice:

"Fishing groups exist in our village, but sometimes they are not active. We only hear about policies during meetings, but implementation in the sea is different."

A local fisheries officer also highlighted the implementation gap:

"We try to enforce sustainable fisheries regulations, but limited resources and wide coastal areas make monitoring very challenging. Community involvement is crucial, but not all areas are equally organized."

Level of Coastal Community Empowerment

The level of coastal community empowerment in Bulukumba Regency can be described as moderate, with significant variations across villages depending on access to resources, institutional strength, and the effectiveness of local development programs. In general, empowerment efforts have been implemented through fisher group formation, capacity-building training, provision of fishing equipment, and limited financial assistance schemes. However, these interventions have not yet fully translated into long-term economic independence or strong institutional self-reliance among small-scale fishers. Many fishing households still face structural vulnerabilities, including unstable income, limited access to capital, and dependence on informal fish marketing systems. As a result, empowerment tends to remain partial, focusing more on short-term assistance rather than sustainable capacity development.

From a social perspective, participation of coastal communities in decision-making processes related to fisheries governance is still relatively low. Although fisher groups

and community forums exist, their role in shaping policy direction and resource management decisions is often limited. In many cases, decision-making processes remain dominated by government institutions, with community involvement occurring mainly at the level of consultation rather than active co-management. This indicates that the empowerment process has not yet fully achieved the level of meaningful participation required for community-driven fisheries governance. Furthermore, differences in education levels and access to information also influence the degree of empowerment experienced by coastal households.

Field interviews indicate that many fishers perceive empowerment programs as beneficial but insufficient to create long-term change. One respondent stated:

"We have received training and fishing tools from the government, but it is still difficult for us to become fully independent because market prices are controlled by middlemen."

Another fisher explained the limitation of participation in governance:

"We are invited to meetings, but most decisions are already made. We can only agree or follow what has been decided."

A community leader also emphasized the uneven impact of empowerment programs:

"Some fishers benefit from government assistance, but others are left behind because the programs do not reach all groups equally."

Forms of Sustainable Fisheries Management Implementation

The implementation of sustainable fisheries management in Bulukumba Regency is reflected through several policy instruments and field-based initiatives aimed at balancing ecological preservation with the socio-economic needs of coastal communities. These include the regulation of fishing gear usage, seasonal fishing arrangements, coastal resource monitoring programs, and marine conservation efforts such as mangrove rehabilitation and habitat protection. In addition, the government has introduced community-based surveillance groups and encouraged the formation of fisher organizations to support participatory monitoring of marine resources. Despite these efforts, implementation in practice remains uneven due to limited enforcement capacity, geographic challenges, and varying levels of community compliance. As a result, sustainable fisheries management is still in a developmental stage, with ongoing efforts to strengthen coordination between government agencies and local stakeholders.

From an operational perspective, the approach to sustainable fisheries management in Bulukumba still reflects a combination of formal regulatory frameworks and informal community practices. While regulations exist to control destructive fishing methods and promote responsible resource use, enforcement is often constrained by limited human resources and logistical challenges in monitoring extensive coastal areas. Moreover, the effectiveness of marine conservation initiatives depends heavily on community participation, which varies significantly across different coastal villages. In some areas, fisher groups actively engage in conservation activities, while in others, participation remains minimal due to low awareness and economic pressures that prioritize short-term income over long-term sustainability.

Field interviews provide insight into how these policies are experienced at the community level. One fisher stated:

"We know there are rules about fishing areas and gear, but sometimes it is hard to follow them because we need to earn enough income every day."

Another respondent highlighted community-based monitoring efforts:

"In our village, we have a surveillance group, but it is not always active because of limited support and funding."

A fisheries officer further explained the implementation challenge:

"We have regulations for sustainable fishing, but enforcement is difficult due to limited personnel and the wide coastal area we must cover."

Supporting and Inhibiting Factors of Community Empowerment

The empowerment of coastal communities in Bulukumba Regency is influenced by a combination of supporting and inhibiting factors that shape the effectiveness of development programs and sustainable fisheries initiatives. Supporting factors include the strong social cohesion among fishing communities, the presence of fisher groups and local organizations, as well as ongoing government programs aimed at improving livelihoods and promoting sustainable resource management. In addition, the cultural identity of coastal communities, which is closely tied to maritime traditions, serves as an important foundation for collective action and cooperation in fisheries-related activities. These elements contribute to creating a social environment that is potentially conducive to empowerment when properly supported by institutional and policy frameworks.

On the other hand, several structural and institutional constraints continue to hinder the empowerment process. Limited access to financial capital remains one of the most significant barriers, as many small-scale fishers depend on informal lenders or middlemen, which reduces their economic autonomy. In addition, low levels of education and limited access to information restrict fishers' ability to engage effectively with new technologies and policy developments. Weak institutional capacity of fisher groups, uneven distribution of government assistance, and insufficient coordination among stakeholders further exacerbate these challenges. Environmental pressures such as declining fish stocks and climate variability also add additional stress to already vulnerable coastal livelihoods.

Field interviews highlight these contrasting dynamics. One fisher described the importance of government support:

"We are helped by the government through fishing equipment and training, and this really supports our daily work."

However, another respondent emphasized ongoing financial constraints:

"It is difficult for us to grow because we still rely on loans from middlemen, and we have little access to formal credit."

A community leader pointed out institutional weaknesses:

"Fisher groups exist, but not all of them are active. Some only function when there is government assistance."

A fisheries official also acknowledged implementation challenges:

"We try to support empowerment programs, but limited budget and human resources make it difficult to reach all coastal communities equally."

Relationship Between Fisheries Management and Community Empowerment

The relationship between sustainable fisheries management and coastal community empowerment in Bulukumba Regency is characterized by a mutually reinforcing yet uneven dynamic. In principle, sustainable fisheries management is expected to enhance community empowerment by ensuring long-term resource availability, improving governance structures, and increasing community participation in decision-making processes. When fisheries resources are managed sustainably, fishers are more likely to experience stable incomes, reduced resource conflicts, and improved livelihood security. In this sense, effective fisheries governance serves as a foundation for strengthening the socio-economic conditions of coastal communities and enhancing their capacity to manage resources independently.

However, in practice, this relationship is not always linear or fully effective. The implementation of sustainable fisheries policies does not automatically translate into increased empowerment, mainly due to structural constraints such as limited institutional capacity, unequal access to resources, and low levels of meaningful participation. While regulatory frameworks and conservation programs exist, their impact on community empowerment is often mediated by local governance conditions and socio-economic inequalities. As a result, empowerment outcomes vary significantly across different coastal villages, depending on the strength of local institutions and the degree of community engagement in fisheries management processes.

Field interviews illustrate this complex relationship. One fisher stated:

"When fishing rules are enforced properly, we can still catch fish, but we feel it is more stable for the future of our children."

Another respondent highlighted the economic dimension of this relationship:

"If the sea is managed well, our income becomes more stable, but in reality, we still struggle because many rules are not applied equally."

A fisheries officer emphasized the policy perspective:

"Sustainable fisheries management is designed to support community welfare, but its success depends on how well local communities are involved in implementation."

A community leader added:

"Empowerment and fisheries management should go together, but sometimes policies focus more on conservation than on improving fishermen's livelihoods."

Discussion

The findings of this study indicate that the relationship between sustainable fisheries management and coastal community empowerment in Bulukumba Regency is complex, non-linear, and heavily influenced by the institutional context and local socio-economic conditions. Conceptually, sustainable fisheries management should be a primary instrument for ensuring the sustainability of marine resources while improving the welfare of coastal communities through inclusive, ecosystem-based governance. However, in practice, this study found a significant gap between policy design and implementation at the field level, resulting in the expected empowerment impacts not being fully achieved.

From the perspective of common-pool resources theory, this situation reinforces Baker & Chapin's (2018) argument that the success of common-pool resource management depends heavily on the existence of strong, participatory, and socially legitimate local institutions. In Bulukumba, the existence of fishing groups and government programs does indicate a supportive institutional structure, but its effectiveness remains limited due to weak organizational capacity, low substantive participation, and reliance on external intervention. This tends to make fisheries management administrative rather than transformative.

Furthermore, these findings also indicate that a top-down governance approach remains dominant in the implementation of sustainable fisheries policies. Although there is formally space for community participation, in practice, decision-making is still dominated by government actors and local elites. This situation aligns with the critique by Freeman et al. (2018), who stated that the failure of co-management is often caused by token participation, where communities are only symbolically involved without any real influence on policy decisions. As a result, the empowerment process does not develop into strengthening the community's collective capacity but instead stops at the level of implementing short-term assistance programs.

In the context of community empowerment, the results of this study indicate that the economic dimension remains the primary focus, while the social and political dimensions are relatively underdeveloped. Assistance with fishing gear, technical training, and capital assistance programs do provide short-term benefits, but have not yet been able to foster structural independence among fishers. True empowerment must include increased community control over resources and decision-making processes, not simply increased access to assistance (Ulum & Anggaini, 2020). In the case of Bulukumba, dependence on middlemen, limited market access, and the weak bargaining position of fishers indicate that the empowerment process remains partial.

Furthermore, local institutional aspects also play a significant role in explaining variations in empowerment levels across regions. Fishermen groups with more active organizational structures and consistent government support tend to demonstrate better adaptation to sustainable fisheries management policies. Conversely, groups with weak organizational structures struggle to access government programs and participate in decision-making processes. This reinforces Farchan's (2019) view that a community's adaptive capacity is largely determined by the quality of local social capital and institutions.

The findings of this study also highlight the paradox between conservation and welfare goals. On the one hand, sustainable fisheries management policies emphasize the importance of maintaining fish stocks and marine ecosystems. However, on the other hand, fishing communities face daily economic pressures that make it difficult for them to fully comply with conservation regulations. This situation creates a dilemma between the short-term need for survival and the long-term goal of resource sustainability. Rode et al. (2015) emphasized that without adequate economic incentives, conservation policies are often ineffective at the local level.

An important implication of this study is the need to reorient fisheries management policies from a technocratic approach to a more participatory and community-based approach. The government should not only act as a regulator but also as a facilitator, strengthening local capacity. Strengthening fishing institutions, increasing access to

formal financing, and integrating the fisheries value chain are key elements in strengthening the link between sustainability and empowerment.

Furthermore, this study also emphasizes that the success of sustainable fisheries management cannot be separated from the social dimension of development. An ecosystem-based approach must be balanced with a livelihood-based approach so that policies focus not only on conservation but also on improving the quality of life of coastal communities. Thus, fisheries management can function as a dual instrument, namely maintaining environmental sustainability while strengthening the socio-economic structure of society.

Conclusion

This study concludes that sustainable fisheries management in Bulukumba Regency plays an important yet not fully optimal role in enhancing coastal community empowerment. Although various policies and programs have been implemented to promote ecological sustainability and improve fisher livelihoods, their effectiveness remains constrained by limited institutional capacity, weak enforcement, and insufficient community participation in decision-making processes. The findings reveal that empowerment outcomes are still partial, as many small-scale fishers continue to face structural challenges such as limited access to capital, market dependency, and unequal resource distribution. Furthermore, the relationship between fisheries governance and community empowerment is found to be mutually connected but uneven, meaning that improvements in fisheries management do not automatically translate into meaningful socio-economic empowerment. Therefore, the study emphasizes the need for a more inclusive, participatory, and context-sensitive approach to fisheries governance that integrates ecological sustainability with socio-economic development. Strengthening local institutions, enhancing fisher participation, and improving policy implementation are essential to ensuring that sustainable fisheries management can effectively contribute to long-term coastal community empowerment in Bulukumba.

References

- Ahmad, M. S., & Abu Talib, N. B. (2015). Empowering local communities: decentralization, empowerment and community driven development. *Quality & Quantity*, 49(2), 827-838.
- Akonwi Nebasifu, A., & Majory Atong, N. (2019). Rethinking institutional knowledge for community participation in co-management. *Sustainability*, 11(20), 5788. <https://doi.org/10.3390/su11205788>
- Baker, S., & Chapin, F. S. (2018). Going beyond "it depends:" the role of context in shaping participation in natural resource management. *Ecology and Society*, 23(1).
- Barange, M. (2018). Fishery and aquaculture statistics. *FAO yearbook. Fishery and Aquaculture Statistics= FAO Annuaire. Statistiques des Peches et de l'Aquaculture= FAO Anuario. Estadisticas de Pesca y Acuicultura*, 1-82.
- Busthanul, N., Diansari, P., Sumase, I., Sulianderi, N. M., & Mansyur, M. I. (2020). Reform of development strategy for economic strengthening of seaweed farmers in Bulukumba Regency, Indonesia. *Advances in Environmental Biology*, 14(5), 17-23. DOI: 10.22587/aeb.2020.14.5.3

- Dacko, M. (2015). The issue of environmental resources management in the light of the model of tragedy of the commons–systemic approach. *Problemy Ekorozwoju*, 10(1), 21-30.
- Farchan, Y. (2019). Modal sosial dan mekanisme adaptasi masyarakat pedesaan dalam pembangunan industri Di Desa Gemulung Kabupaten Jepara. *Jurnal Renaissance*, 4(01), 504-513. DOI: [10.53878/jr.v4i01.93](https://doi.org/10.53878/jr.v4i01.93)
- Febrianti, T. (2016). Strategi Penghidupan Nelayan Bertahan Dari Kemiskinan di Wilayah Pesisir (Kasus di Kabupaten Tasikmalaya Propinsi Jawa Barat). *Jurnal Agribisnis Terpadu*, 9(1).
- Freeman, E. R., Civera, C., Cortese, D., & Fiandrino, S. (2018). Strategising stakeholder empowerment for effective co-management within fishery-based commons. *British Food Journal*, 120(11), 2631-2644. <https://doi.org/10.1108/BFJ-01-2018-0041>
- Glöckner, J. (2017). Unfair trading practices in the supply chain and the co-ordination of European contract, competition and unfair competition law in their reaction to disparities in bargaining power. *Journal of Intellectual Property Law & Practice*, 12(5), 416-434. <https://doi.org/10.1093/jiplp/jpx035>
- Handoko, W. (2017). Menjaga sustainabilitas pengembangan masyarakat pesisir kebumen: antara corak top-down, partisipatif dan inisiasi kelembagaan lokal. *Sosiohumaniora*, 19(3), 244-252. <https://doi.org/10.30588/jmp.v8i1.374>
- Julianto, E. W., & Darwanto, D. (2017). Analisis rantai nilai (value chain) jagung di Kecamatan Toroh Kabupaten Grobogan. *Jurnal Penelitian Ekonomi Dan Bisnis*, 1(1), 1-15. DOI: [10.33633/jpeb.v1i1.1473](https://doi.org/10.33633/jpeb.v1i1.1473)
- Karani, P., & Failler, P. (2020). Comparative coastal and marine tourism, climate change, and the blue economy in African Large Marine Ecosystems. *Environmental Development*, 36, 100572. <https://doi.org/10.1016/j.envdev.2020.100572>
- Kenny, A. J., Campbell, N., Koen-Alonso, M., Pepin, P., & Diz, D. (2018). Delivering sustainable fisheries through adoption of a risk-based framework as part of an ecosystem approach to fisheries management. *Marine Policy*, 93, 232-240. <https://doi.org/10.1016/j.marpol.2017.05.018>
- Levin, P. S., & Möllmann, C. (2015). Marine ecosystem regime shifts: challenges and opportunities for ecosystem-based management. *Philosophical Transactions of the Royal Society B: Biological Sciences*, 370(1659), 20130275. <https://doi.org/10.1098/rstb.2013.0275>
- Lihua, W. U., Tianshu, M. A., Yuanchao, B. I. A. N., Sijia, L. I., & Zhaoqiang, Y. I. (2020). Improvement of regional environmental quality: Government environmental governance and public participation. *Science of the Total Environment*, 717, 137265. <https://doi.org/10.1016/j.scitotenv.2020.137265>
- Link, J. S., & Watson, R. A. (2019). Global ecosystem overfishing: Clear delineation within real limits to production. *Science Advances*, 5(6), eaav0474. DOI: [10.1126/sciadv.aav0474](https://doi.org/10.1126/sciadv.aav0474)
- Linke, S., & Bruckmeier, K. (2015). Co-management in fisheries–experiences and changing approaches in Europe. *Ocean & Coastal Management*, 104, 170-181.

- Marfai, M. A., Rahayu, E., & Triyanti, A. (2018). *Peran kearifan lokal dan modal sosial dalam pengurangan risiko bencana dan pembangunan pesisir: (Integrasi kajian lingkungan, kebencanaan, dan sosial budaya)*. Ugm Press.
- Margayaningsih, D. I. (2016). Pemberdayaan Masyarakat Desa Sebagai Upaya Penanggulangan Kemiskinan. *Publiciana*, 9(1), 158-190. <https://doi.org/10.36563/publiciana.v9i1.77>
- Nawastuti, D. (2018). Kearifan Lokal Masyarakat Pesisir dalam Memahami Teknologi Hasil Perikanan. *Jurnal Maksipreneur: Manajemen, Koperasi, Dan Entrepreneurship*, 8(1), 32-44.
- Pardosi, A. S. (2016). Potensi dan Prospek Indonesia Menuju Poros Maritim. *eJournal Ilmu Hub. Int*, 4(1), 17-26.
- Primyastanto, M. (2015). *Pengelolaan Sumberdaya Perikanan Melalui Kelembagaan Lokal Dalam Rangka Pemberdayaan Masyarakat Berbasis Kearifan Lokal Di Pesisir Selat Madura*. Gunung Samudera CV [PT Book Mart Indonesia].
- Rode, J., Gómez-Baggethun, E., & Krause, T. (2015). Motivation crowding by economic incentives in conservation policy: A review of the empirical evidence. *Ecological Economics*, 117, 270-282.
- Salim, G., & Anggoro, S. (2019). *Domestikasi udang: prospek masa depan sumber pangan dari laut*. Deepublish.
- Sari, D. A. A. (2019). Integrasi tata kelola kebijakan pembangunan kelautan berkelanjutan. *Jurnal Rechts Vinding: Media Pembinaan Hukum Nasional*, 8(2), 147.
- Satria, A. (2015). *Politik Kelautan dan Perikanan*. Yayasan Pustaka Obor Indonesia.
- Satria, A. (2020). *Politik sumber daya alam*. Yayasan Pustaka Obor Indonesia.
- Supriatna, J. (2018). *Konservasi biodiversitas: Teori dan praktik di Indonesia*. Yayasan Pustaka Obor Indonesia.
- Tilman, A. R. (2017). *Ecological, Economic and Social Mechanisms for Common-pool Resource Management* (Doctoral dissertation, Princeton University).
- Ulum, M. C., & Anggaini, N. L. V. (2020). *Community empowerment: teori dan praktik pemberdayaan komunitas*. Universitas Brawijaya Press.