Proceedings of The 2nd International Conference on Social and Islamic Studies
Online ISSN: 2809-6339
Volume 2, 2022

LOCAL WISDOM FOR CORAL REEF CONSERVATION IN THE SPERMONDE ISLANDS

Fachrie Rezka Ayyub[1], Nurlita Pertiwi[2], Andi Tamsil[3], & Fatma[4]

[1]Candidate for Doctoral Education in Population and Environment, Universitas Negeri Makassar
[2]Natural Resource Management and The Environment, Universitas Negeri Makassar
[3]Marine Science and Fisheries, Universitas Muslim Indonesia
[4]Marine Science and Fisheries, Sekolah Tinggi Teknologi Kelautan Balik Diwa Makassar

Correspondence Email: fachrie.ayyub@gmail.com

ABSTRACT

The research examines and analyzes the level of local wisdom in preserving coral reefs in the Spermonde Islands community. Specifically, the main research locations are Barrang Caddi Island, Badi Island, and Bontosua Island. The choice of location was based on the damaged condition of the coral reef ecosystem, the existence of a coral reef ecosystem rehabilitation program that was implemented involving the community, and even though it was located on small islands, the means of transportation and communication were smooth. The research was conducted from September to November 2022. This research is classified as quantitative descriptive research with a sample size of 200 heads of families selected using the stratified random sampling method. The results showed that the level of local wisdom in preserving coral reefs was in the high category. Local wisdom in terms of human-nature relations, human-human relations, and trust in intra-human relations, is very supportive of preserving coral reefs. Local wisdom includes knowledge of the erang passimombalang for the season and fishing area, knowledge of the erang pa'boyaboyang for ship repair and fishing gear, the pa'lopian knowledge of the use of wind, currents and waves, as well as natural signs in the sky, sea and land, belief in not catching the fish around the sacred taka-taka, the social structure of the punggawa sawi community, and the prohibition to go out to sea on Fridays which have an impact on the marine ecosystem. These findings support the theory that local wisdom in a place is inseparable from the influence of various factors and influences people's behavior in or towards the environment.

Keywords: Coral reefs; local wisdom; conservation

1. INTRODUCTION

According to the dictionary, local knowledge comprises the words "local" and "wisdom." Local is defined as local in the English-Indonesian Dictionary (Echols & Shadily, 2000), whereas

knowledge is defined as wisdom. Local concepts that are wise, full of wisdom, good value, and rooted in and adopted by the community might be understood as local wisdom in general (Sartini, 2004).

According to Mariane (2014), the role of local wisdom is to function for the conservation and preservation of natural resources, serves to develop human resources (such as through life cycle ceremonies and the idea of 'kanda' pet rate), functions for the development of culture and science, and provides guidance, beliefs, and other knowledge. Literature and taboos have political significance, as seen in the 'ngangkuk merana' ceremony and patron client power, as well as ethical and moral meanings expressed in the 'ngaben' ceremony and the purification of ancestral spirits. Examples of these meanings include communal/relative integration and agricultural cycle ceremonies.

Around 120 islands make up the Spermonde Islands, sometimes called the Sangkarang Islands or the Pabbring Islands, which are situated in the Coral Triangle between the southern arc of Sulawesi and the Makassar Strait, off the southwest coast of Sulawesi. The 2.500 km2 archipelago, located west of Makassar, comprises roughly 50 vegetated islands and 70 non-vegetated sandbars (Litaay, 2017). Fishermen make up the majority of the population. Seasonal factors, as well as actions that are not environmentally friendly, have an impact on fishing activities, which lowers fishermen's catches and affects household finances. Seaweed farming is one alternative livelihoods that can help with this issue (Jalil, et al., 2020). The research examines and analyzes the level of local wisdom in preserving coral reefs in the Spermonde Islands community.

2) METHODS

This study employed a quantitative paradigm as the foundation for analysis in terms of technique. This study examined the behavior of protecting coral reefs in this community. In this type of research, the phenomenon that occurs includes ex post facto, where data is collected after all events have occurred, or data that is already available in the field. The extensive scope of research, this research includes survey research, in which the research area with a large population, although not carried out on all the objects studied, only takes part of the population.

The study was carried out between September and November of 2022. South Sulawesi Province's Spermonde Archipelago was chosen as the study's location. Barrang Caddi Island, Badi

Island, and Bontosua Island are the principal study locations. The decision to choose this place was made based on three factors: (1) the state of the coral reef ecosystem, (2) the existence of a community-based program to protect the ecology, and (3) the ease of connectivity and transportation despite the location being on small islands. Badi Island and Bontosua Island are administratively included in Liukang Tupabiring District, Pangkep Regency, whereas Barrang Caddi Island is administratively included in Sangkarang District, Makassar City.

Stratified random sampling was used. The Slovin formula (1960) in Singarimbun & Effendi is used in the methodology to determine the number of samples (1989). In this investigation, precision was fixed at 10%. The population estimate is based on information from the 2021 census. 200 participants make up the entire sample. A True-False test model is administered to respondents or samples to get tools of local wisdom for protecting coral reefs. Scores range from 0 if the correct question is incorrectly picked to 1 if the correct question is selected correctly. In contrast, if the incorrect question is selected correctly, the score is 0, and if the incorrect question is selected correctly, the score is 1.

3) RESULTS AND DISCUSSION

The frequency distribution of Table 1 displays the findings of the descriptive statistical analysis of local knowledge in protecting coral reefs from the 200 samples examined.

Table 1. Distribution of local knowledge for protecting coral reefs

No.	Description	Score	Frequency	%	% Cumulative
1	Very Low	0 – 3	2	1	1
2	Low	4 – 7	4	2	3
3	Medium	8 – 10	15	7,5	10,5
4	High	11 – 14	157	78,5	89
5	Very High	15 – 18	22	11	100
	Jumlah		200	100	

According to the frequency distribution in Table 1, up to 1% of the community (2 respondents) and up to 2% (4 respondents) of the community have local wisdom that falls into the very low category. In contrast, 7.5% (15 respondents) of the community had moderate local wisdom, 78.5% (157 respondents) had high local wisdom, and 11% (22 respondents) had extremely high local wisdom.

According to the results of the sophisticated descriptive statistical analysis, the average value of local knowledge is 12,42. The standard deviation is 2,27, with a mean of 3, and a maximum of 17. The average value falls into the high group when seen from the frequency distribution. Thus, it can be said that the Spermonde Islands community has a high level of local expertise in protecting coral reefs.

Additionally, Figure 1 below illustrates the findings of the descriptive analysis of local knowledge in protecting coral reefs using three indicators: conservation, human resources, and beliefs.

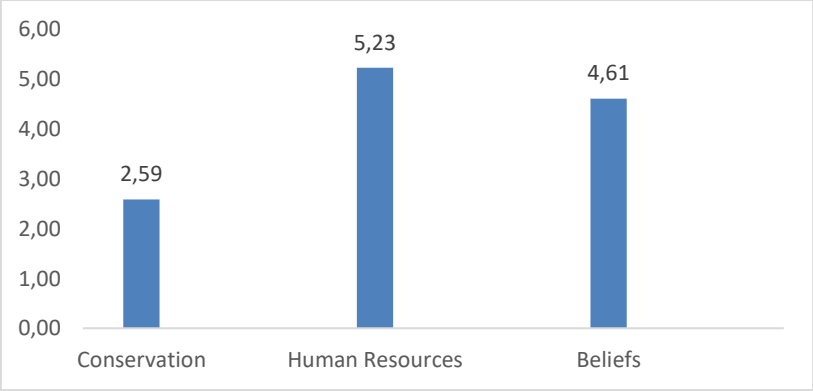

Figure 1. The typical contribution of local knowledge to protecting coral reefs

Figure 1 shows that the human resources feature, with a value of 5,23, has the highest average value. Additionally, the conservation aspect is 2,59 and the aspect of the belief is 4,61. According to the findings of the analysis of local knowledge regarding the preservation of coral reefs from each indicator, the human resources indicator is ranked extremely high, the beliefs indicator is ranked high, and the conservation indicator is ranked in the medium range.

For coral reefs to persist for a long time and even become institutionalized, local knowledge is a value that is regarded as good and proper by the community. Local knowledge is divided into three categories by Sidiq, *et al.* (2022): local wisdom of conservation, local wisdom of human resources, and local wisdom of beliefs.

Local knowledge on conservation, namely the importance of safeguarding local natural resources for preserving coral reefs. This local knowledge includes helping fishermen catch fish,

installing *rompong riase* and *rompong mabelae*, trawler *panja'* or *jala loppo* that only catch large fish rather than all fish like purse seines, knowing the *erang passimombalang* for the season and area of fishing, not trusting fish around the sacred *taka-taka*, the *anjoro* component and the rocks on *rompong tude* where moss grows as food for fish, *pa'lopian* understanding of how to read natural signs in the sky, sea, and land by using wind, currents, and waves.

To preserve coral reefs for human resource development and intercommunal interaction, local knowledge in human resources is a value that is regarded as desirable and correct by the community. The conventional thinking states that *sawi* should be harvested in shallow waters and *ponggawa* in deep waters. The *ponggawa* appoints the elder *sawi* to oversee the younger *sawi* in the community's social structure. The *naompangi tanah* must be penalized if there is disagreement and disobedience to the consequences. Anyone who arrives at the *batu* before him is permitted to fish. Where the FADs are installed, signifying ownership of the fishing spot, migrant fishers must pay the *ongko*. The amount of *sawi* and *punggawa* in the *pammeng* group also depends on the size of the *jolloro*.

Regarding the value of belief that is regarded as good and true by the community in protecting coral reefs, this is known as local knowledge of belief. Every time fishing activities begin, the *accaru-caru'* and *appassili* or *appa'rappo* rites are performed, according to this belief. A *ponggawa* must be familiar with the *erang pa'boyaboyang*. We have tried, but we still believe that *battuji ri dalleka* will succeed. On the *allo baji*, repairs were made to the ships and fishing gear with *assorong maca*. During the event, *umba-umba* cakes and significant fruits like plantains should be offered. Finally, the event's felling of *lambusu* bamboo represents unhindered fishing activity.

The Spermonde Islands community has a high level of local knowledge. According to Arif & Lessy (2022), local knowledge in a location affects how people interact with their surroundings and determines their behavior. In this study, it was discovered that local knowledge regarding how people should interact with nature, with other people, and with themselves is very helpful in maintaining coral reefs.

The development of a local content curriculum on coral reef ecosystems and capture fisheries in Environmental Education (Espelien, 2022), the application of local wisdom values, morals, and ethics by religious leaders and society (Suhartini, et al., 2019), as well as teaching values

in religious traditions and harmonizing social processes are actions that can be taken to improve the behavior of preserving coral reefs in the Spermonde Islands community (Kandov, 2022).

The creation of environmental protection and management policies, particularly coral reef management, must incorporate the scientific approach to population and environmental education. All parties should work together to strengthen and carry out sustainable, synergistic, and integrated coral reef conservation operations in the Spermonde Archipelago.

REFERENCES

Arif, M., & Lessy, Z. (2022). Another side of Balinese excoticism local wisdom of the Muslim community in Gelgel Village, Klungkung Regency, for preserving harmony between religious communities in Bali. *Inferensi: Jurnal Penelitian Sosial Keagamaan*, 15 (2), 185-216.

Echols, J.M. & Shadily, H. (2000). *Kamus Inggris Indonesia, An English Indonesia Dictionary*. Jakarta: PT. Gramedia.

Espelien, K. (2022). *Increasing Ocean Environment Awareness in Land-Locked Middle School Students*.

Jalil, A.R., Samawi, M.F., Azis, H.Y., Anshari, A.I., Jaya, I., & Malik, A. Dinamika kondisi oseanografi di Perairan Spermonde pada musim timur. *Prosiding Simposium Nasional VII Kelautan dan Perikanan 2020,* Fakultas Ilmu Kelautan dan Perikanan, Universitas Hasanuddin, Makassar: 5 Juni 2020. Hal. 1-10. ISBN 978-602-71759-7-6.

Kandov, B. M. (2022). Current issues of harmony of human and national values in the formation of civil station of the youth of New Uzbekistan. *Journal of Ethics and Diversity in International Communication*, 1 (8), 30-33.

Litaay, Magdalena. (2017). Marine tunicates from Sangkarang Archipelago Indonesia: recent finding and bio-prospecting. *Journal of Physics: Conference Series*, 979 (1), 1-7. January, 2018. *https://iopscience.iop.org/article/10.1088*.

Mariane, Irene. (2014). *Kearifan Lokal Pengelolaan Hutan Adat*. Jakarta: Rajawali Pers.

Sartini. (2004). Menggali kearifan lokal nusantara; sebuah kajian filsafati. *Jurnal Filsafat*, 14 (2), 111-120. Agustus, 2004. *https://jurnal.ugm.ac.id/wisdom/ article/view/33910/20262*.

Sidiq, R., Sofro, S., Sulistyani, A., & Achmad, W. (2022). Duanu's tribe local wisdom and traditional ecology: A way to survive. *Webology*, 19 (1).

Singarimbun, M., & Effendi, S. (1989). *Metode Penelitian Survei*. Jakarta: LP3S.

Suhartini, S., Sekarningrum, B., Sulaeman, M., & Gunawan, W. (2019). Social construction of student behavior through character education based on local wisdom. *Journal of Social Studies Education Research*, 10 (3), 276-291.