



ECOLOGICAL REPRESENTATIONS IN THE MARINE LEXICON OF THE MADURA COASTAL COMMUNITY

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ABSTRACT

Marine lexicons have reflected the ecological knowledge and cultural identity of coastal communities; however, studies examining their ecological representation within the Madurese coastal community remained limited. This study aimed to analyze the ecological representation of marine lexicons used by the Madurese coastal community through Haugen's ecolinguistic perspective. A qualitative descriptive method was employed using observation, interviews, documentation, and note-taking techniques. The collected data were analyzed through data reduction, data display, and conclusion drawing. The findings identified 102 marine lexicons representing the relationship between language and the coastal environment. The analysis revealed that the lexicons reflected three ecolinguistic parameters: interrelationship, environment, and diversity. The interrelationship parameter showed that the lexicons were formed based on observations of physical characteristics, fishing techniques, and natural phenomena. The environment parameter demonstrated the integration of physical and social environments through marine resources, fishing activities, and coastal traditions. Meanwhile, the diversity parameter indicated the dominance of biotic lexicons alongside abiotic elements related to seasons, winds, fishing equipment, and maritime activities. These findings suggested that marine lexicons functioned not only as linguistic units but also as representations of ecological knowledge, local wisdom, and the cultural identity of the Madurese coastal community. These findings contribute to Indonesian Language and Literature studies by enriching ecolinguistic research and providing linguistic documentation that supports the preservation of local language and ecological knowledge.

Keywords: ecolinguistics Haugen, ecological representation, marine lexicon, Madurese

INTRODUCTION

Regional languages play a vital role in preserving cultural identity while also serving as a repository for local knowledge passed down from generation to generation (Manurung et al., 2025). In addition to being a tool for communication, language also represents the relationship between humans and the environment in which they live. According to Haugen (in Khotimah et al., 2023), the true linguistic environment is the community that uses that language as one of its codes. This view indicates that language cannot be separated from the social environment of its speakers because it grows, develops, and acquires meaning through the community's interaction with its environment. Khotimah et al. (2021) also explain that the ecolinguistic perspective views language as part of an ecosystem that reflects the reciprocal relationship between humans,

the environment, and the various social realities that develop within it. Through language, communities name, categorize, and interpret various environmental elements based on their ecological experiences. Thus, every lexicon not only contains linguistic meaning but also records ecological knowledge, cultural values, and the community's experiences in interacting with its environment.

The existence of these local lexicons now faces challenges due to technological advancements, globalization, and modernization, which are driving language shift. Rosillo-Rodes et al. (2023) explain that language shift is influenced by prestige factors, that is, when one language is considered to have higher social value than other languages used in the same environment. As a result, communities tend to use the language deemed more advantageous, leading to a decline in the use of regional languages. This situation not only threatens the survival of the language as a means of communication but also risks erasing the ecological knowledge embedded in the local lexicon. In line with this, Iswary & Thaba (2024) emphasizes that language shift leads to the loss of communities ecological knowledge, which is passed down through traditional vocabulary. Sudarto and Khotimah (2025) also point out that efforts to revitalize regional languages are crucial for ensuring the survival of these languages while preserving the cultural values and local knowledge they embody.

This phenomenon also occurs among the coastal communities of Madura, whose social and economic lives are closely intertwined with the marine environment. As a maritime region, Madura Island holds great potential in the fisheries and marine sectors (Hur et al., 2020). The interaction between the community and the coastal environment has given rise to a diverse lexicon used to name marine life, natural phenomena, fishing gear, and fishing activities. These lexical terms are the result of the community's ecological experiences, passed down from generation to generation. Khotimah et al. (2025) explain that local lexicon in Madura serves not only as a linguistic element but also as a medium for preserving the community's knowledge about the natural environment. Therefore, the preservation of this lexicon is part of the effort to maintain the relationship between language, culture, and the environment. However, research by Lukmana & Alfin (2023) indicates that the use of Indonesian within the family environment is becoming increasingly dominant, leading to a continuous decline in the use of the Madurese language among younger generations. The impact of this is evident in the decreasing use of lexicon related to maritime life. Suhartatik (2018) also found that a number of maritime terms in the coastal areas of Sumenep are beginning to fall out of use. This situation underscores the importance of preserving maritime vocabulary, as it reflects the relationship between coastal communities and the marine environment, a relationship that shapes their ecological identity.

The relationship between language and the environment can be examined through an ecolinguistic perspective. Haugen (in Yadnya, 2022) views language as part of an ecosystem that is inseparable from its speakers' environment. From this perspective, the lexicon is understood not only as a linguistic unit but also as a representation of human relationships with both the natural and social environments. To uncover these representations, Haugen (in Yadnya, 2022) proposes three ecolinguistic parameters: interrelationship, environment, and diversity. The interrelationship parameter examines the connections, interactions, and interdependencies between language and the ecological experiences of its speakers. The environment parameter examines the connection between the lexicon and the physical and social environments as the spaces in which language is formed and used. Meanwhile, the diversity parameter identifies the diversity of



environmental elements represented in the lexicon, including biotic and abiotic elements. These three parameters serve as the conceptual foundation for explaining how a community's ecological experiences are reflected through the lexicon it uses.

Studies on the relationship between language and the environment have been conducted by a number of researchers. Antono & Rahmah (2023) examined the maritime eco-lexicon of the Mandangin Island community through biological, sociological, and ideological dimensions. Septianengrum et al. (2024) described the forms, meanings, and functions of the marine environmental lexicon in the Natuna Malay language. Lubis & Widayati (2021) document the eco-lexicon of the Barus coastal community, which demonstrates the interconnection between language and the environment. Warami (2020) explores the relationship between the community and the marine environment through a study of Ambon Malay pantuns from an ecolinguistic perspective. Meanwhile, Suhartatik (2018) highlights the gradual abandonment of certain maritime lexical items among the Madura coastal community as a result of shifts in language use.

These previous studies have made important contributions to explaining the relationship between language and the environment through the study of the lexicon and linguistic expressions of coastal communities. However, overall, these studies have still focused on lexical inventory, the analysis of form, meaning, and function, as well as the biological, sociological, and ideological dimensions in ecolinguistic research. Consequently, the ecological representations reflected in the lexicon through the parameters of interrelationship, environment, and diversity, as proposed by Haugen, have not yet been the focus of discussion. Furthermore, studies on ecological representations in the maritime lexicon of the Madura coastal community remain limited. Given these gaps, this study adopts a different perspective by positioning the maritime lexicon as an ecological representation of coastal communities. Consequently, this study aims to describe the ecological representations in the maritime lexicon of the Madura coastal community based on Haugen's parameters of interrelationship, environment, and diversity. The discussion focuses on how the maritime lexicon represents the relationship between the coastal community and the marine environment, thereby revealing the interconnection between language, humans, and the environment in the lives of coastal communities

METHOD

This study is a descriptive qualitative research. According to Bungin (2014), descriptive qualitative research aims to describe and explain social phenomena in depth based on conditions observed in the field. This approach was chosen because the study aims to describe ecological representations in the maritime lexicon of the Madura coastal community based on Haugen's three ecolinguistic parameters: interrelationship, environment, and diversity. The research was conducted in Banyusangka Village, Tanjung Bumi Subdistrict, Bangkalan Regency, Madura. This location was chosen because the community still actively uses the Madurese language in their maritime activities, and thus possesses a rich maritime lexicon that represents the community's relationship with the coastal environment. The object of the study was the maritime lexicon in the Madurese language, while the subjects consisted of five informants selected through purposive sampling because they possessed knowledge and experience regarding the maritime lexicon used in daily life (Sugiyono, 2023). Data were collected through

observation, interviews, documentation, as well as the transcription and translation of data from Madurese into Indonesian. The primary research instrument was the researcher, supported by observation guidelines, interview guidelines, data analysis tables, and documentation tools.

The data analysis technique utilized the interactive model by Miles and Huberman (in Emzir, 2016), which includes data reduction, data presentation, and the drawing and verification of conclusions. During the data reduction stage, the results of observations, interviews, and documentation were transcribed, translated from the Madurese language into Indonesian, and then selected to obtain a lexicon related to the field of marine studies. The collected lexicon was subsequently classified based on its context to facilitate the analysis process. The data presentation stage involved organizing the lexical items into tables, accompanied by their meanings and contextual usage. Next, each lexical item was analyzed using Haugen's three ecolinguistic parameters: interrelationship to identify the connection between the lexical item and the community's ecological experiences; environment to examine the relationship between the lexical item and the physical and social environments; and diversity to identify the representation of biotic and abiotic elements reflected in the lexical items. The final stage, involving the drawing and verification of conclusions, was carried out by interpreting the analysis results to obtain an overview of ecological representations in the marine lexicon of the Madura coastal community.

The research procedure began with a preliminary study involving problem identification, literature review, and the development of research instruments. Next, the researcher determined the research location, selected informants using purposive sampling, and obtained the necessary research permits. The subsequent stage involved data collection through observation, interviews, and documentation, followed by transcription, translation, and classification of the lexical data. The collected data were then analyzed using the parameters of interrelationship, environment, and diversity to reveal the ecological representations reflected in the marine lexicon. The final stage of the research involved verifying the analysis results, drafting the discussion, and drawing conclusions in accordance with the research objectives.

RESULTS AND DISCUSSION

Results

Based on the research findings, 102 marine lexical items were identified among the coastal communities of Madura. These lexical items not only function as vocabulary but also represent the local knowledge, ecological experiences, and social activities of coastal communities as they interact with the marine environment. To identify these patterns of representation in a more structured manner, each lexical item was analyzed using Haugen's three ecolinguistic parameters: *interrelationship*, *environment*, and *diversity*. The results of this analysis are presented in the following table 1.

Based on the results of the analysis, the maritime lexicon of the Madura coastal community reveals a structured pattern of ecological representation between language and the environment. Each parameter reveals distinct characteristics of ecological representation. The interrelationship parameter illustrates the basis for lexical formation, rooted in the community's experiences interacting with the marine environment. The environment parameter highlights the lexicon's connection to natural environmental conditions, social activities, and the culture of the coastal community. Meanwhile, the

diversity parameter demonstrates the diversity of ecological elements represented through biotic and abiotic categories.

Table 1. Results of the Analysis of Ecological Representations in the Marine Lexicon of the Madura Coastal Community

Madureses Lexicon	English Lexicon	Interrelationship	Environment	Diversity
<i>Angèn Bhârât</i>	Strong winds from the west	A sign of the west wind season for fishermen	A wind phenomenon that determines when to go out to sea	Abiotic
<i>Kopè'</i>	Petek fish	Named for its flat body shape (<i>pèppè'</i>)	Used as catch and for making salted fish.	Biotic
<i>Korsen</i>	Pursin/Kursin Boat & Ring Net	The name comes from the term “ <i>purse seine</i> .”	A fishing gear used to catch large quantities of pelagic fish	Abiotic
<i>Majâng</i>	Mayang	The name is based on a fishing technique that uses a payang (<i>pajâng</i>)	Fishing activities carried out during a specific season	Abiotic
<i>Mè-èmèh</i>	Belangkas (Mimi)	Community knowledge regarding the benefits of belangkas as a traditional medicine	Used in traditional medicine.	Biotik
<i>Mèra'an</i>	Red snapper	Named for the fish's red body color (<i>mèra</i>)	Marine life rarely found in local waters	Biotic
<i>Nèmor</i>	Dry season	A seasonal indicator associated with abundant fish catches	The dry season that determines fishing activity	Abiotic
<i>Ngârrâng</i>	Fish salting	Community knowledge in preserving fish catches as salted fish (<i>ghârrâng</i>)	Processing of marine products to extend the shelf life of fish	Abiotic
<i>Odeng Alos</i>	Small shrimp	Named for the small size of the shrimp	Marine biota used as ingredients for making shrimp paste	Biotic
<i>Pala' Taon</i>	Cyclone	Naming based on the shape of the elongated vortex	A wind phenomenon that poses a danger to maritime activities	Abiotic
<i>Potèan</i>	Drifting gill nets	Named after the predominantly white color of the gear (<i>potè</i>)	Fishing gear used in shallow waters or near the coast	Abiotic
<i>Rèncè'</i>	Young flying fish	Named after the small size of the fish	Small seafood processed into salted fish	Biotic
<i>Rokat tasè'</i>	Sea harvest/sea blessing	Names related to ritual thanksgiving ceremonies for the fish catch at sea	An annual traditional ceremony as an expression of gratitude for the abundant marine harvest	Abiotic



Figure 1 *Kopè'*



Figure 2 *Korsèn Boat*



Figure 3 *Korsèn Net*



Figure 4 *Mè-èmèh*



Figure 5 *Mèra'an*



Figure 6 *Ngàrrâng*



Figure 7 *Rokat Tasè'*



Figure 8 *Odeng Alos*



Figure 9 *Potèan Net*



Discussion

Representation of Interrelationship in the Marine Lexicon of the Madura Coastal Community

The interrelationship parameter indicates that the maritime lexicon of the Maduran coastal community is formed through continuous, reciprocal interactions between humans and the marine environment. From an ecolinguistic perspective, this relationship is understood not only as physical contact with nature but also as a cognitive process through which communities observe, classify, and assign meaning to the various ecological elements they encounter daily. Therefore, lexical naming does not arise arbitrarily but stems from ecological experiences passed down across generations, thereby becoming part of local knowledge. This finding demonstrates that language functions as a medium for storing ecological memory, as each lexical item contains information about environmental characteristics that have been understood and tested through the long-standing experiences of coastal communities. This aligns with Antono and Rahmah (2023), who state that the ecological lexicon of fishing communities is the result of the internalization of the community's ecological experiences within the language system.

This relationship is evident in the naming conventions based on the physical characteristics of marine life, such as *kopè'*, *rèncè'*, *odeng alos*, and *mèra'an*. These four terms indicate that coastal communities have developed a local classification system based on the most easily observable attributes, namely, the body shape, size, and color of marine organisms. The term *kopè'*, for example, which refers to the flat-bodied petek fish, shows that physical form serves as the primary indicator for identifying species in the field. Similarly, *rèncè'* is used to refer to small juvenile layang fish, while *odeng alos* refers to tiny rebon shrimp, and *mèra'an* refers to red snapper. These visual characteristics are chosen not merely because they are easily recognizable, but also because they serve practical purposes in fishing activities, such as distinguishing between different types of catch, determining their economic value, and selecting appropriate processing methods. Thus, these names reflect that the linguistic categorization process stems from the need to adapt to the marine environment, rather than merely serving as linguistic labels.

Furthermore, this naming pattern indicates that coastal communities possess the ability to interpret their environment through systematic observation. Knowledge of the shape, size, and color of marine life enables fishermen to identify species without relying on scientific classification. This suggests the existence of a local taxonomic that has developed based on empirical experience. This classification system serves as evidence that coastal communities not only utilize marine resources but also possess structured ecological knowledge regarding the characteristics of organisms living in coastal areas. In other words, language serves as an instrument that connects ecological experience with daily life practices, thereby enabling this knowledge to be passed down orally to future generations.

The interrelationship is also evident in the lexical terms *majâng* and *korsèn*, which relate to fishing activities and technology. The term *majâng* originates from the practice of fishing with a payang net, while *korsèn* is used to refer to a *purse seine* boat and its ring net, a term adapted from "*purse seine*." Unlike naming conventions that focus on the physical characteristics of objects, these two lexical terms demonstrate that human activities and the development of fishing technology also form the basis for vocabulary

formation. The adaptation of the term “*purse seine*” into “*korsèn*” shows that coastal communities not only adopt new technologies but also integrate them into their local language systems, thereby making them part of their linguistic identity. In this context, language not only records the existence of fishing gear but also preserves information regarding fishing techniques, the target fish species, and the practical knowledge developed through fishing activities. This finding reinforces the research results of Septianengrum et al. (2024) that maritime lexicon not only reflects environmental objects but also represents the socioeconomic practices of coastal communities.

This reciprocal relationship with the environment is also evident in lexical terms related to natural phenomena, such as *angèn bhârât*, *nèmor*, and *pala’ taon*. These three terms demonstrate that coastal communities have the ability to interpret natural dynamics as indicators for decision-making. *Angèn bhârât* is understood as a sign of the arrival of the west wind season, which affects the safety of navigation; *nèmor* refers to the dry season, which is associated with increased fish catches; and *pala’ taon* refers to cyclones, which are considered dangerous for maritime activities. These terms indicate that natural phenomena are not viewed as isolated events but rather as sources of ecological information that determine patterns of community activity. Thus, language functions as a mechanism for storing adaptive knowledge that helps fishermen interpret environmental changes and minimize risks when interacting with the sea.

In addition to fishing activities, the relationship between humans and the environment is also reflected in the terms *mè-èmèh*, *ngârrâng*, and *rokat tasè’*. The term *mè-èmèh* illustrates how the community uses *belangkas* as a traditional medicine based on local knowledge developed through empirical experience. Meanwhile, *ngârrâng* represents knowledge regarding fish preservation techniques through salting as an adaptation to the condition of abundant catches with limited shelf life. As for *rokat tasè’*, it demonstrates that the community’s relationship with the sea is not merely economic but also encompasses cultural and spiritual dimensions. These traditions reflect the view that the sea is a living space that must be respected through expressions of gratitude. The presence of these three lexical entries demonstrates that the relationship between humans and the environment is not based solely on the exploitation of resources, but also on sustainable use, the preservation of local knowledge, and respect for nature as part of the cultural identity of coastal communities.

Overall, the representation of interrelationships in the maritime lexicon of Madura’s coastal communities shows that language reflects the complex ecological relationships between humans and the marine environment. Every lexicon not only serves to name objects, activities, or natural phenomena, but also records how communities understand, utilize, manage, and interpret the coastal environment based on experiences passed down from generation to generation. Thus, the maritime lexicon serves as a representation of local ecological knowledge, demonstrating that language functions as a medium for preserving environmental memory as well as a means of maintaining the cultural identity of coastal communities.

Representations of Environment in the Marine Lexicon of the Madura Coastal Community

Environment parameters indicate that the maritime lexicon of Madura’s coastal communities represents the environment as an ecological space that both shapes and directs community life. From an ecolinguistic perspective, the environment is not understood merely as a setting for human activities, but as a system encompassing natural



elements, social activities, local knowledge, and culture that mutually influence one another. Therefore, every lexical item that emerges in a coastal community serves not only to name an object or activity but also to represent the relationship between humans and the environment, a relationship that shapes how they adapt, work, and make sense of life. These findings indicate that language evolves as a result of continuous interaction with the environment, so that each lexical contains ecological information passed down across generations. This interpretation is consistent with Fill and Muhlhausler (2001), who argue that language both reflects and influences the ecological relationships between humans and their environment, making linguistic expressions an integral part of ecological systems. Likewise, Lubis and Widayati (2021) state that the ecollexicon of coastal communities represents the integration of environmental conditions and the social activities taking place within them.

In the physical environment, the existence of the terms *angèn bhârât*, *nèmor*, and *pala' taon* demonstrates that natural phenomena are key factors shaping the way of life of coastal communities. These three terms do not merely describe weather conditions or seasons; they indicate that the community possesses the ability to interpret environmental changes as a basis for decision-making. "*Angèn bhârât*" is understood as a sign of the arrival of the west wind season, which affects the safety of navigation; "*nèmor*" marks the dry season, which is linked to changes in fish catches; while "*pala' taon*" serves as a warning of the approach of a cyclone that could endanger maritime activities. This demonstrates that coastal communities possess ecological knowledge that has developed through empirical experience in dealing with the dynamics of nature. Thus, the natural environment is not viewed as a passive backdrop, but as a factor that regulates the rhythm of life, determines adaptation strategies, and shapes the community's decision-making patterns regarding the use of marine resources.

The physical environment is also reflected in the presence of various marine organisms represented in the lexicon of *kopè'*, *mè-èmèh*, *mèra'an*, *odeng alos*, and *rèncè'*. The diversity of this lexicon indicates that coastal communities have a close relationship with the variety of marine organisms that form part of the ecosystem in which they live. Each organism is identified based on specific characteristics because it serves a different function in community life. *Kopè'*, *mèra'an*, and *rèncè'* serve as both food sources and economic commodities; *odeng alos* is used as a raw material for making *terasi*; while *mè-èmèh* is utilized in traditional medicine. This diversity of functions demonstrates that the community not only recognizes the existence of marine biota but also understands the ecological potential of each organism in relation to their livelihood needs. In other words, language serves as a medium that documents the functional relationship between humans and biological resources, thereby ensuring that knowledge regarding the utilization of marine biota remains preserved within the community. This finding aligns with the research by Septianengrum et al. (2024), which states that marine lexicon represents communities' dependence on marine resources as the foundation of their economic and social lives.

In addition to the natural environment, the environment parameter also illustrates how the social environment shapes the emergence of various lexical terms related to fishing activities. The terms *majâng*, *potèan*, *korsèn*, and *ngârrâng* indicate that the coastal environment is a space of production that gives rise to various traditional fishing practices as well as the development of fishing technologies. "*Majâng*" represents fishing

using gillnets; “*potèan*” refers to the use of gillnets in shallow waters; and “*korsèn*” refers to the use of *purse seine* boats and ring nets to catch large quantities of pelagic fish. Meanwhile, *ngàrrang* describes the process of preserving fish through salting as a means of extending the shelf life of the catch. These four terms demonstrate that the community’s economic activities do not occur in isolation from the environment but rather evolve as a form of adaptation to the characteristics of marine resources and the geographical conditions of the coastal region. Knowledge regarding fishing gear, fishing techniques, and the processing of marine products continues to be passed down through collective intergenerational experience, thereby shaping the community’s ecological knowledge system. Therefore, language not only documents work activities but also serves as a means of transmitting local knowledge that supports the sustainability of coastal communities’ livelihoods.

The cultural environment also plays an important role in shaping the maritime lexicon of Madura’s coastal communities. This is evident in the term “*rokat tasè*”, which represents the tradition of a sea blessing ceremony an expression of gratitude for the catch as well as a hope for safety at sea. This tradition demonstrates that the sea is viewed not only as an economic resource but also as a cultural space with symbolic significance in the lives of the community. The relationship between humans and the marine environment is built upon values of respect, gratitude, and responsibility toward nature, which are embodied in cultural practices. The existence of this lexicon demonstrates that language serves as a medium for recording the value systems of coastal communities, so that ecological relationships are manifested not only through the utilization of natural resources but also through cultural practices that strengthen the collective identity of coastal communities.

Overall, the environment parameters indicate that the maritime lexicon of the Maduran coastal community represents the environment as a holistic system, encompassing interconnected natural, social, economic, and cultural aspects. Each lexical item not only indicates the existence of specific objects or activities but also records how communities adapt to environmental conditions, utilize natural resources sustainably, and develop cultural values that emerge from their interactions with the sea. Thus, language serves as a record of ecological knowledge and, at the same time, as a medium that maintains a harmonious relationship between coastal communities and the environment in which they live.

Representations of Diversity in the Marine Lexicon of the Madura Coastal Community

The diversity parameter indicates that the marine lexicon of the Madura coastal community represents a diversity of ecological elements divided into two main categories: biotic and abiotic elements. This diversity not only reflects the community’s extensive vocabulary but also mirrors the breadth of ecological knowledge that has developed through continuous interaction with the coastal environment. From an ecolinguistic perspective, lexical diversity serves as an indicator that a community possesses the ability to recognize, distinguish, and classify various environmental elements based on their respective characteristics and functions. Thus, language functions as an ecological classification system that captures how communities understand the complexity of the environment in which they live. This finding aligns with Rahmah et al. (2023), who state that variations in the ecological lexicon among coastal and riverine



communities reflect the close relationship between geographical conditions and the wealth of local knowledge embedded in language.

Biotic categories dominate the research data through the lexical terms *kopè'*, *mè-èmèh*, *mèra'an*, *odeng alos*, and *rèncè'*. This dominance indicates that the lives of Madura's coastal communities are heavily influenced by marine biological resources, which serve as the primary foundation for economic activities and daily living needs. The diversity of names given to marine organisms suggests that the community does not view all marine life as a single, homogeneous group but rather recognizes each organism based on its characteristics, functions, and benefits. For example, *kopè'* is known as a fish used for making salted fish; *mèra'an* has economic value as a catch; *odeng alos* is used as a raw material for terasi; *mè-èmèh* is used in traditional medicine; and *rèncè'* is a catch that is also processed into salted fish. These differences in function demonstrate that the diversity of marine life is deeply understood through generations of experience in its utilization.

The diversity of these biotic elements also reflects the existence of a local classification system (folk taxonomy) that has developed within coastal communities. These communities do not identify marine organisms based on scientific classification, but rather on easily recognizable characteristics, such as body shape, size, color, or practical uses. This classification system demonstrates that local ecological knowledge is formed through a process of continuous observation as communities interact with the marine environment. Therefore, the richness of the biotic lexicon not only reflects the number of known organism names but also represents the accumulation of ecological experience passed down from one generation to the next. Language, in this context, serves as a medium for the preservation of local knowledge, as each lexical entry contains information about the characteristics and uses of marine organisms that are an integral part of community life.

On the other hand, the abiotic category is represented by the terms *angèn bhârât*, *korsen*, *nèmor*, *pala' taon*, *majâng*, *ngârrâng*, *potèan*, and *rokat tasè'*. The existence of this category indicates that coastal communities are concerned not only with marine organisms but also with various non-living elements that affect their livelihoods. Natural phenomena such as seasons and winds serve as ecological indicators that determine when to go out to sea, the safety of voyages, and even the potential catch. Meanwhile, fishing gear, seafood processing techniques, and the *rokat tasè'* tradition demonstrate that abiotic elements are not limited to natural conditions alone but also encompass various forms of cultural adaptation that have emerged in response to the coastal environment. Thus, the abiotic category illustrates how communities develop survival strategies through the use of local technologies, resource management, and the preservation of traditions that have evolved within the coastal ecosystem.

Although the biotic lexicon is more extensive than the abiotic lexicon, the two categories are complementary and inseparable. The presence of biological resources will not yield optimal benefits without an understanding of environmental conditions, seasons, wind direction, fishing gear, and seafood processing techniques. Conversely, various abiotic elements derive their significance from their direct connection to communities' efforts to effectively utilize biological resources. This demonstrates that coastal communities view the environment as a holistic ecological system, in which biotic and abiotic elements interact to sustain life. This perspective also shows that the communities'

ecological knowledge is not fragmented but develops holistically through their lived experiences in coastal areas.

Overall, the diversity parameter shows that the richness of the maritime lexicon of the Madura coastal community reflects the ecological diversity found in the coastal environment. The presence of a diverse range of biotic and abiotic elements indicates that the community has the ability to recognize, categorize, and interpret various environmental components based on their ecological functions and roles. Thus, language serves not only as a tool for communication but also as a record of local ecological knowledge that sustains the relationship between humans, the environment, and culture. This perspective aligns with the work by Mutmainnah et al. (2026) who assert that the marine lexicon is a manifestation of the local knowledge of coastal communities, formed through continuous interaction with the marine environment. The richness of this lexicon serves as evidence that the more intense the community's interaction with the coastal environment, the more developed the ecological knowledge system becomes a system reflected in the language they use.

CONCLUSION

Based on the research findings, the marine lexicon of the Madura coastal community reveals a close relationship between language, the environment, and the social life of coastal communities. The 102 lexical items identified not only function as a naming system but also represent ecological knowledge formed through direct experience in interacting with the marine environment. These findings demonstrate that language serves as a cognitive medium that records how communities understand, manage, and interpret coastal ecosystems in their daily lives.

In terms of interrelationships, the maritime lexicon is formed through the observation of physical characteristics and environmental phenomena, such as shape, size, color, tools, techniques, and natural conditions. This indicates that the naming system is rooted in the community's empirical experiences in maritime activities. In terms of the environment parameter, the lexicon reflects the integration of the natural and social environments, where biotic and abiotic elements, economic activities, and cultural practices are interconnected in the lives of coastal communities. Meanwhile, in terms of the diversity parameter, the lexicon is dominated by biotic categories, indicating the community's high dependence on marine resources, accompanied by abiotic categories that play a role in determining the patterns of activity and life strategies of fishermen.

Overall, this study confirms that marine lexicon not only reflects the language system but also serves as a representation of ecological knowledge, cultural identity, and the ways in which communities adapt to the coastal environment. Thus, language plays a vital role as a means of transmitting local knowledge that captures the harmonious relationship between humans and the marine environment in the context of Madurese society.

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