

Sustainable management of marine resources through customary practices: The implementation of sasi on sea cucumbers in Werka Village, Maluku Province

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Abstract: Natural resource management based on local wisdom is a key approach to effective and sustainable biodiversity conservation outside protected areas. One example is the **sasi** practice for sea cucumbers in Werka Village, Southeast Maluku Regency, Maluku Province. This study examines the application of Traditional Ecological Knowledge (TEK) in **sasi** practices to sustain sea cucumber populations. The research aims to analyze the implementation of **sasi** in Werka Village, the role of indigenous peoples, and the challenges they face in resource conservation. Data were collected through interviews and analyzed using qualitative scoring and a descriptive case study approach. The findings indicate that the success of **sasi** in Werka Village is driven by the integration of economic, social, and institutional factors, with strong support from indigenous communities and local authorities.

1. Introduction

The challenge in resource conservation is the increasingly limited availability of natural areas for protection. Indonesia must adopt natural resource conservation management based on local wisdom to promote sustainable use [1]. In-situ natural resource management based on local wisdom has become an increasingly important topic in efforts to balance human use with ecosystem conservation. Local wisdom is defined as 'noble values that apply in the community's life system to, among other things, protect and manage the environment sustainably' [2]. One approach that draws on indigenous peoples' understanding of their relationship with the natural environment is Traditional Ecological Knowledge (TEK)

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This understanding encompasses not only the management of natural resources but also the ways in which these relationships are established and passed down as part of local cultural traditions [3]. Indigenous peoples in various parts of the world, including Indonesia, have long developed natural resource management practices based on TEK to maintain the ecological and social balance in their regions. An example of TEK implementation in Indonesia is the *sasi* custom in Werka Village, Kei Besar District, Southeast Maluku Regency, Maluku Province. The vast waters of Maluku make the marine and fisheries sector crucial as a primary driver of economic development on the Maluku Islands. If managed properly, the abundance of marine resources can bring significant benefits to local communities, which are the rightful stewards of these waters. However, these benefits may diminish if resource availability declines or becomes extinct while community needs continue to grow [4].

Sasi in Werka Village is a customary practice that temporarily prohibit the use of natural resources for a specific period. This tradition has been passed down for generations and is an integral part of local community life. The marine resource included in the *sasi* practice in Werka Village are sea cucumbers. The market demand for sea cucumbers in Southeast Maluku is high [5] because of their promising economic value. However, this global demand places significant pressure on the sea cucumber population in Werka Village. *Sasi* practice is becoming increasingly relevant as a means to help maintain resource sustainability in the face of rising demand.

The indigenous people of Werka Village play a key role in the implementation of *sasi*, not only as direct managers of marine resources but also as the primary custodians of traditional practices. Traditional leaders have the authority to determine when *sasi* is enforced and lifted, based on observations of resource conditions and ecosystem cycles. The community's active involvement in each stage of decision-making fosters a strong sense of ownership of resource sustainability in their waters. The practice of *sasi* on sea cucumbers in Werka Village has been ongoing for many years and is an integral part of local community life.

The practice of *sasi* on sea cucumbers in Werka Village faces challenges that require attention of various stakeholders. Economic pressures from outside can lead to violations of *sasi* rules, posing a serious threat to both the preservation of sea cucumbers and the sustainability of the *sasi* practice itself. Additionally, modernization and social changes may influence the younger generation's adherence to and appreciation of traditional values passed down by their ancestors. Government efforts, particularly by the Ministry of Marine Affairs and Fisheries (MMAF), to support management based on local wisdom could make Werka Village a valuable study area for assessing the effectiveness of *sasi* in preserving sea cucumber populations. Thus, this study aimed to examine the application of Traditional Ecological Knowledge (TEK) in the practice of *sasi* in Werka Village, the role of indigenous communities in its implementation, and the challenges encountered in sustaining sea cucumber conservation.

2. Data and Methods

2.1 Time and Location

This study was conducted in 2024 in Werka, Maluku Province (Figure 1). Werka was chosen as the research location because it is a coastal village that has practiced a *sasi* culture for sea cucumber resources since ancient times.



Source: Primary Data (processed)

Fig. 1. Location Map of Werka Village, Southeast Maluku Regency, Maluku Province

Figure 1 shows that the name 'Werka' consists of the words Wer (meaning 'to pull') and Ka (meaning 'a rope stronger than wire'). The Ka rope, according to local indigenous beliefs, is symbolized as an heirloom. The village of Werka is traditionally led by a king (rat) who operates independently, not under the jurisdiction of Ursiw and Loor Lim, the larger kingdoms on Kei Besar Island.

2.2 Data and Analysis

This study used both the primary and secondary data. Primary data were gathered through interviews with key stakeholders familiar with the *sasi* customary practice in Werka Village, including (1) pastors, (2) fishermen, (3) traditional leaders, and (4) the village head and secretary. A total of 29 respondents were selected using topic guides and structured questionnaires to obtain insights into (1) sea cucumber *sasi* practices, (2) challenges and opportunities, and (3) economic, social, and institutional factors.

To analyze the interview data, a scoring technique was applied to assess respondents' perceptions. The findings were then descriptively presented using a qualitative case study approach, providing a comprehensive understanding of the research results. Purposive sampling was employed to ensure that the respondents were directly involved in *sasi* practices, thereby making their perspectives highly relevant to the study's objectives. The ideal score was calculated using the formula $Criterion\ Score = Scale\ Value \times Number\ of\ Respondents$, with the assigned scores based on the respondents' answers, as shown in Table 1.

Table 1. Scoring Criteria for Respondent Answers

Score	Criterion
4	Very positive
3	Positive
2	Negative
1	Very negative

Referring to Table 1, after scoring, the data were categorized within the rating scale to determine overall perception results. The percentage of responses was calculated using the formula $p = (f/n) \times 100\%$, where f represents the frequency of responses and n denotes the ideal score.

To ensure methodological transparency, several measures were employed to assess reliability and validity.

Reliability

- Source triangulation: Information was cross-checked across different respondent groups (fishermen, traditional leaders, village officials, and pastors) to minimize bias.
- Method triangulation: Interviews were supplemented with field observations and document analyses to enhance data consistency.
- Response consistency check: Key questions were phrased in different ways to verify that the respondents provided stable and non-contradictory answers.

Validity

- Content validity: Research instruments (questionnaires and interview guides) were developed based on the relevant literature and reviewed by experts and traditional leaders before data collection.
- Construct validity: The scoring method used to assess respondents' perceptions was based on established indicators from previous studies of customary conservation practices and marine resource sustainability.
- Member checking: Key respondents reviewed the interpretations and analyses of their responses to ensure accuracy.

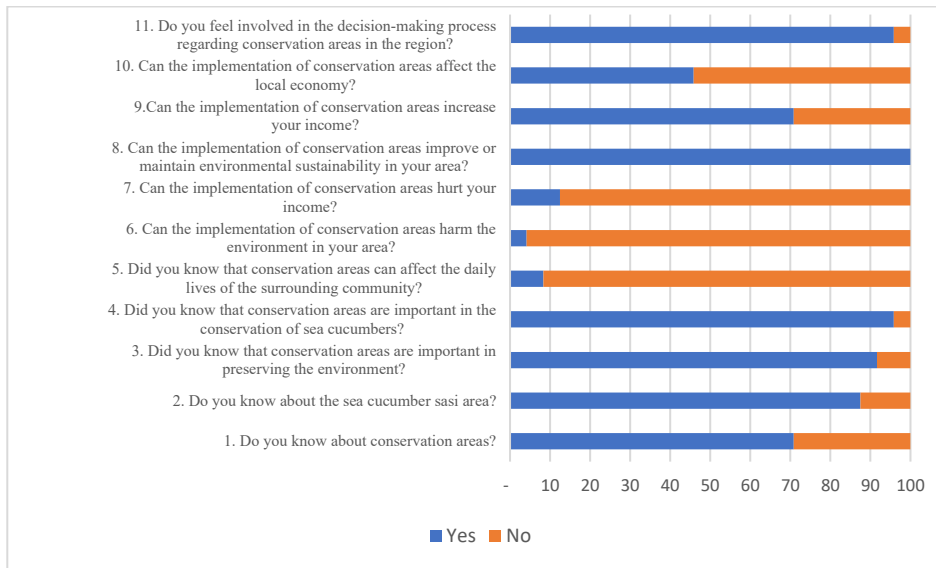
Additionally, secondary data were collected through literature review, drawing from books, scientific articles, national regulations, and other relevant sources related to the research topic.

3. Results and Discussions

3.1 Traditional Ecological Knowledge (TEK) and Sasi Practices of Werka Village

The development of the marine and fisheries sectors in Indonesia faces various challenges, one of which is overfishing [1]. This challenge requires a utilization approach that considers aspects of environmental sustainability, such as the concept of TEK. This concept encompasses a variety of practices, habits, and understandings that have been passed down from generation to generation by indigenous people in relation to the conservation of natural resources. TEK, which is realized through the practice of sasi customs, serves as a legal system that helps to restore the population [6]. Resource conservation in the sea cucumber sasi custom, as a conservation area in Werka Village, is an important tool for managing its potential, which makes it vulnerable to overexploitation. The mechanism used to maintain the potential of sea cucumbers focuses on optimizing their growth, considering factors such as life cycle and ecosystem conditions.

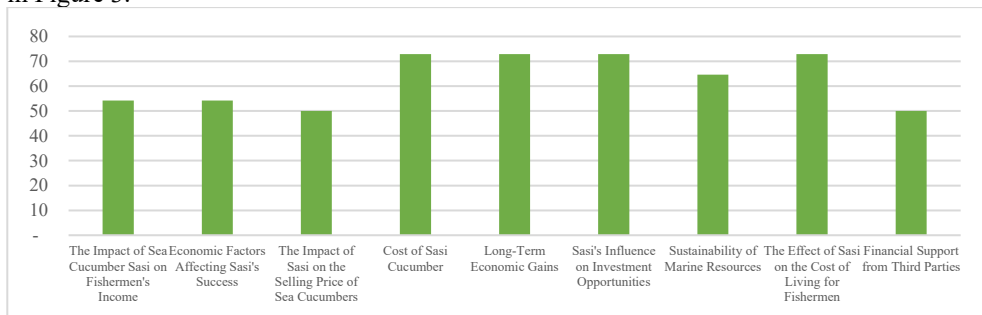
The perception of the people of Werka Village regarding the benefits of conservation areas in sasi customs for the environment and their relationship with daily life are shown in Figure 2.



Source: Primary Data (processed)

Fig. 2. Perceptions of Traditional Sasi Practices in Werka Village

Based on Figure 2, the majority of respondents in Werka Village had a high awareness of conservation areas (71%) and the importance of conservation for the environment (92%). Only 8% of respondents felt that conservation areas affected their daily lives. This indicates that most people believe that sasi practices do not directly impact their economies. Most respondents considered conservation areas for sasi practices to be harmless to the environment (96%) and believed that these practices can increase their income (71%). They also stated that they are always involved in decision-making related to the regulation of conservation areas (96%). In general, people of Werka have a positive view of the environmental benefits of conservation areas related to the practice of sasi, while their perceptions of the economic impact and its relationship with daily life are mixed. The respondents' perceptions of the economic impact of sea cucumber sasi practices are explained in Figure 3.



Source: Primary Data (processed)

Fig. 3. Perception of the Economic Impact of Sasi Traditional Practices in Werka Village

According to respondents, sasi teripang had a moderate influence on fishermen's income (54%) and selling prices (50%). This indicates that the direct economic contribution of sales is not significant. Respondents assessed the costs of implementing the sasi, its long-term economic benefits, and investment opportunities, giving them a fairly high score (73%). This

reflects the long-term economic benefits experienced by the community in attracting investment. The practice of sasi is also viewed by the community as contributing to conservation areas for in-situ conservation, as it has a positive impact on reducing the cost of living (73%). Some respondents (50%) expressed a need for external support in the practice of sasi, particularly in the form of financial assistance from third parties. Overall, the information provided by respondents indicates that sea cucumber sasi has a long-term positive impact on the economy, although challenges related to fishermen's direct income and the need for external financial support remain.

The basis for deciding on the implementation of sasi in the waters of Werka Village was determined deliberatively, considering both ecological and social needs. These deliberations ensure that decision-making is not only based on scientific data but also takes into account the local wisdom that has existed for a long time. The concept of TEK in the practice of sasi creates a strong sense of ownership of natural resources by involving all the elements of society. The prayer ritual that accompanies the opening and closing of the sasi holds deep meaning, serving both as a form of respect for nature and as a moral reminder for the community to act responsibly toward the preservation of natural resources [7].

The prayer ritual conducted in Werka Village serves to strengthen social and spiritual ties between the community and the environment, as well as to increase compliance with established customary rules. This phenomenon fosters a greater sense of community responsibility for maintaining the in-situ area they possess. The combination of TEK and custom-based management makes natural resource management more effective in conservation areas. Custom-based management also maintains a balance between human needs and ecosystems in the context of current global environmental changes. The implementation of sea cucumber sasi in Werka Village is not only limited to the application of customary rules but also involves the active participation of indigenous peoples and support from customary institutions. This ensures that the practice of sasi is conducted consistently with local values, allowing it to contribute to the preservation of sea cucumbers and the environment.

The integration of the concepts of TEK and the Sasi management system in an era facing environmental challenges offers a relevant contextual approach to natural resource management. The active role of the people of Werka Village in maintaining the sustainability of sea cucumber resources by considering social, spiritual, and ecological aspects can serve as an example in other areas with similar conditions. The practice of sasi in Werka Village emphasizes the importance of local wisdom in maintaining an environmental balance and the sustainability of community life. Sasi, a form of traditional wisdom interpreted through special symbols that signify prohibition, is believed to maintain a balance between humans and their environment [8].

3.2 The Practice of Sasi for Sea Cucumbers in Werka Village

Werka Village implemented delineation provisions for the practice of regional and type sasi. The boundary for regional sasi extends from the coastline to the area bordering deep waters (blue water), whereas the boundary for sasi jenis (sea cucumber sasi) encompasses all waters (Figure 4). The sea cucumbers types found in the waters of Werka Village include *Holothuria scabra*, *Thelenota ananas*, *Holothuria leucospilota*, *Holothuria coluber*, *Holothuria edulis*, *Holothuria atra*, *Bohadschia argus*, *Bohadschia vitiensis*, *Bohadschia marmorata*, and *Actinopyga lecanora*.

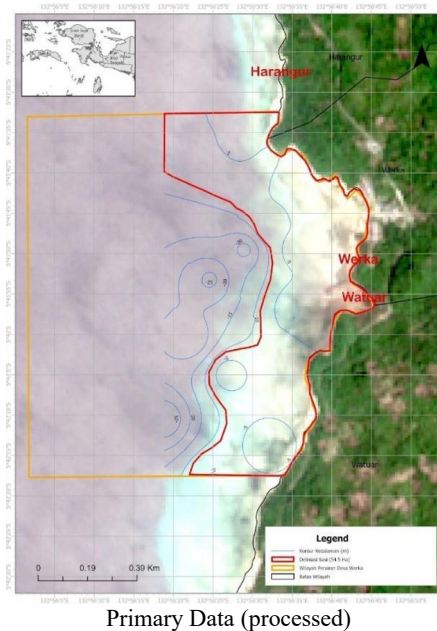
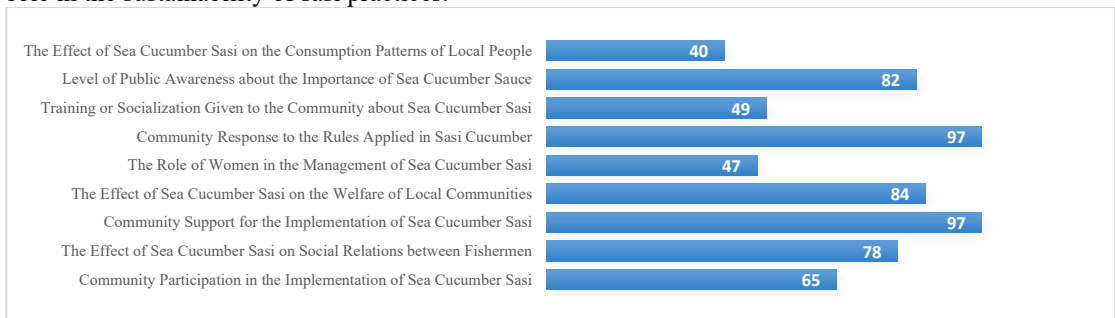


Fig. 4. Map of the Boundary of the Sasi Area in Werka Village

Figure 4 show that the area of the sasi region, based on spatial analysis, is approximately 54.51 hectares, while the area of waters designated as a type of sasi region is about 158.84 hectares.

The effectiveness of sea cucumber sasi in Werka Village is highly dependent on the active participation of indigenous peoples and the support of traditional leaders. Conservation areas managed by indigenous peoples tend to be more successful when supported by strong local institutions and community involvement in preserving natural resources [9]. The mapping of social impacts in Werka Village (Figure 5) illustrates that each individual plays an important role in the sustainability of sasi practices.



Source: Primary Data (processed)

Fig. 5. Perceptions of the Social Impact of Traditional Sasi Practices in Werka Village

Figure 5 shows that the social impact related to participation (65%) and community support (97%) for the implementation of sea cucumber sasi in this region was quite high. This demonstrates that the practice of sea cucumber sasi in Werka Village has a positive influence on social relations among fishermen (78%) and on the welfare of the local community (84%). The level of public awareness about the importance of sea cucumber sasi

was also quite high (82%), although the training or socialization provided was still low (49%).

Based on the information from the respondents, women's involvement in the management of sea cucumber sasi is still relatively low (47%). This low participation rate is due to the prevailing belief of the community that women should focus on household responsibilities and child care. The sea cucumber sasi custom in Werka Village emphasizes conservation and resource management more than changes in consumption habits. This is evident from the opinions of 40% of respondents, who stated that the sea cucumber sasi custom does not affect their diet. The strong community support of 97% for the implemented sasi rule reflects a positive response, indicating that this customary practice is effective in conserving sea cucumber resources.

Traditional leaders are responsible for determining when a sasi is opened and closed, including the implementation of rituals related to respect for nature [10]. The decision to close or break the sasi is made by the king and the traditional elders. Opening and closing ceremonies are usually marked by a traditional ceremony, which is intended to inform the public that the sasi will be opened or closed. When the sasi is closed, the entire community is prohibited from carrying out activities that could harm the aquatic ecosystem (such as using poisons like bores or tuba roots to catch fish). A ban on these toxins is enforced because they can damage seagrass and coral habitats. This prohibition applies to all people living inside and outside Werka Village. Resources that are prohibited from being caught include biota within the sasi area, including sea cucumbers and organisms in coral reef areas [11].

The timing of the sasi opening was determined based on information about the conditions of sea cucumbers that were ready to be harvested, as reported by fishermen. All types of fish can be caught by local residents or outsiders at the time of opening the sasi; however, sea cucumbers must not be caught. This restriction occurred because the auction winner purchased all types of sea cucumbers in the sasi area. The individual rights of the indigenous people of Werka Village are compromised when the harvest is handed over to the auction winner. This situation provides flexibility for auction winners to exploit natural resources without regard for sustainability in pursuit of economic benefits [12]. The auction price for the sasi area and the selection of the winner fall under the authority of the king and the customary elders (the auction price at the time of this study was 5 million rupiahs).

Provisions related to the size of harvested sea cucumbers have not yet been established. This situation can jeopardize the sustainability of fishery resources, as the focus of sasi practices is primarily on maximizing economic benefits. Catching sea cucumbers at the time of opening the sasi still employs traditional, environmentally friendly methods, such as diving and hand collection. This method has proven to be more sustainable than modern techniques, which often destroy sea cucumber habitats and lead to population decline [13]. The traditional methods practiced by the people of Werka Village not only help preserve the sea cucumber population but also maintain the marine ecosystem as a whole.

The form of sanctions and their application to violators during the closing of the sasi in Werka Village are shown in Table 2.

Table 2. Procedure for the Implementation of Customary Sanctions in Werka Village

Procedure	Explanation
Reporting	<ul style="list-style-type: none"> - Reporting is carried out by anyone who witnesses a violation firsthand - If the report is proven to be true, the reporter will receive an incentive of 5 million rupiah, which will be obtained from customary fines

Procedure	Explanation
Sanction	<ul style="list-style-type: none"> - Every perpetrator proven to have committed a violation will be subject to customary sanctions in the form of a fine of 1 lela/cannon (approximately 20 million rupiah) - Customary fines collected from violators are handed over to the village government as a form of compensation
Implementation	The application of sanctions against violators is carried out based on the decisions of customary institutions
Supervision	Supervision is carried out by the community, the apparatus, and customary institutions

Source: Primary Data (processed)

Table 2 shows that the provision of sanctions to violators can have a deterrent effect, preventing them from repeating their offenses. Strict sanctions for violators serve as a disincentive to prevent overexploitation [14]. Community-based supervision is a potential solution for increasing compliance with sasi rules. Community involvement fosters a stronger sense of ownership over managed resources and enhances awareness of the importance of sasi practices

One of the key aspects of the efficiency of sasi practices in Werka Village is the synergy between the TEK and community-based conservation practices. The inherited knowledge about sea cucumber resource behavior, its life cycle, and the optimal environmental conditions for its growth provides the basis for management decisions [15]. Involving the community in the decision-making process to determine the opening and closing times of the month can strengthen their sense of ownership of managed resources. This is closely linked to the compliance of all people in Werka Village with the rules established by the traditional elders, community leaders, and religious leaders.

The moral support of customary institutions also affects the success of sasi practice in Werka Village. The function of these institutions is not only to supervise but also to mediate and maintain communication among community members. Rituals and traditions related to sasi provide deeper meaning for the community, making them aware of the importance of protecting natural resources and ecosystems [16]. The prayer ritual before and after the month is not only symbolic but also serves to strengthen the community's commitment to environmental sustainability. The local wisdom approach applied in Werka Village demonstrated that traditional practices can contribute to the long-term preservation of marine ecosystems. This shows that managing sea cucumber resources through traditional methods can be an effective solution for addressing the challenges of in-situ conservation in future conservation areas.

The effectiveness of sea cucumber sasi in Werka Village is a clear example of how the integration of local knowledge with sustainable management can benefit both the community and environment. The management of sea cucumber sasi is not only an effort to conserve marine resources but also a manifestation of local wisdom that can serve as a model for other regions facing similar challenges. The practice of sasi in Werka Village provides valuable insights into sustainable natural resource management through the active participation of the community and the support of indigenous institutions.

3.3 Challenges and Opportunities

Technological advances and globalization are increasingly eroding the nation's culture and identity. Additionally, sasi faces challenges and weaknesses in various aspects that are feared to undermine the rules that have been implemented so far. The influence of external culture

on people in coastal areas has led to a decline in awareness of the sasi tradition. This foreign culture, resulting from globalization, causes certain segments of society, particularly the younger generation, to take local rules that are spiritual or traditional rituals less seriously. Local cultural values are considered very important because they represent the identity of a society and reflect how people address issues, such as environmental sustainability and the weakening of social institutions [1].

The practice of sea cucumber sasi in Werka Village can be said to preserve marine resources; however, there are still challenges in ensuring that this method provides sustainability. The main challenge that will be faced in the future is external economic pressure, which encourages some individuals to violate Sasi rules to meet the demands of the global market. High demand for sea cucumbers is the primary driver of overexploitation. This economic pressure has the potential to undermine the success of the sasi practice if it is not balanced by adequate protective measures [6].

Another challenge that needs to be addressed is optimizing sea cucumber resources so that they can provide benefits and become the main source of income for the community in Werka Village. This situation arises because the public is unaware that certain types of sea cucumbers have a high selling value. As a result, the selling price of sea cucumbers in the waters of Werka Village remains low. The involvement of the government, particularly the Ministry of Marine Affairs and Fisheries (MMAF) and local authorities, is urgently required to overcome this challenge. The government can also work to provide economic incentives to the community as a reward for efforts to preserve sea cucumbers. These incentives can be in the form of welfare programs or alternative income opportunities related to environmental conservation. Such efforts will allow people to experience the direct benefits of conservation practices, which, in turn, will enhance their commitment to sea cucumber sasi.

Climate change and ecosystem damage are also threats to the sustainability of sea cucumbers today [17]. In light of this, education and increased public awareness of the importance of maintaining the marine ecosystem sustainably are essential. Training and socialization programs that focus on the long-term benefits of conservation practices can help communities to better understand the value of natural resource sustainability. The synergy of the government, local authorities, customary institutions, and village officials is urgently needed to create rules that strengthen the formal management of sea cucumber sasi customary practices in Werka Village. The purpose of establishing these regulations is to encourage effective implementation of sasi in the long term.

The practice of sasi within the framework of TEK provides an understanding that conservation efforts carried out by traditional communities can serve as a reference for policy-making related to natural resource conservation. Management rooted in local wisdom deserves the attention of central and regional authorities to protect the potential of natural resources [18]. Overall, although the challenges faced are quite complex, there are opportunities to improve the implementation of sea cucumber sasi practices. The synergy of all government elements and the community in Werka Village is believed to enable the ongoing development of sasi as a form of conservation of in-situ natural resources based on sustainable local wisdom.

3.4 Spiritual and Institutional Integration

The concept of TEK refers to an understanding of a community's traditional practices in managing and preserving the surrounding ecosystem. The practice of sea cucumber sasi in Werka Village reflects the typical integration of TEK from social, spiritual, and ecological aspects. TEK not only encompasses technical knowledge about natural resources but also includes ethical values, spirituality, and belief systems that are passed down from generation

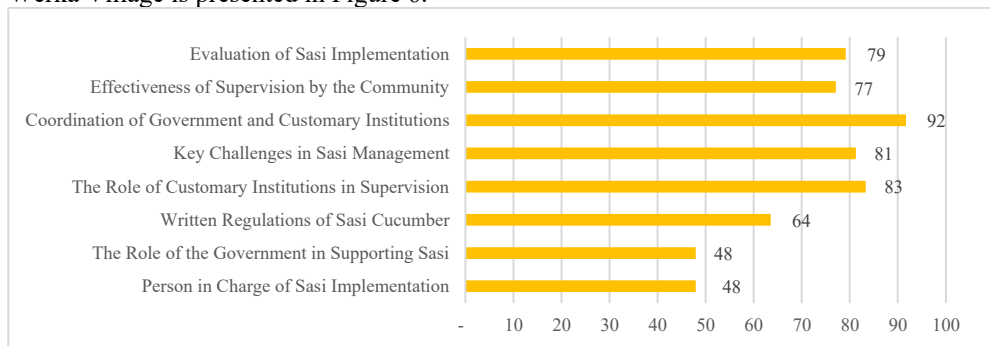
to generation. This reflects one of the main principles of TEK, which is to maintain a harmonious relationship with nature through a holistic approach that considers the long-term well-being of an ecosystem [19].

The spiritual integration seen in the practice of sasi in Werka Village confirms the role of spirituality in the TEK. The ritual of prayer and respect for the sea in the management of sea cucumber sasi is an integral part of the opening and closing of the sea cucumber season. This shows that the management of natural resources is not only based on rational calculations but also relates to nature as a spiritual entity. In the context of TEK, ecosystems are often considered living beings that possess spirit or power, which must be respected through rituals and actions that are in harmony with nature [20]. This phenomenon reinforces the awareness that humans are part of a larger network of life, making ecosystem damage not only harmful but also disruptive to cosmological balance.

Emphasis on the spiritual aspect of resource management also strengthens the collective moral values embraced by the community. Community awareness of protecting sea cucumber resources through sasi is a spiritual responsibility that legitimizes customary provisions. The perspective of TEK in relation to the relationship between humans and nature, which is often considered reciprocal, can be interpreted as nature providing welfare while humans are obliged to maintain this balance [21]. The practice of sasi does not depend solely on written rules but also on high moral awareness within society, which is reinforced by the values upheld by customary and religious institutions [7].

The role of customary institutions is crucial in the practice of sea cucumber sasi in Werka Village. Indigenous institutions have strong social legitimacy to establish and ensure compliance with sasi rules. Customary institutions act as supervisors and law enforcers, and ensure that the practice of sasi is carried out in accordance with established traditions. This approach creates public awareness that non-compliance with the provisions that have been set not only has an impact on individuals, but can also damage the balance of the existing ecosystem. Customary institutions in the management of sasi, act as a liaison between the older generation who inherit knowledge about the ecosystem and the younger generation who will continue this tradition. TEK provides a foundation for sustainable resource management, where traditional knowledge and spiritual values are inherited and maintained by the community [22].

The impact of institutional roles on the implementation of sea cucumber sasi custom in Werka Village is presented in Figure 6.



Source: Primary Data (processed)

Fig. 6. Perceptions of the Institutional Impact on Sasi Practices in Werka Village

Figure 6 illustrates that the responsibility for implementing sasi and the government's role in supporting it are still relatively low, with each receiving a score of 48%. This indicates the need to clarify the government's role as the primary entity responsible for the implementation of sea cucumber sasi. According to 64% of respondents, a written regulation

on sasi practice may exist but has not been legally established or optimally implemented. The role of customary institutions in supervision was perceived as strong by 83% of the public. This perception indicates that customary institutions in Werka Village play an important role in maintaining compliance with the rules of the sasi.

The main challenge of sea cucumber sasi management, according to respondents, is facing significant obstacles (81%), while coordination between the government and indigenous institutions is reported to be very good (92%). This situation indicates that although institutional coordination is effective, actions must still be taken to address the obstacles encountered. Supervision carried out by the community (77%) and evaluation of the implementation of sea cucumber sasi (79%) show that the implementation has functioned well. According to the results of the study, the efforts needed to improve the shortcomings of sea cucumber sasi practice involve enhancing government responsibility and formalizing written regulations.

The merging of social, spiritual, and ecological dimensions in the management of natural resources can create a sustainable and effective system. The support of customary and religious institutions ensures that the people of Werka Village are not only bound by written laws but also possess deep spiritual and ethical values [23]. This encourages them to care for the environment and preserve sea cucumber resources as integral parts of their culture and spirituality. The practice of rituals and ceremonies to honor the sea as a form of gratitude for the resources obtained demonstrates the close bond between spiritual aspects and resource management. Natural resource management based on local wisdom in Werka Village, which unites spiritual and institutional aspects, provides a holistic solution to all challenges regarding ownership of its potential. This situation reflects an environment imbued with local wisdom values, which are integral to the identity of the people of Werka Village.

4. Conclusion

The management of natural resources based on local wisdom in Werka Village, through the traditional practice of sea cucumber sasi, demonstrates that TEK plays a central role in preserving the marine ecosystem. The active participation of the community, involvement of traditional leaders, and support from the government are key factors in the effective management of these resources. The purpose of implementing the sea cucumber sasi custom is to provide recovery time for the population while simultaneously preserving the ecosystem as a whole. Despite its implementation challenges, the practice of sea cucumber sasi in Werka Village has provided a custom-based management model that can be applied to other regions in Indonesia.

Community involvement at every stage of the decision-making process is important because it can create a sense of ownership and responsibility for the sustainability of natural resources. The sustainability of sea cucumber sasi practice in Werka Village requires the synergy of customary provisions and formal regulatory support. Support from central and regional governments in forming regulations and economic incentives has the potential to create a management system based on local wisdom as part of a broader conservation strategy. The implementation of sasi customs in Werka Village can serve as an input for the government as a reference for recommendations on in-situ resource conservation management, achieved through collaboration between local communities and government institutions in a sustainable manner. The results of the study show that the practice of sea cucumber sasi practice in Werka Village depends on the integration of economic, social, and institutional factors, combined with active participation from the community.

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