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INSTITUTIONAL ECONOMIC APPROACH IN MARITIME TRANSPORTATION RISK MANAGEMENT FOR SMALL FISHERMEN IN CILACAP REGENCY

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Abstract

Sea transportation is an important aspect in supporting the economic activities of small-scale fishermen in Cilacap Regency, but it also contains various significant risks, such as extreme weather, limited navigation technology, and low access to information and institutional protection. This research aims to analyze the role of the institutional economic approach in managing maritime transportation risks for small-scale fishermen. The method used is a qualitative approach with data collection techniques through in-depth interviews, field observations and documentation studies. The research results show that local institutions, such as fishing groups and cooperatives, have a strategic role in reducing risk through information sharing mechanisms, strengthening social solidarity, and access to economic resources. Apart from that, social norms and trust between community members also strengthen fishermen's resilience in facing uncertainty. However, the effectiveness of these institutions still faces various obstacles, such as limited organizational capacity, weak coordination between institutions, and inadequate government policy support. Therefore, it is necessary to strengthen community-based institutions that are integrated with formal policies to increase the adaptive capacity and resilience of small-scale fishermen to the risks of maritime transportation in a sustainable manner.

Keywords: institutional economics, risk management, sea transportation, small fishermen, Cilacap

INTRODUCTION

Indonesia as an archipelagic country has a high dependence on the maritime and fisheries sector as one of the main supports of the national economy. Coastal areas are living spaces for millions of people, especially small fishermen who depend on fishing activities for their livelihoods. In this context, sea transportation not only functions as a means of mobility, but also as the main instrument in the production and distribution process of fishery products. Cilacap Regency as one of the coastal areas in Central Java Province has strategic geographical characteristics, with direct access to the Indian Ocean which is rich in fisheries resources. However, this condition is also accompanied by a high level of risk for small fishermen in carrying out sea transportation activities.

The sea transportation risks faced by small fishermen in Cilacap Regency are multidimensional, including natural, technical, economic and social risks. Natural risks such as high waves, storms and erratic weather changes are often the main threat to fishermen's safety. Apart from that, limited facilities and infrastructure, such as small boats and a lack of modern navigation equipment, further increase the potential for accidents at sea. From an economic perspective, fluctuations in fish prices and high operational costs also influence the level of fishermen's welfare. Meanwhile, from a social perspective, limited access to information and the weak bargaining position of fishermen in the distribution chain are challenges in themselves.

In facing these various risks, small fishermen generally rely on traditional and experience-based adaptation strategies. However, this strategy is often not effective enough in dealing with increasingly complex risk dynamics due to climate change and global economic pressures. Therefore, a more systematic and comprehensive approach is needed in managing maritime transportation risks. One relevant approach is the institutional economics approach, which emphasizes the important role of institutions in regulating economic behavior and reducing uncertainty.

The institutional economics approach views that the existence of institutions, both formal and informal, has an important role in shaping interaction patterns between economic actors. Formal institutions include government regulations, public policies, and fishermen protection programs, while informal institutions include social norms, local culture, and trust networks that develop within fishing communities. In the context of small fishermen in Cilacap Regency, local institutions such as fishermen's groups, cooperatives and associations have a strategic function as a forum for coordination, information exchange and social solidarity mechanisms.

However, the role of institutions in maritime transportation risk management still faces various obstacles. Limited organizational capacity, lack of competent human resources, and weak coordination between institutions are the main obstacles in optimizing institutional functions. On the other hand, government policies that do not fully support small fishermen and the lack of integration between central and regional programs also worsen this condition. As a result, many small fishermen are still vulnerable to various risks that can threaten the safety and sustainability of their business.

Based on this background, it is important to carry out this research in order to understand in more depth how an institutional economics approach can be applied in maritime transportation risk management for small fishermen in Cilacap Regency. This research is expected to provide contributions both theoretically and practically. Theoretically, this research can enrich the study of institutional economics in the context of the fisheries sector. Practically, it is hoped that the results of this research can be used as consideration for the government and other stakeholders in formulating more effective and sustainable policies.

LITERATURE REVIEW

Institutional Economics

Institutional economics is an approach in economics that emphasizes the important role of institutions in shaping economic behavior and determining the performance of an economic system. Institutions in this case include formal rules such as laws, government policies and regulations, as well as informal rules such as social norms, cultural values and habits that develop in society. Institutions function as “rules of the game” that reduce uncertainty in human interactions. With strong institutions, transaction costs can be reduced so that economic efficiency can increase.

In the context of the fisheries sector, an institutional economic approach becomes relevant because fishermen's activities are greatly influenced by various rules and norms that regulate access to resources, distribution of results, and cooperation mechanisms between actors. Local institutions such as fishing groups, cooperatives and associations have a strategic role in organizing economic activities and building trust between members. Apart from that, the existence of institutions can also be a means of managing risk through providing information, social protection and coordination mechanisms.

This approach also highlights the importance of interactions between formal and informal institutions. Formal institutions formed by the government are often ineffective without support from informal institutions that exist in society. Therefore, synergy between these two types of institutions is key in creating an inclusive and sustainable economic system, especially for vulnerable groups such as small fishermen.

Risk Management in the Fisheries Sector

Risk management is a systematic process that includes identification, analysis, evaluation and control of risks that can affect the achievement of objectives. In the fisheries sector, the risks faced by fishermen are complex and multidimensional, including environmental risks (extreme weather, climate change), operational risks (damage to fishing gear, maritime accidents), as well as economic risks (fluctuations in fish prices, operational costs).

The risk management approach in the fisheries sector does not only focus on technical aspects, but also on social and institutional aspects. Small fishermen often have limitations in accessing technology and information, so they are more vulnerable to risks. Therefore, a collective mechanism is needed that can help reduce this vulnerability. In this case, local institutions can function as a means of sharing information, coordinating activities, and providing social and economic support.

Several studies show that community-based risk management strategies are more effective in dealing with uncertainty compared to individual approaches. This is because there is social solidarity and high trust between community members, allowing for better cooperation in dealing with emergency situations. Thus, integration between risk management and institutions is an important aspect in increasing the resilience of small fishermen.

Sea Transportation and Risks for Small Fishermen

Sea transportation is an integral part of fishing activities, especially for small fishermen who use boats as the main means of fishing. However, sea transportation is also a major source of risk that can threaten the safety and sustainability of fishermen's businesses. These risks include maritime accidents, ship damage, and loss of catch due to erratic weather conditions.

Limited access to modern navigation technology, such as GPS and weather early warning systems, is one of the factors that increases the risk of sea transportation for small fishermen. Apart from that, the inadequate condition of port infrastructure and the lack of safety facilities also worsen the situation. In conditions like these, small fishermen often have to rely on experience and intuition in making decisions, which are not always accurate in dealing with the dynamics of the marine environment.

From an economic perspective, sea transportation risks also have an impact on fishermen's income. Delays or failures in fishing can cause significant economic losses. Therefore, efforts are needed to manage these risks in a more systematic and integrated manner, one of which is through institutional strengthening.

The Role of Institutions in Maritime Transportation Risk Management

Institutions have an important role in supporting maritime transportation risk management, especially for small fishermen. Through institutions, fishermen can access various resources that were previously difficult to reach individually, such as weather information, capital and insurance. Institutions can also be a forum for building fishermen's capacity through training and mentoring.

Fishermen's groups, for example, can function as information centers that provide data related to sea conditions and potential dangers. Fishermen's cooperatives can provide financial services that help fishermen face economic risks. Apart from that, institutions can also facilitate cooperation between fishermen in the form of joint ventures, which can increase efficiency and reduce operational costs.

However, institutional effectiveness in risk management is strongly influenced by the quality of governance and organizational capacity. Weak institutions tend to be unable to carry out their functions optimally. Therefore, efforts are needed to strengthen institutional capacity through increasing human resources, improving management systems, and conducive policy support.

RESEARCH METHODS

This research uses a qualitative approach with the aim of understanding in depth the phenomenon of maritime transportation risk management from an institutional economic perspective among small-scale fishermen in Cilacap Regency. This approach was chosen because it is able to explore meanings, perceptions and social dynamics that develop in fishing communities that cannot be measured quantitatively.

This research is a qualitative descriptive research with a case study approach. The case study is used to intensively explore the role of institutions in maritime transportation risk management in the local context, namely the small fishing community in Cilacap Regency which is gathered in the membership of the All indonesian Fishermen's Association, Cilacap Regency Branch. This approach allows researchers to gain a comprehensive understanding of the interactions between formal and informal institutions in the lives of fishermen.

The research was carried out in two sub-districts out of 24 sub-districts in Cilacap Regency, which have the largest number of fishermen and are characterized as areas with quite high capture fisheries activity. Location selection was carried out purposively by considering the existence of active fishing groups and the level of vulnerability to sea transportation risks. The research period was carried out for 6 months which included the data collection and analysis stages.

Informants in this research were selected using a purposive sampling technique, namely based on certain criteria that are relevant to the research objectives. Key informants include:

1. Small fishermen are the main actors in sea transportation activities
2. Management of fishermen groups and cooperatives
3. Representatives of related agencies, such as the local fisheries department
4. Coastal community figures

RESULTS AND DISCUSSION

The research results show that small fishermen in Cilacap Regency face various types of risks in sea transportation activities which are complex and interrelated. The main risks identified include environmental, technical and economic risks. Environmental risks in the form of extreme weather, high waves and erratic seasonal changes are the most dominant threats. Fishermen generally rely on traditional experience in reading natural signs, but climate change makes these patterns increasingly difficult to predict.

Apart from that, technical risks are also quite significant, especially related to the fleet's rudimentary condition and limited navigation equipment. Most small fishermen use boats with limited capacity without adequate safety technology. This increases the potential for marine accidents. From an economic perspective, risks arise in the form of fish price fluctuations, high operational costs, and uncertainty in catch results which have a direct impact on fishermen's income.

The Role of Local Institutions in Risk Management

Research findings show that local institutions have an important role in helping small-scale fishermen manage maritime transportation risks. Fishermen's groups function as the main forum for exchanging information, especially regarding weather conditions, fishing locations, and potential dangers at sea. This information is usually conveyed informally through communication between members, both before and after going to sea.

Fishermen's cooperatives also play a role in providing economic support, such as access to capital and assistance with fishing gear. In some cases, cooperatives also facilitate insurance programs for fishermen, although coverage is still limited. Apart from that, social norms such as

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mutual cooperation and solidarity between fishermen are important mechanisms in dealing with emergency situations, for example when there is an accident at sea or a boat is damaged.

From an institutional economics perspective, the existence of informal institutions such as trust and social networks has been proven to be able to reduce uncertainty and strengthen coordination between fishermen. This institution acts as a "social binder" that enables the formation of collective cooperation in facing risks.

Formal and Informal Institutional Interaction

The research results also show that there is an interaction between formal and informal institutions in maritime transportation risk management. Formal institutions, such as government policies and programs from fisheries services, provide a regulatory framework and technical support for fishermen. Programs such as maritime safety education and fishing gear assistance are one form of government intervention.

However, formal policy implementation often does not run optimally without informal institutional support. In many cases, fishermen trust information obtained from fellow group members more than from official sources. This shows that policy effectiveness is greatly influenced by the level of public trust and acceptance of formal institutions. Thus, synergy between formal and informal institutions is a key factor in increasing the effectiveness of risk management. The integration of these two types of institutions can create a system that is more adaptive and responsive to the risk dynamics faced by small fishermen.

Obstacles in Strengthening Institutions

Despite having a strategic role, local institutions in Cilacap Regency still face various obstacles. One of the main obstacles is limited organizational capacity, both in terms of management and human resources. Many fishing groups do not yet have a good administrative system, making it difficult to access government assistance programs.

Apart from that, coordination between institutions is still weak. Relationships between fishermen groups, cooperatives and government agencies have not been established effectively, so there are often overlapping programs or even inconsistencies between fishermen's needs and the policies provided. Limited access to information and technology is also an obstacle in developing more modern and adaptive institutions.

Analysis in Institutional Economics Perspective

Within the framework of institutional economics, the findings of this research show that institutions have an important role in reducing risk through the creation of rules, norms and coordination mechanisms. Informal institutions have proven to be more flexible and adaptive in responding to change, but have limitations in terms of reach and resources. In contrast, formal institutions have greater capacity, but are often less responsive to local needs.

Therefore, an approach is needed that is able to integrate the advantages of each institution. Strengthening community-based institutions supported by inclusive government policies can be a solution in increasing the effectiveness of maritime transportation risk management. Apart from that, increasing institutional capacity through training, mentoring and the use of information technology is also an important step in facing future challenges.

Implications of Research Findings

The institutional economic approach has a strategic role in strengthening sea transportation risk management for small fishermen in Cilacap Regency. Indicates that local institutions, both formal such as the Fisheries and Maritime Transportation Department and informal such as fishermen groups gathered in the HNSI forum, are key actors in shaping fishermen's adaptation patterns to weather risks, shipping safety and economic uncertainty. Thus, strengthening institutional capacity is an important prerequisite for increasing the resilience of small-scale fishermen.

Apart from that, there is a need for integration between formal rules and local practices that have developed in society. The lack of synchronization between stakeholder policies and fishermen's norms and habits often results in inefficiencies in risk management. Therefore, the institutional economic approach emphasizes the importance of harmonizing regulations with local wisdom so that the resulting policies are more contextual, adaptive and acceptable to fishermen as the main actors.

Pentingnya peran jaringan sosial dan modal sosial dalam memitigasi risiko transportasi laut, berupa solidaritas antar nelayan, berbagi informasi cuaca, serta praktik gotong royong dalam perawatan kapal menjadi mekanisme informal yang efektif dalam mengurangi kerentanan. Hal ini menegaskan bahwa kebijakan publik sebaiknya tidak hanya berfokus pada intervensi teknis, tetapi juga memperkuat struktur sosial yang telah ada sebagai bagian dari sistem manajemen risiko.

There is a need to pay attention to the design of insurance and financing policies for small fishermen. Limited access to formal financial institutions shows that an institutional approach needs to encourage more inclusive community-based or cooperative financing schemes. By paying attention to local characteristics, the scheme can increase fishermen's participation and expand protection against the risk of accidents and economic losses due to maritime transportation disruptions.

CONCLUSION

Based on the research results and discussion, it can be concluded that small fishermen in Cilacap Regency face complex sea transportation risks, including environmental, technical and economic risks. High levels of uncertainty due to extreme weather, limited infrastructure and fluctuations in income make small fishermen a vulnerable group in carrying out their activities.

The institutional economics approach has proven relevant in explaining and overcoming these problems. Local institutions, such as fishing groups and cooperatives, play an important role in risk management through mechanisms for sharing information, strengthening social solidarity, and providing access to economic resources. In addition, informal institutions such as social norms and trust are key factors in strengthening cooperation and coordination between fishermen.

However, institutional effectiveness in managing risk still faces various obstacles, including limited organizational capacity, weak coordination between institutions, and inadequate policy support from the government. The interaction between formal and informal institutions has not been fully integrated, so that the potential for synergy in risk management has not been utilized optimally.

Therefore, comprehensive institutional strengthening efforts are needed, both through increasing the organization's internal capacity and through more responsive and contextual policy support. Integration between formal and informal institutions is key in creating an effective, adaptive and sustainable maritime transportation risk management system. In this way, the resilience and welfare of small fishermen in Cilacap Regency can be improved more optimally.

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