

Journal of Research and Innovation in Language

ISSN (Online): 2685-3906, ISSN (Print): 2685-0818 DOI: https://doi.org/10.31849/reila.v5i3.13552 Vol. 5, No. 3, December, 2023, pp. 216-233



EcoLinguistic Insights in Nias Village Name: Unravelling the Dynamic Bond Between Language and Environment

Wisman Hadi 1* & Mulyono Mulyono 2

¹ Universitas Negeri Medan, Medan, Indonesia
² Universitas Negeri Surabaya, Surabaya, Indonesia drwismanhadi@unimed.ac.id

ARTICLE HISTORY

Received : 2023-03-17 Revised : 2023-09-18 Accepted : 2023-09-20

KEYWORDS

EcoLinguistic
Ecological elements
Language and environment
Language and ethnicity
Semantic
Village names

ABSTRACT

Ecological structures hold profound significance in the identification and naming of localities within Nias villages. This significance underscores the dynamic bond between language and the environment, forming a foundational aspect of the local ethnicity. This study endeavors to delve into the ecological significance that underpins the naming of Nias villages, elucidating the intricate connection between language and the environment upon which village names are founded. In pursuit of this objective, the research engages with a purposive sample of 20 informants, representing 151 localities within Nias. Through indepth interviews, valuable insights are gathered and transcribed to constitute the research data. Employing a descriptive qualitative design, the study leverages a semantic representation protocol to categorize data according to the ecological units embedded in the village names. The investigation's findings reveal that the Nias villages predominantly employ the Nias language lexicon. Notably, 55 villages incorporate the lexicon "hili" denoting 'hill or mountain,' such as "Hilimbana" ('hill-kapuk tree') and "Hiliweto Gela" ('hill-bees'). Additionally, the names incorporate ecological elements such as vegetation, rivers, animals, equipment, events, supernatural objects, and numbers. These names reflect the deep integration of ecological elements into the local community's cultural identity and highlight the rich ecological diversity of the region. The study emphasizes the importance of understanding the cultural and ecological connections in village names for the preservation of Nias Regency's heritage and the promotion of ecological awareness. Further research avenues include exploring the socio-cultural significance of village names and investigating the impact of language on environmental conservation efforts. Understanding the intricate relationship between language, culture, and the environment is crucial for sustainable development and the preservation of cultural and ecological heritage in Nias Regency.

1. Introduction

Language serves as a potent medium for human expression, enabling the articulation of thoughts, emotions, and ideas (Khurana et al., 2023; Yang et al., 2020; Latif et al., 2019; Gevers, 2018). It possesses the remarkable capacity to encapsulate the essence of the past, present, and future, making it a fundamental facet of human existence. Indeed, language stands as a testament to the intricacies and significance of human cognition, continuously evolving and adapting to our ever-changing world (Kim, 2020). This creative potential inherent in human language extends to the act of naming locations, commonly referred to as toponyms (Alderman & Reuben, 2020).

However, toponyms are far more than mere labels; they function as repositories of cultural identity, historical narratives, and the distinctive character of a place (Nurhayati, 2018). The process of naming places, especially localities, is an art intricately interwoven with the cultural and ecological backdrop of the speakers (Tan, 2021). Thus, to gain a comprehensive understanding of toponymy, a meticulous exploration of the ecological and ideological factors predominantly influencing their naming becomes imperative. The multicultural, multilingual landscape of North Sumatra, characterized by its diverse ideological, ecological, and cultural values, underscores the pressing need for indepth toponymy studies (Baruadi et al., 2023; Ambarita, 2019). in the context of Nias culture, the

significance of ecological structures is undeniably profound, influencing the very locations where Nias communities thrive. Ecology, therefore, lies at the very core of this ethnicity's identity and existence (Ambarita, 2019).

Currently, there has been extensive research on toponymic metamorphoses in socialist and postsocialist states, much of this research focuses on urban toponyms (Basik & Rahautsou, 2019), however, there is a need for more studies that analyze the names of towns and physiographical objects to gain a comprehensive understanding of the toponymic landscape. Additionally, the existing scholarship has primarily focused on the symbolic spatial strategies of nation-building adopted by governing authorities and not many studies in the past decades eager to explore the perspectives and experiences of marginalized groups in the toponymic process (Basik & Rahautsou, 2019), this would provide a more nuanced understanding of how power dynamics and identity are reflected in place names.

Furthermore, the current literature on critical place-name studies has primarily examined three approaches: political semiotics, governmentality studies, and normative theories of social justice and symbolic resistance (Rose-Redwood et al., 2009). While these approaches have been valuable in analyzing spatial inscription as a toponymic practice, there is a need to expand the conceptual horizon of critical place-name studies. Further, not many studies in the recent years deeply exploring the political economy of toponymic practices to understand the economic factors that influence place naming. Therefore, there is a lack of research on toponymic practices in specific regions in Asian territories (Boribayeva et al., 2018). Investigating peculiarities of toponymic reflexes in different cultural and linguistic contexts would contribute to a more comprehensive understanding of the relationship between place names and identity. In conclusion, while there has been significant progress in the study of toponyms and their political and symbolic dimensions, there are still several gaps that need to be addressed (Njoh, 2016; Rose-Redwood et al., 2009), including a need for more studies that analyze the names of villages and physiographical objects to gain a comprehensive understanding of the toponymic landscape (Thompson et al., 2020) such as in Nias Indonesia.

Furthermore, the global implications of this research extend beyond the boundaries of Nias villages. The study's methodology, which combines in-depth interviews and a semantic representation protocol, offers a valuable model for investigating the ecological and cultural dimensions of toponymy in diverse linguistic contexts. By delving into the intricate relationship between language, ecology, and cultural identity, this research paves the way for a more comprehensive understanding of toponymic practices.

The preservation of linguistic diversity and indigenous knowledge is crucial in the face of environmental challenges (Thompson et al., 2020). Additionally, the coexistence of amenity and biodiversity in urban landscapes can contribute to the creation of sustainable and aesthetically pleasing environments (Ives & Kelly, 2015). Additionally, the emphasis on the ecological significance of village names highlights the global relevance of preserving linguistic diversity and indigenous knowledge, particularly in the face of environmental challenges. This research underscores the importance of linguistic and ecological conservation as intertwined aspects of cultural heritage preservation, with implications far beyond Nias villages.

In summary, this study's meticulous examination of the dynamic bond between language and the environment in Nias villages has filled critical gaps in our knowledge of toponymy, ecological linguistics, and cultural identity. It offers a novel perspective on the naming of localities that can be applied to other regions and cultures, emphasizing the need for continued research in this field. Moreover, it underscores the urgent global imperative to preserve linguistic diversity and indigenous knowledge, acknowledging their crucial role in understanding and addressing environmental issues. This research is a valuable contribution to the ongoing dialogue on the relationship between language, culture, and the environment, with implications that resonate on a global scale.

2. Method

This present descriptive qualitative study aimed at unraveling the dynamic bond between language and the environment in Nias villages. The data collection process for this study involved engaging with a purposive sample of twenty informants who played a crucial role in the Nias community and possessed a deep understanding of the Nias language, as well as the social, cultural, and historical factors that influence the naming of villages in Nias regency. These 20 community leaders and elders as well as one local government employees were carefully selected due to their expertise and ability to provide valuable insights into the research topic.

2.1 Data Collection

The primary method of data collection employed in this study was open interviews. During these interviews, the informants were asked a series of questions that revolved around the words and meanings constituting Nias village names. Specifically, the inquiries aimed to uncover the linguistic and ecological dimensions inherent in the nomenclature. The informants were encouraged to share their knowledge and perspectives on how the words within village names were connected to the local ecology. To ensure the rigor and reliability of the collected data, a rigorous

process of data triangulation was adopted. This involved comparing and cross-referencing the explanations and insights provided by different informants which is from one local government employee. By conducting this verification process, we ensured that the data accurately represented the ecological elements embedded in the village names.

2.3 Data Analysis

The data analysis phase of this research employed a descriptive qualitative design. This approach was chosen to facilitate a comprehensive exploration of the intricate connection between language and the environment as manifested in Nias village names. The analysis focused on categorizing the collected data according to the ecological units present in the village names. To accomplish this, a semantic representation protocol was utilized as a systematic framework for organizing the data. The protocol allowed for the categorization of village names based on their references, providing a structured ecological framework for understanding the patterns and associations between language and ecology within the toponyms.

In addition to the semantic representation protocol, a comparative analysis was conducted to identify recurring themes and patterns in the data. This process involved examining how certain ecological terms and elements were consistently present in village names, thus shedding light on the predominant linguistic and ecological factors at play in the toponymy of Nias villages.

Throughout the data analysis phase, a rigorous validation process was implemented. Informants who contributed to the data were actively involved in the interpretation stage to ensure the accuracy and authenticity of the findings. This iterative approach enhanced the trustworthiness of the research results.

In summary, the data collection process for this study involved open interviews with knowledgeable informants, while the data analysis encompassed the use of a descriptive qualitative design, semantic representation protocol, and rigorous validation to elucidate the intricate connection between language and the environment in Nias village names.

3. Result

In this section, we present the findings of our study on the ecological significance underlying the naming of Nias villages. Through the analysis the present study categorized the data based on ecological units embedded in village names. The study sees there is no separation between naming and ecological elements. As a verbal expression used to state, express, strengthen, describe, and so on, language plays a crucial role in the naming of this entity. In the Nias regency, the naming of localities is closely tied to the environment, which is a site of intense human-environment interaction.

The ecological elements we found include hills or mountains, vegetation, rivers, animals, equipment, events, supernatural objects, and numbers. findings highlight the rich ecological and cultural significance embedded in the naming of Nias villages in this part where the analysis from the data reveals that There is no separation between naming and ecological elements. As a verbal expression used to state, express, strengthen, describe, and so on, language plays a crucial role in the naming of this entity. In the Nias regency, the naming of localities is closely tied to the environment, which is a site of intense humanenvironment interaction, such as: hills or mountains, rivers, vegetation, animals, equipment, events, supernatural objects, and numbers. These unique findings showed in the Table 3.1.

Table 3.1 Ecological elements making up the naming

No.	Ecological Element	Total
1	Hill or mountain	55
2	Vegetation	41
3	River	21
4	Equipment	11
5	Animal	7
6	Number	7
7	Supernatural thing	6
8	Event	3

The ecological elements that contribute to naming in including the name of hills or mountain as being describes in the table Table 3.1, encapsulates the quantitative aspect of our findings, shedding light on that there are 8 ecological elements that make up village names in Nias regency. Our research endeavors have unearthed a diverse array of ecological elements that intricately interlace with the fabric of Nias village names. These encompass the topographical features of hills or mountains, the verdant tapestry of vegetation, the meandering courses of rivers, the vibrant presence of animals, the utility and significance of equipment, the commemoration of noteworthy events, embodiment of supernatural concepts, and the numerical significance inherent in these designations. Each of these ecological elements contributes to the multifaceted tapestry that envelops the naming of Nias villages. It provides a snapshot of the prevalence of these ecological elements in village names, underscoring their importance in local nomenclature. It is evident from the data that hills or mountains dominate the landscape of village naming, the diversity and frequency of these elements vividly illustrate the profound ecological connection that permeates the very fabric of Nias villages' identities. What truly emerges from this analysis is the inseparable bond between language, culture, and the environment in the Nias regency. The ecological elements we've uncovered not only reveal the richness of local traditions but also highlight the deep-rooted relationship between the Nias people and their natural surroundings. It becomes abundantly clear that these village names are not mere labels; they are windows into a complex web of ecological awareness, cultural identity, and linguistic expression. Our findings shed light on the profound cultural and ecological significance that is embedded within this practice, showcasing the intricate relationship between language and the environment. In the subsequent sub-sections, we will provide a detailed exposition of these findings, allowing for a more nuanced understanding of the intricate ecological tapestry woven into the names of Nias villages.

3.1 Ecological Significance of 'Hili' - Referring to 'Hill' or 'Mountain-based" Names in Nias Regency

The analysis of our data unearths a significant interconnection between linguistic expressions and ecological elements in the context of the Nias Regency. In this locale, the process of naming holds an intrinsic relationship with the environment, exemplifying a profound interplay between human activity and the surrounding ecological terrain. This section focuses on ecological elements contributing to nomenclature, with particular emphasis on the term 'hili,' signifying 'hill' or 'mountain,' as detailed in Table 3.2. pursuit of understanding the intricate relationship between language and its environment, this descriptive qualitative study embarks on a comprehensive analysis of the linguistic phenomenon known as 'hili' in the Nias Regency. The ecological element 'hili,' which signifies 'hill' or 'mountain,' emerges as the paramount and pivotal component in the nomenclature of locales within the Nias Regency. This component is prominently featured in the names of 55 distinct villages across the region.

Intriguingly, the data extracted from our study unveils a noteworthy observation: the inseparable amalgamation of linguistic expression and ecological elements in place naming. The very act of naming, it appears, is intricately linked to the environment that encompasses these locales. Consequently, 'hili,' as a linguistic token, assumes a critical role in the nomenclature of these places. To elucidate this phenomenon, our investigation uncovered that 'hili' is the dominant and principal element employed in the naming of places throughout the Nias Regency. Notably, 'hili' assumes various positions within these names, appearing both at the outset, in the middle, and at the conclusion of the village designations. Remarkably, this linguistic component finds its place not only at the outset but also nestled within, and occasionally concluding the names of the villages, as demonstrated in Table 3.2.

Table 3.2: Illustrative	Instances of 'Hili	'Incorporation in	Village Names
--------------------------------	--------------------	-------------------	---------------

Hili at Name Beginning	Hili in Name Middle	Hili at Name End
Hilialawa	Laowo Hili mbaruzo	Mohili
Hilihambawa Botomuzoi	Mohili Berua Botomuzoi	Ombolata Sisara hili
Hilihoru	Sihare'o III Hili badalu	Ora hili
Hiliwarokha	Saiwa hili Hili <i>adulo</i>	Sisobahili
Hiliweto Gela	Ora hili Idanoi	
Hiliganoita	Ora hili Zuzundrao	
Hiliadulo	Sisoba hili Dola	
Hilimoasio	Sisara hili Ma'u	
Hiliotalua	Sisara hili Sogaeadu	
Hiliono Zega	Sisarahili Soromaasi	

The Table 3.2 meticulously delineates the positioning and combination of the term 'hili' within village names. This strategic placement serves to convey a spectrum of nuanced meanings, which can be categorized as follows:

- (a) Certain properties: 'Hilialawa' conveys the notion of a 'large hill.'
- (b) River names: 'Hilihambawa Botomuzoi' signifies a connection to a specific river.
- (c) Plant names: 'Hilihoru' and 'Sihare'o III Hilibadalu' hint at the flora indigenous to the
- (d) Equipment: 'Hiliwarokha' translates to 'stone breaker,' and 'Saiwahili Hiliadulo' alludes to 'net.'
- (e) Animal: 'Hiliweto Gela' intriguingly denotes 'bee.'
- (f) Sacred people: 'Hiliganoita' highlights the presence of 'holy figures.'
- (g) Likeness: 'Hiliadulo' intriguingly conveys 'resembling an egg.'
- (h) Contains: 'Hilimoasio' translates to 'salt,' and 'Hilimborodano' references 'land.'
- (i) Existence: 'Hiliotalua' implies a 'border' or 'middleman,' while 'Sisobahili Dola' suggests 'something which exists.'
- (j) Work: 'Orahili Idanoi' signifies 'irrigation,' and 'Orahili Zuzundrao' signifies 'meet me.'
- (k) Numbers: 'Sisarahili Sogaeadu' translates to 'one,' and 'Sisarahili Soromaasi' introduces number markers into place naming.

The aforementioned examples illustrate the versatility of 'hili,' which readily combines with diverse ecological elements. These elements encompass attributes associated with geographical features, including characteristics, river names, flora, tools, fauna, legendary individuals, resemblances, contents, activities, and numerical attributes, each contributing distinct layers of significance to the toponymy of the Collectively, these examples Regency. underscore the multifaceted nature of the term 'hili' within the context of place naming. It serves as a bridge connecting the linguistic physical characteristics of the environment, cultural attributes, and the diverse range of human activities carried out within these locales.

In essence, these findings illuminate the symbiotic relationship between language and the environment, emphasizing that language not only conveys information but also encapsulates the very essence of the surroundings in Nias Regency. This implies a deeper understanding of the rich interplay between language, culture, and geography, shedding light on the intricate tapestry of human-environment interaction in this unique linguistic landscape

3.2. Ecological Significance of Plant-Based Village Names in Nias Regency

This descriptive qualitative study into the ecological elements embedded within the names of villages in Nias Regency, which encompass a diverse range of plant species and combinations with geographical and abstract elements. The Table 3.3 presented the data, that elucidate the ecological relevance and cultural implications of these names.

Table 3.3: Names of villages affiliated with plants

Plant Names	The Name of the Plant Combined with The Place	The Name of a Plant That Combines with Other Forms
botohaenga, sohoya, akhelauwe,	hili höru, hiliweto gido, hiligafoa,	hili höru, hiliweto gido, hiligafoa,
somi, baruzo, tulumbaho salo'o,	sisarahili bawolato, hilina'a tafuo,	sisarahili bawolato, hilina'a tafuo,
biouti, baruzö, we'a-we'a, holi,	hiligodu somolo-molo, dahadano	hiligodu somolo-molo, dahadano
lewa-lewa, lewuoguru, tuhegafoa,	botombawo, hilihao cugala, huno	botombawo, hilihao cugala, huno
tuhembuasi, tuhemberua, somolo-	somolo-molo, sisobawino, somi	somolo-molo, sisobawino, somi
molo, sihare'o, sisobawino,	botogo'o, hilimbana, lewuombanua,	botogo'o, hilimbana, lewuombanua,
sogaeadu	Tetegeo Na'ai, Tetehosi, Hilimbowo	Tetegeo Na'ai, Tetehosi, Hilimbowo
	Botomuzoi, Ehosakhozi, Laowo	Botomuzoi, Ehosakhozi, Laowo
	Hilimbaruzo	Hilimbaruzo

Table 3.3 presents an exhaustive compilation of village names affiliated with plants in Nias Regency. The data therein can be distilled into three distinct categories: names of plants used independently, names of plants combined with geographical locations, and names of plants combined with abstract forms other than places. This categorization allows us to discern patterns and variations in the utilization of plant-based nomenclature within the region.

- 1) Variety of Plant Groups: The analysis reveals that there are twelve plant groups employed in naming villages in Nias Regency. These encompass a wide spectrum of ecological elements, including trees, plants, bamboo, palm, areca nut, bananas, noni, grass, moss, flowers, weeds, and seeds. This diversity underscores the intricate relationship between the local ecosystem and the cultural identity of these villages.
- 2) Purely Plant Names: Notably, there are seventeen village names that are purely derived from the names of plants. These names span a range of plant categories, including trees, plants, bamboo, areca nut, banana, noni, grass, and moss. This indicates a deep-rooted connection between the villages and the specific plant species from which they derive their names, suggesting an ecological reverence for these plants.
- 3) Combination with Geographical Locations: In contrast, nineteen village names incorporate both plant names and geographical locations such as hills, public places, and beaches. This blending of ecological elements with geographical features highlights the inhabitants' appreciation of the natural surroundings and their desire to incorporate them into the fabric of their cultural identity.
- 4) Combination with Abstract Forms: Lastly, there are four village names that combine plant names with abstract forms other than places. These abstract forms include directions (e.g., east), containers, and places of offerings, among others. This fusion of plant-based nomenclature with abstract concepts suggests a deeper symbolic connection between the villagers and the plant species, possibly rooted in traditional beliefs or practices.

These plant-based names reflect a profound connection between the local culture and the natural environment. The data is multifaceted as being presented in these three contexts:

- Cultural Preservation: These plant-based village names serve as a testament to the enduring relationship between the Nias community and their natural surroundings. They are a means of preserving and celebrating local ecological knowledge and traditions.
- *Ecological Awareness:* The diversity of plant species integrated into village names highlights the ecological richness of the region. This ecological awareness can contribute to conservation efforts and sustainable practices within Nias Regency.
- *Tourism and Identity:* The unique and meaningful village names can be leveraged to promote tourism, fostering a sense of identity and pride among the inhabitants. This, in turn, can have economic and social benefits for the community.

These analysis and interpretation of the data underscore the importance of understanding the ecological elements of plant-based village names in Nias Regency. These names not only reflect the rich biodiversity of the region but also hold cultural, ecological, and economic significance. The diversity of plant species integrated into the names of villages serves as a testament to the rich ecological knowledge and cultural heritage of the region. This study invites further exploration into the ecological and cultural significance of language, emphasizing the importance of preserving and understanding the intricate relationships between humans and their environment.

3.3 Ecological Significance of River-Based Village Names in Nias Regency

In this section, we present the results of our descriptive qualitative study, focusing on the analysis and interpretation of the data related to river ecological elements in village names. The data presented in Table 4 below elucidate the significance of rivers and their attributes in the naming of villages within the study area. Our study revealed that a total of 21 villages incorporate river-related elements into their names. T

These elements serve as vital components of the village identities. Our study identified 21 villages that incorporate river names or river-related elements into their village names. Among these villages, we observed a variety of naming patterns, revealing a deep connection between the local environment and the nomenclature of these communities. The specifics of these village names are summarized in Table 3.4 below:

Table 3.4: Village Names Related to Rivers

River Element	Village Names	Meaning/Interpretation
River Name	Hou Village, Ladea Village, Soewe Village	Direct reference to the river names in village nomenclature.
Central River	Balohili Botomuzoi, Banua Sibohou Botomuzoi, Fulolo Botomuzoi, Hiligodu Botomuzoi, Hilihambawa Botomuzoi, Hilimbowo Botomuzoi, Lasara Botomuzoi, Simanaere Botomuzoi, Sifaoroasi Ulugawo, Sisobahili Ulugawo	Emphasizing the Botomuzoi and Ulugawo rivers as central geographical features.
River Contents	Tulumbaho Village, La'uri, Lauri, Loloana'a Gido	Describing specific characteristics or elements associated with rivers, such as waterfalls, black soil, and gold content.
River Conditions/Events	Balale Toba'a Village, Lasara Idanoi	Reflecting conditions and events related to rivers, such as blocked flow and confluence before reaching the sea.
River Activities	Sisobahili Village	Highlighting the importance of rivers as a central part of community life, traversing multiple villages.
Things in the River	Ononamolo Talafu Village, Sifaoroasi Uluhou Village	Referencing specific objects or phenomena within the river, such as individuals and visible sea states.

Our analysis reveals several key insights:

- (a) Direct River Name References: Hou, Ladea, and Soewe Villages directly adopt the names of rivers, underscoring the significance of these specific water bodies in the local cultural and geographical landscape.
- (b) Central River Emphasis: Numerous villages incorporate "Botomuzoi" and "Ulugawo" into their names, emphasizing the importance of these central rivers as defining geographical features within the region.
- (c) River Characteristics: Some village names, such as Tulumbaho, La'uri, Lauri, and Loloana'a Gido, describe specific attributes or features associated with rivers, providing insights into the ecological and geological diversity of the area.
- (d) River Conditions and Events: Villages like Balale Toba'a and Lasara Idanoi reference river conditions and events, shedding light on the historical and environmental dynamics of these rivers.
- (e) River-Centric Community: Sisobahili Village reflects the deep integration of rivers into the local community, signifying their essential role in daily life and settlement patterns.
- (f) Objects and Phenomena in Rivers: Ononamolo Talafu and Sifaoroasi Uluhou Village incorporate references to objects or phenomena found within the rivers, suggesting the influence of these elements on local identity and perception.

Furthermore, it is notable that the Botomuzoi river emerges as the most dominant river associated with village names, followed by the Sifaoroasi Ulugawo river and Sisobahili Ulugawo river, which underscores their paramount importance in the local lexicon.

In conclusion, the village names related to river ecological elements uncovered in this study provide valuable insights into the intricate relationship between the local culture and the environment. These names not only serve as markers of geographical locations but also reflect the ecological, historical, and cultural significance of rivers in the lives of the communities residing in this region. This interpretation enriches our understanding of how language and landscape intersect in the construction of village identities and contributes to the broader discourse on place-based naming practices.

3.4 Ecological Significance of Animal-Based Village Names in Nias Regency

This section offers a comprehensive overview of village names that are intrinsically linked to various animals within the region. This qualitative study The findings identified a total of seven village names, each intricately connected to distinct animal species. The significance of these animal names transcends mere labels; they serve as linguistic markers deeply rooted in the local ecosystem and culture.

The data presented in Table 3.4 illuminates the prevalence of animal-inspired village names within Nias regency, thereby establishing a captivating connection between the human settlement and the surrounding natural world.

Table 3.5: Village Names Related to Animal Names

Village Name	Meaning/Interpretation
Gajamanu	'very large cock, beyond normal size'
Gazamanu	'very large cock, beyond normal size'
Lolozasai	'Zasai's bird in the thick forest'
Hiligogowaya maliwa'a	'the great long-beaked birds of the hills'
Laira	'certain fish that has large size'
Sandruta	'venomous dragon'
Tetehosi	'green fly (teteho)', tete 'surface, top and hosi 'center/main'
Hiliweto Gela	'a type of bee (weto); type of bee (gela)'

Table 3.5 provides a glimpse into the rich tapestry of animal-inspired nomenclature prevalent in the region. These names resonate with the vibrant natural environment and signify a profound connection between the villagers and their ecological surroundings.

- Gajamanu: This village's name pays homage to a 'very large cock, beyond normal size.' It epitomizes the reverence for nature's grandeur, emphasizing the prominence of this particular bird species within the ecological tapestry of the region.
- 2) **Gazamanu:** Similar to Gajamanu, Gazamanu further accentuates the colossal nature of this unique avian presence.
- Lolozasai: The village name Lolozasai draws its inspiration from 'Zasai's bird in the thick forest,' emphasizing the rich biodiversity of Nias regency's dense woodlands.
- 4) Hiligogowaya Maliwa'a: This village name is a poetic tribute to 'the great long-beaked birds of the hills,' signifying a profound connection between the local topography and the avian life it supports.
- 5) Laira: The village name Laira is rooted in 'certain fish that has a large size,' underscoring the ecological importance of piscine species in the region's aquatic ecosystems.
- 6) **Sandruta:** In contrast, Sandruta takes on a more mythical tone, with its name referencing a 'venomous dragon.' This exemplifies the fusion of local folklore with the natural world, showcasing the cultural significance of such creatures.
- 7) Tetehosi: The village Tetehosi finds its name from 'green fly (teteho)', where 'tete' conveys 'surface, top' and 'hosi' denotes 'center/main.' This intricate naming suggests a keen observation of insect life and the nuanced categorization of these tiny creatures.

8) **Hiliweto Gela:** Lastly, Hiliweto Gela embraces the essence of 'a type of bee (weto)' and 'a type of bee (gela).' This dual reference accentuates the importance of pollinators in the region's ecosystem.

The significance of these animal-related village names extends beyond mere lexical choices. Upon careful analysis, it becomes evident that the animals chosen hold distinct features that make them emblematic of their respective locales. Notably, the animals include (1) chickens, (2) birds, (3) bees, (4) flies, (5) dragons, and (6) fish, each representing unique ecological and cultural aspects.

One key interpretation of this data lies in the symbolic importance attached to the size of these animals. Particularly, the emphasis on 'very large cock' and 'certain fish that has large size' in the village names highlights the cultural reverence for and dependence on large and robust fauna within the region. This reverence may be indicative of the ecological significance of such species, potentially serving as sources of sustenance or as symbols of prosperity.

In essence, the presence of these animal names in village nomenclature serves as a testament to the intricate interplay between the local culture and the surrounding environment. Moreover, the use of animal names in village nomenclature within Nias regency goes beyond mere labels; it reflects a holistic understanding of the environment and its intricate relationship with the local culture. These names serve as a linguistic bridge between the community and their surroundings, emphasizing the ecological significance of each chosen animal.

3.5. Ecological elements of equipment-Based Village Names in Nias Regency

The data presented here offer a comprehensive analysis and original interpretation of the ecological elements associated i.e., equipment with village names in Nias Regency, shedding light on the rich tapestry of meanings encapsulated within these nomenclatures. Further. Table 3.6, presents a compendium of village names in Nias Regency that draw their inspiration from a fascinating array of equipment and implements.

These names provide a window into the cultural and ecological significance of these tools within the local community.

Table 3.6: Village Names in Nias Derived from Equipment Names

Village Name	Equipment Association
Warokha/	'hammer, stone crusher'
Hiliwarokha	
Tagaule	'place to hang on'
Loloana'a Gido	'gold'
Hilizia Lauru	'stones in the form of liters, one laura is
	equivalent to five liters of rice'
Biouti	'a place to store food (uti)'
Bobozioli Loloanaa	'various equipment: zioli 'machete', tölö
	'dregs', ana'a 'gold'
Bozihona	'areas close to the sea and the people have
	special equipment', bozi 'punching equipment'
Hiliono Zega	'small fish trap (onozega)'
Mondrali	'sharpening stone or grinding stone'
Saiwahili Hiliadulo	'nets used on hills, egg-shaped'
Saitagaramba	'concern with traditional musical instruments
	(garamba)'

The data in Table 3.6 unveils a profound connection between village nomenclature and the ecological elements embedded within the local culture of Nias Regency. Notably, it highlights that 11 distinct types of equipment have influenced the naming of villages in this region. These equipment categories are as follows:

- 1) **Small Fishing Traps:** Village names like "Hiliono Zega" draw inspiration from small fish traps, emphasizing the significance of fishing and animal husbandry in the community.
- 2) **Jewelry:** The term 'Loloana'a Gido,' which translates to 'gold,' reflects the cultural importance of jewelry-making and precious metals.
- 3) **Carpentry:** Village names such as "Hilizia Lauru" associate with stones used for measurement, suggesting the relevance of carpentry and construction practices.
- 4) **A Place to Store Food:** The name "Biouti" directly links to a place for food storage (uti), indicating the importance of food preservation.

- 5) **Size:** Certain village names like "Saiwahili Hiliadulo" are evocative of the size or shape of equipment, particularly nets used in hilly terrains.
- 6) **Music:** Lastly, the village name "Saitagaramba" underscores the community's appreciation for traditional musical instruments (garamba).

This original interpretation underscores the intricate interplay between local culture, ecological elements, and the nomenclature of villages in Nias Regency. It accentuates the cultural significance of equipment and implements in shaping the identity and nomenclature of these communities, thereby providing valuable insights into the 'so what' of this descriptive qualitative study. Nevertheless, these findings not only elucidate the tangible presence of equipment-related elements in the village names but also underscore the cultural, historical, and ecological dimensions intertwined with the utilization of equipment in Nias regency. This intricate interplay between linguistic symbolism and the utilitarian world of equipment showcases the rich tapestry of traditions and practices that shape the region's identity.

3.6. Ecological elements of events-Based Village Names in Nias Regency

This section aims to provides a succinct compilation of village names in Nias Regency that are directly related to noteworthy events, specifically events characterized by distinctive sounds. It is important to note that these names, although rich in meaning, are relatively limited in number, which

underscores their uniqueness and cultural significance. Our research has unveiled a captivating phenomenon in Nias Regency, where village names are intimately entwined with specific events or, more precisely, the sounds associated with these events. The distinctiveness of this linguistic phenomenon becomes evident when we consider the limited number of such names, as illustrated in Table 3.7.

Table 3.7: Names of Villages in Nias Regency Related to E
--

Village Name	Meaning
Sindrondro	'terrific beat, rumble'
Hiligodu Botomuzoi	'rowdy, noisy (godu)'
Sirete	'noisy, sounds'

The act of naming a village in connection to a specific event, particularly one characterized by a strong beat accompanied by a roar, embodies a profound mystical significance. This naming practice transcends mere nomenclature; it serves as a cultural repository of historical events, preserving the memory of these events for generations to come. The Table 3.7 showcases a selection of village names in Nias Regency that are inextricably linked to specific events or auditory experiences. The meticulous analysis of these toponyms reveals a captivating pattern: the naming of villages is often informed by the occurrence of events characterized by a profound auditory impact, such as 'terrific beats' and 'rumbles'.

Furthermore, the presence of village names associated with sounds underscores the sensory richness of Nias Regency's cultural tapestry. These names not only resonate with the auditory experiences of the past but also emphasize the importance of soundscapes in the region's cultural narrative.

One of the most intriguing aspects of this naming practice is the underlying mystical connotation. The choice to name a village after an event involving a 'strong beat accompanied by a roar' suggests a deeprooted connection between the community's linguistic traditions and their spiritual or cultural beliefs. This mystical aspect adds a layer of complexity to the toponyms, inviting further exploration into the cultural and historical narratives that underpin them. It compels us to recognize the profound cultural, historical, and

ecological significance embedded in these seemingly simple names, inviting further exploration into the intricate relationship between language, culture, and the environment in Nias Regency.

In addition to events characterized by formidable sounds, we also encountered village names that are directly related to sounds themselves. 'Noisy' and 'sounds' are terms that, while seemingly straightforward, offer a glimpse into the intricate relationship between language and the sensory experiences of the Nias Regency community. These names, though less overtly mystical, serve as a testament to the rich tapestry of sensory perception that informs the toponymic landscape of the region.

3.7. Ecological elements of supernatural or magical-Based Village Names in Nias Regency

This section delve into the intriguing realm of ecological elements intertwined with supernatural and magical entities within the Nias Regency. The village names in this region. Through the analysis, we have deciphered the hidden meanings and origins of these village names, shedding light on the significance of these names in the socio-cultural and ecological landscape of Nias Regency.

The following Table 3.8 outlines the village names along with their respective interpretations, revealing the profound connections between the supernatural and ecological elements within the Nias Regency:

Table 3.8: Village Names Derived from Magical-Smelling Objects

Village Name	Interpretation
Hiliganoita	'a holy person (Ganoita) residing somewhere', 'fertile ground'
Huo	'name of ancestor (Hia-Ho)'
Lahemo	'magic grand father'
Awela	'haunted and scary place (awela)', 'supernatural creature (bela)'
Sihare'o Sogaeadu	'offering place (sogae)'
Gajamanu	
Gazamanu	'magic makes a chicken statue of supernatural power symbol'

Table 3.8 presents a comprehensive list of village names, shedding light on their origins and the profound symbolism that underlies them. Through rigorous analysis, we have identified and encapsulate the essence of these names: the supernatural power of figures and the significance of places. Each village name holds a story within its syllables, and by dissecting these linguistic components, we can unravel the deep-seated supernatural or magical elements associated with them.

- Hiliganoita: The name "Hiliganoita" can be deconstructed into "a holy person (Ganoita) residing somewhere" and "fertile ground." This suggests a reverence for sacred individuals and a recognition of the spiritual significance of the land, underscoring the interplay between the mystical and the terrestrial.
- 2) **Huo**: Derived from "name of ancestor (Hia-Ho)," the village name "Huo" pays homage to ancestral lineage, invoking the presence of revered forebears. This connection between ancestry and the supernatural underscores the cultural importance of lineage in Nias Regency.
- 3) **Lahemo**: "Lahemo" translates to "magic grand father," evoking the image of a venerable figure possessing supernatural powers. This name exemplifies the integration of the supernatural into familial heritage.
- 4) **Awela**: "Awela" signifies a "haunted and scary place" and is associated with "supernatural creature (bela)." This name reflects the mystique and eerie qualities of the location, emphasizing the presence of supernatural entities.
- 5) **Sihare'o Sogaeadu**: "Sihare'o Sogaeadu" is linked to an "offering place (sogae)." This name suggests a site of spiritual significance where offerings are made, reinforcing the spiritual and magical connotations of the village.

6) Gajamanu and Gazamanu: These names are connected to "magic" and describe a "chicken statue of supernatural power symbol." The presence of magical symbolism in these names highlights the mystical elements associated with these villages.

The significance of these village names extends beyond mere linguistic labels. They serve as windows into the cultural and spiritual landscape of the Nias Regency. Our interpretation of this data also highlights two key aspects:

- (1) Supernatural Figures: Village names Hiliganoita, Huo, Lahemo, and Gazanamu reference figures deeply embedded in Nias folklore, each endowed with supernatural attributes. For example, Hiliganoita invokes the presence of Ganoita, a revered figure symbolizing spiritual sanctity and fertile land—an essential ecological resource. Huo's name pays tribute to ancestral connections, highlighting intertwining of ecological heritage and cultural identity. Lahemo, linked to a "magic grandfather," hints at the mystical elements shaping the local worldview, while Gazanamu suggests connection to magical practices, enriching the community's tapestry of supernatural beliefs
- (2) Places of Significance: Village names like Awela and Sihare'o Sogaeadu shed light on locations marked by their eerie and supernatural connotations. Awela, denoting a "haunted and scary place," hints at a unique ecological landscape intertwined with ghostly folklore. The name Sihare'o Sogaeadu emphasizes its role as an "offering place," highlighting the ecological rituals and practices integral to the region's culture and environment.

In summary, the analysis of village names in Nias Regency goes beyond linguistic exploration; it unveils the symbiotic relationship between the supernatural, ecological elements, and the cultural heritage of the region. This research not only enriches our understanding of the Nias culture but also underscores the importance of ecological aspects in shaping and preserving local identities.

Furthermore, it prompts us to contemplate the intricate interplay of language, culture, and the environment. Nevertheless, through our data analysis and original interpretation, we have highlighted the ecological elements of supernatural or magical phenomena embedded in these names. Therefore, this exploration offers valuable insights into the cultural, spiritual, and environmental aspects that intertwine in the lives of the local community.

3.8. Ecological elements of numbers

In this section, we delve into the analysis and interpretation of the data obtained from village names in Nias Regency, specifically focusing on the association between these names and ecological elements of numbers. The analysis provides a comprehensive overview of village names in Nias encapsulates a unique narrative that intertwines numerical symbolism with the geographical and cultural context of the region. Table 3.9, presented below, presents village names in Nias Regency alongside their respective ecological elements of numbers:

Table 3.5. Vinage Names Associated with Leological Elements of Nambers		
Village Name	Ecological Elements of Numbers	
Siofaewali Selatan	'fourth (siofa)', page (ewali)	
Siofabanua	'fourth (siofa)', village (banua) into one area	
Siofaewali	'fourth (siofa)', page (ewali)'	
Sitolubanua	'three (sitolu) villages (banua)'	
Lasara Botomuzoi	'the first village (lasara) in the Botomuzoi river area'	
Sisarahili Sogaeadu	'one (sara) hill, the first and only hill in the village'	
Sisaratandrawa	'one (si, sara), goal (tandrawa)', 'trigger (tandrawa)'	

Table 3.9: Village Names Associated with Ecological Elements of Numbers

The revelation of these ecological elements of numbers in village names offers profound insights into the cultural and historical tapestry of Nias Regency. These numerical associations are not mere linguistic coincidences but, rather, reflections of the intricate relationship between the local communities and their environment. The 'so what' question can be addressed in the following ways:

- Cultural Significance: The presence of 'one,'
 'three,' and 'four' in village names underscores the
 cultural significance attached to numerical
 symbolism. It suggests that numbers hold a pivotal
 role in shaping the identities and perceptions of
 these communities within their ecological
 contexts.
- 2) **Spatial Organization:** The numerical associations in village names may imply specific spatial divisions or hierarchies within the region, offering valuable insights into the historical settlement patterns and organization of Nias Regency.
- 3) **Ecological Awareness:** These numerical associations reflect the inhabitants' keen ecological awareness, as numbers are linked to

their environment and the resources it provides. This ecological consciousness could have implications for sustainable practices and resource management.

In essence, the ecological elements of numbers in Nias Regency's village names go beyond linguistic curiosity; they offer a window into the cultural, historical, and ecological intricacies that shape the region. Understanding these associations enriches our comprehension of the intricate relationship between language, culture, and the natural world, thereby contributing to a deeper appreciation of Nias Regency's heritage.

Therefore, analysis in this sub-section unravels the intricate tapestry of numerical elements embedded in village names within Nias Regency, shedding light on the deep-rooted cultural and environmental connections that shape the region's toponymy. The prevalence of 'hili' as a dominant ecological element underscores the profound influence of the local landscape on linguistic constructs, affirming the symbiotic relationship between nature and culture in this distinctive corner of the world.

4. Discussion

The main objective of this study was to explore the ecological significance of village names in Nias Regency. Through qualitative research methods and interviews with knowledgeable informants, the researchers collected data on the linguistic and ecological dimensions inherent in the village names. The analysis of this data revealed a close connection between language, culture, and the environment in the naming of Nias villages.

The findings of the study highlight the rich ecological and cultural significance embedded in the village names of Nias Regency. The village names incorporate various ecological elements such as hills or mountains, vegetation, rivers, animals, equipment, events, supernatural objects, and numbers. These elements reflect the deep connection between the local community and their natural surroundings. By recognizing the intricate interplay between language, culture, and the natural world, we can gain a deeper appreciation for the importance of preserving and protecting our linguistic and cultural heritage (Darheni, 2021). This study highlights the need to value and safeguard indigenous languages and knowledge systems, as they hold valuable insights into sustainable relationships with the environment.

4.1 Ecological Significance of Village Naming

The analysis of village names in Nias Regency revealed a diverse range of ecological elements embedded within them. These elements include hills or mountains, vegetation, rivers, animals, equipment, events, supernatural objects, and numbers. Each of these elements reflects the close connection between language, culture, and the environment in Nias Regency. The presence of ecological elements in village names highlights the deep-rooted relationship between the local community and their natural surroundings. The naming of villages based on hills or mountains signifies the significance of these geographical features in shaping the landscape and providing a sense of place (Vilbrandt et al., 2004).

Similarly, the inclusion of vegetation in village names reflects the rich biodiversity of the region and the importance of plants in the lives of the local community (Kong et al., 2021). Rivers play a crucial role in the ecological and cultural fabric of Nias Regency (Ren et al., 2021). The incorporation of river names in village names signifies the importance of these water bodies in providing resources, transportation, and livelihoods for the community (Ren et al., 2021). Animals, both real and mythical, are also prominently featured in village names, highlighting the cultural and ecological significance of these creatures in the local environment (Boonzaaier & Wels, 2017).

Furthermore, the presence of equipment and events in village names reflects the historical and cultural practices of the community (Tonta, 2009).

These names serve as reminders of traditional activities and occupations that have shaped the local identity and way of life (Tonta, 2009). Supernatural objects and numbers in village names add a mystical and symbolic dimension, reflecting the spiritual beliefs and cultural heritage of the community (Isa et al., 2018).

The ecological aspects embedded in village names play a crucial role in shaping and preserving local identities. They serve as markers of the community's deep connection to the environment and their unique cultural heritage. By naming villages based on ecological elements, the local community reaffirms their relationship with the natural world and reinforces their sense of belonging. Preserving and understanding these ecological aspects in village names is essential for maintaining the cultural and environmental heritage of Nias Regency. It allows for the recognition and appreciation of the intricate interplay between language, culture, and the environment. By highlighting the importance of these ecological elements, this study contributes to the preservation of local identities and the promotion of sustainable practices that respect and protect the natural world. In conclusion, the analysis of village names in Nias Regency reveals a rich tapestry of ecological elements that reflect the close connection between language, culture, and the environment. These elements, such as hills or mountains, vegetation, rivers, animals, equipment, events, supernatural objects, and numbers, serve as important markers of the community's relationship with their natural surroundings and cultural heritage. Understanding and preserving these ecological aspects is crucial for maintaining the unique identity and sustainable practices of Nias Regency.

In conclusion, the analysis of village names in Nias Regency reveals a rich tapestry of ecological elements that reflect the close connection between language, culture, and the environment. These elements, such as hills or mountains, vegetation.

4.2 Language and the Environment

Language plays a crucial role in the naming of Nias villages and serves as a powerful tool for expressing the ecological elements embedded within these names. It serves as a verbal expression that allows the local community to state, express, strengthen, and describe the relationship between language, culture, and the natural world (Kusters, 2012; Perfors & Navarro, 2014; Zhao et al., 2021). Through the use of language, the local community in Nias Regency has developed a rich vocabulary that reflects their deep understanding and connection to the environment. Words and phrases are carefully chosen to capture the essence of the ecological elements present in village names (Suryani, 2022). For example, the use of specific terms to describe hills or mountains reflects the unique characteristics of these geographical features, such as their shape, size, or prominence (Zhao et al., 2021).

Furthermore, language is used to express the significance of vegetation in village names. Words are carefully selected to describe the types of plants, their abundance, or their role in the local ecosystem. This linguistic expression not only reflects the ecological diversity of the region but also highlights the cultural and economic importance of plants in the lives of the local community (Suryani, 2022).

Language also serves as a means to describe the presence of rivers in village names (Perfors & Navarro, 2014). Specific terms are used to convey the size, flow, or importance of these water bodies. Through language, the local community expresses their deep appreciation for the ecological services provided by rivers, such as water supply, transportation, and the support of biodiversity (Putro, 2016; Zhao et al., 2021).

Moreover, language is used to describe the animals present in village names, both real and mythical. Words are carefully chosen to capture the characteristics, behaviors, or cultural significance of these creatures. This linguistic expression reflects the close relationship between the local community and the animal kingdom, highlighting the ecological and cultural importance of these creatures in the natural world (Kusters, 2012).

The intricate interplay between language, culture, and the natural world is evident in the naming of Nias villages. Language serves as a medium through which the local community expresses their ecological knowledge, cultural values, and spiritual beliefs. It is through language that the ecological elements embedded in village names are preserved, transmitted, and celebrated (Putro, 2016; Zhao et al., 2021).

In conclusion, language plays a vital role in the naming of Nias villages and serves as a powerful tool for expressing the ecological elements present in these names. It allows the local community to state, express, strengthen, and describe their deep connection to the environment. The intricate interplay between language, culture, and the natural world is evident in the linguistic expression found in village names.

4.3 Cultural and Spiritual Aspects

The village names in Nias Regency not only reflect the ecological elements of the natural environment but also encompass cultural and spiritual dimensions (George, 1999). These dimensions are evident in the inclusion of supernatural or magical phenomena in the names, adding a mystical and symbolic layer to the local community's connection with their surroundings (George, 1999). The presence of supernatural or magical elements in village names signifies the deeprooted spiritual beliefs and cultural heritage of the local community (Wardana et al., 2022). These elements may include references to mythical creatures, sacred objects, or supernatural events (Wardana et al., 2022). For example, village names like "Bawomataluo" and "Bawomataluo Hilisataro" incorporate the term "Bawoma," which refers to a mythical creature believed to possess supernatural powers (Wardana et al., 2022).

These supernatural or magical elements hold significant meaning in the lives of the local community. They are not merely linguistic expressions but are deeply intertwined with cultural practices, rituals, and beliefs (Gea, 2022). The inclusion of these elements in village names serves as a reminder of the community's spiritual connection to the natural world and their reverence for the unseen forces that shape their environment (Gea, 2022). Furthermore, the presence of supernatural or magical elements in village names contributes to a deeper appreciation of Nias Regency's heritage. It invites further exploration into the cultural and historical narratives that underpin these names, providing insights into the community's worldview, cosmology, and traditional knowledge systems (Ahdar et al., 2021).

The inclusion of these elements also fosters a sense of pride and identity among the local community. It reinforces their unique cultural heritage and serves as a reminder of their distinct place in the world (Sitepu et al., 2021). By preserving and celebrating these cultural and spiritual aspects, the community maintains a strong connection to their roots and ensures the continuity of their traditions for future generations (Sitepu et al., 2021). Understanding and valuing these cultural and spiritual aspects is essential for the preservation and promotion of Nias Regency's rich cultural and environmental heritage.

4.4 Numerical Elements in Village Names:

The analysis and interpretation of the numerical elements present in village names in Nias Regency provide valuable insights into the association between these elements and ecological aspects (Schluter & Conte, 2009). These numerical elements reflect the cultural significance attached to numerical symbolism and highlight the deep connection between language, culture, and the natural environment (Rothier et al., 2017).

The presence of numerical elements in village names suggests a deliberate choice by the local community to incorporate numerical symbolism into their toponymy. These numerical associations go beyond linguistic curiosity and hold cultural significance (Rothier et al., 2017). For example, village names like "Siofa ewali" and "Sitolu banua" include the numerical elements "fourth" and "three," respectively. These numerical associations signify the importance or hierarchy of these villages within the region (Schluter & Conte, 2009).

The numerical elements in village names also have ecological implications. They reflect the inhabitants' keen ecological awareness and their deep connection to the environment. Numbers are linked to the natural world and the resources it provides (Uzelac et al., 2020). For instance, the presence of the number "three"

in village names may signify the presence of three villages in a particular area, highlighting the ecological diversity and resource distribution within the region (Uzelac et al., 2020).

Furthermore, the cultural and environmental connections that shape the region's toponymy are evident in the use of numerical elements in village names. These elements reflect the intricate interplay between language, culture, and the natural world. They provide a unique lens through which the local community expresses their ecological knowledge, cultural values, and spiritual beliefs (Silva & Dias, 2018). Understanding the cultural and environmental connections in the numerical elements enriches our appreciation of the deep-rooted relationship between language, culture, and the natural world in Nias Regency. It highlights the importance of numerical symbolism in shaping the identities and perceptions of the local communities within their ecological contexts. It also emphasizes the inhabitants' ecological awareness and their recognition of the resources provided by the environment (Schluter & Conte, 2009).

In conclusion, the numerical elements present in village names in Nias Regency offer insights into the association between these elements and ecological aspects. They reflect the cultural significance attached to numerical symbolism, provide spatial divisions or hierarchies within the region, and signify the inhabitants' ecological awareness. Understanding the cultural and environmental connections in the numerical elements enriches our appreciation of the deep-rooted relationship between language, culture, and the natural world in Nias Regency.

4.5 Implications and Future Directions

This study's findings hold substantial implications for understanding the intricate relationship between language, culture, and the environment, revealing the cultural and environmental associations shaping toponymy through numerical elements in village names, emphasizing the cultural significance of numerical symbolism and local ecological awareness (Smith & Kirby, 2008). It also significantly contributes to language studies by highlighting language's role in conveying ecological knowledge, cultural values, and identity within ecological contexts, expanding our understanding of the intertwining of language and culture with the natural world through the analysis of numerical components in village names (Reyes-García et al., 2014).

Looking ahead, there are promising avenues for future research. One involves a comprehensive examination of the socio-cultural significance of village names, including their historical and social contexts and associated cultural practices and rituals (Chiblow & Meighan, 2021). This research can deepen our understanding of toponymy's cultural and social dimensions. Another area of interest is the impact of

language on environmental conservation efforts, where language and naming practices influence people's environmental attitudes and behaviors (Metz, 2018), offering potential for improved conservation strategies.

In summary, this study's findings yield valuable insights into the intricate relationship among language, culture, and the environment (Smith & Kirby, 2008). It makes a substantial contribution to language studies and ecological research by elucidating the cultural and environmental dimensions woven into village names (Smith & Kirby, 2008; Reyes-García et al., 2014). Prospects for future research lie in a deeper exploration of the socio-cultural significance of village names and an examination of language's impact on environmental conservation efforts (Chiblow & Meighan, 2021; Metz, 2018). Pursuing these avenues promises to advance our understanding of how language, culture, and the environment interact, ultimately aiding in the preservation of both cultural and ecological heritage (Chiblow & Meighan, 2021; Metz, 2018).

Furthermore, the practical implications of this study are evident, as the knowledge of ecological elements within village names can play a pivotal role in cultural preservation, fostering ecological awareness, and promoting tourism (Smith & Kirby, 2008). Therefore, further investigations in this field can delve more profoundly into the socio-cultural significance of village names while exploring the influence of language on environmental conservation efforts, ultimately enhancing our understanding of the intricate connections that shape our perceptions of place and identity (Smith & Kirby, 2008; Chiblow & Meighan, 2021; Metz, 2018).

4. Conclusion

This study delves into the ecological importance of village names in Nias Regency, demonstrating their profound connection to language, culture, and the environment. Through extensive analysis of data provided by knowledgeable informants, a diverse range of ecological elements, encompassing hills, vegetation, rivers, animals, equipment, events, supernatural entities, and numbers, is identified as integral components in the nomenclature of villages. These elements underscore the deep fusion of natural features and resources within the cultural identity of the local community, highlighting an intricate ecological bond that defines Nias villages' identities. This research makes significant contributions to the fields of toponymy, ecological linguistics, and cultural identity by revealing the dynamic relationship between language and the environment in these villages, advocating for the preservation of linguistic diversity indigenous addressing knowledge in environmental concerns and contributing to the global discourse on the relationship between language, culture, and the environment.

Acknowledgement

We would like to express our gratitude to the Chancellor of Medan State University, representing the Head of LPPM Unimed, for providing research funding. We also extend our thanks to the Regent of Nias Regency.

5. References

- Ahdar, N., Halik, N. M. Y., & Musyarif, N. (2021). Implication of education in acculturating culture of mambabei an a'uhaidao village, aralle district, mama'sa regency, west sulawesi. *JTP Jurnal Teknologi Pendidikan*, 23(3), 169-183. https://doi.org/10.21009/jtp.v23i3.22668
- Alderman, D. H., & Reuben, R. R. (2020). The classroom as "toponymic workspace": towards a critical pedagogy of campus place renaming. *Journal of Geography in Higher Education*, 44(1), 124–141. https://doi.org/10.1080/03098265.2019.1695108
- Ambarita, J. (2019). *Toponimi kedanauan di pulau Samosir* [Doctoral dissertation, Universitas Negeri Medan]. DigiRepo Unimed. http://digilib.unimed.ac.id/36789/
- Basik, S., & Rahautsou, D. (2019). Toponymic politics and the symbolic landscapes of Minsk, Belarus. *Geographia Cassoviensis*, *13*(2), 107-120.
- Baruadi, M. K., Eraku, S. S., Napu, N., & Hendra. (2023). The Toponymy of Village Names in Gorontalo, Indonesia. *Theory and Practice in Language Studies*, 13(4), 1016–1022. https://doi.org/10.17507/tpls.1304.23
- Bennett, A. F., Haslem, A., Cheal, D. C., Clarke, M. F., Jones, R. N., Koehn, J. D., Lake, P. S., Lumsden, L. F., Lunt, I. D., MacKey, B. G., Mac Nally, R., Menkhorst, P. W., New, T. R., Newell, G. R., O'Hara, T., Quinn, G. P., Radford, J. Q., Robinson, D., Watson, J. E. M., & Yen, A. L. (2009). Ecological processes: A key element in strategies for nature conservation. *Ecological Management and Restoration*, 10(3), 192–199. https://doi.org/10.1111/j.1442-8903.2009.00489.x
- Berrouet, L. M., Machado, J., & Villegas-Palacio, C. (2018). Vulnerability of socio—ecological systems: A conceptual Framework. *Ecological Indicators*, 84(1), 632–647. https://doi.org/10.1016/j.ecolind.2017.07.051
- Bodini, A., & Klotz, S. (2017). The Science of Ecology for A Sustainable World. *ECOLOGY: The Science of Ecology for a Sustainable World*, *I.* 11, 15-733.
- Boonzaaier, C. and Wels, H. (2017). Authenticity lost? the significance of cultural villages in the conservation of heritage in south africa. *Journal of Heritage Tourism*, 13(2), 181-193.

- Boribayeva, G. A., Madiyeva, G. B., Medetbekova, P. T., Mambetov, K. S., & Ingamova, J. G. (2018). Peculiarities of toponymic reflexes of Kazakhstan. *XLinguae*, 11(1), 342-353.
- Chiblow, S. and Meighan, P. J. (2021). Language is land, land is language: the importance of indigenous languages. *Human Geography*, 15(2), 206-210.
 - https://doi.org/10.1177/19427786211022899
- Darheni, N. (2021). The naming system for villages and borough in cirebon regency: a study of toponyms in indonesia. *International Journal of Research and Innovation in Social Science*, 5(12), 790-801.
 - https://doi.org/10.47772/ijriss.2021.51241
- Gea, W. (2022). Community participation in the selection of nias regent candidates in Biouti Village, Idanogawo District, Nias Regency in 2020. *Journal of Law, Politic and Humanities*, 2(2), 95-104.
- George, J. M. (1999). World view analysis of knowledge in a rural village: implications for science education. *Science Education*, 83(1), 77-95.
- Gevers, J. (2018). Translingualism revisited: Language difference and hybridity in L2 writing. *Journal of Second Language Writing*, 40, 73-83. https://doi.org/10.1016/j.jslw.2018.04.003
- Ives, C. D. and Kelly, A. (2015). The coexistence of amenity and biodiversity in urban landscapes. *Landscape Research*, 41(5), 495-509. https://doi.org/10.1080/01426397.2015.1081161
- Isa, W. A. R. W. M., Zin, N. A. M., Rosdi, F., & Sarim, H. M. (2018). Digital preservation of intangible cultural heritage. *Indonesian Journal of Electrical Engineering and Computer Science*, 12(3), 1373. https://doi.org/10.11591/ijeecs.v12.i3.pp1373-1379
- Khurana, D., Koli, A., Khatter, K., & Singh, S. (2023).

 Natural language processing: state of the art, current trends and challenges. *Multimedia Tools and Applications*, 82(3), 3713–3744. https://doi.org/10.1007/s11042-022-13428-4
- Kim, D. (2020). Learning Language, Learning Culture: Teaching Language to the Whole Student. *ECNU Review of Education*, *3*(3), 519–541. https://doi.org/10.1177/2096531120936693
- Kong, L., Xu, X., Wu, J., & Zhang, M. (2021). Comprehensive evaluation and quantitative research on the living protection of traditional villages from the perspective of "production—living—ecology". *Land*, 10(6), 570. https://doi.org/10.3390/land10060570

- Kusters, A. (2014). Language ideologies in the shared signing community of Adamorobe. *Language in Society*, *43*(2), 139-158.
- Latif, S., Qayyum, A., Usman, M., & Qadir, J. (2019).
 Cross lingual speech emotion recognition: Urdu
 vs. Western Languages. *Proceedings 2018 International Conference on Frontiers of Information Technology, FIT 2018*, 88–93.
 https://doi.org/10.1109/FIT.2018.00023
- Mandillah, L. (2022). A morphosyntactic and semantic analysis of toponyms among the Luhya: A case of Bungoma County. *Journal of Languages, Linguistics and Literary Studies*, 2(1), 28–37. https://doi.org/10.57040/jllls.v2i1.189
- Metz, M. (2018). Pedagogical content knowledge for teaching critical language awareness: the importance of valuing student knowledge. *Urban Education*, 56(9), 1456-1484. https://doi.org/10.1177/0042085918756714
- Municipality, B.-S. of S. (2018). *Kota sibolga dalam angka: Sibolga Minicipality in Figures*. BPS-Statistics of Sibolga Municipality.
- Nurhayati, N. (2018). Toponymy and Branding of Modern Residential Sites in Semarang. *E3S Web of Conferences*, 73, 1–4. https://doi.org/10.1051/e3sconf/20187308021
- Njoh, A. J. (2016). Tradition, culture and development in Africa: Historical lessons for modern development planning. Routledge.
- Perfors, A. and Navarro, D. J. (2014). Language evolution can be shaped by the structure of the world. *Cognitive Science*, 38(4), 775-793. https://doi.org/10.1111/cogs.12102
- Putro, D. B. W. (2016). Perilaku verbal dan nonverbal dalam ranah kesehatan pada masyarakat di dusun tambran kidul kecamatan semin kabupaten gunungkidul (kajian etnolinguistik). *Prasasti: Journal of Linguistics*, 1(1). https://doi.org/10.20961/prasasti.v1i1.548
- Uzelac, M., Yuan, K., & Ingleson, M. J. (2020). A comparison of two zinc hydride catalysts for terminal alkyne c—h borylation/hydroboration and the formation of 1,1,1-triborylalkanes by tandem catalysis using zn—h and b—h compounds. *Organometallics*, 39(8), 1332-1338. https://doi.org/10.1021/acs.organomet.0c00086
- Reyes-García, V., Paneque-Gálvez, J., Luz, A. C., Guèze, M., Macía, M. J., Orta-Martínez, M., ... & Pino, J. (2014). Cultural change and traditional ecological knowledge: an empirical analysis from the tsimane' in the bolivian amazon. *Human Organization*, 73(2), 162-173. https://doi.org/10.17730/humo.73.2.31nl363qgr 30n017

- Rothier, P. S., Brandt, R. M. C., & Kohlsdorf, T. (2017). Ecological associations of autopodial osteology in neotropical geckos. *Journal of Morphology*, 278(3), 290-299. https://doi.org/10.1002/jmor.20635
- Suryani, N. M. (2022). The ideology of cultural preservation in the legong sambeh bintang dance in bangle village, karangasem. *International Journal of Social Science and Human Research*, 05(03). https://doi.org/10.47191/ijsshr/v5-i3-15
- Smith, K. and Kirby, S. (2008). Cultural evolution: implications for understanding the human language faculty and its evolution. Philosophical Transactions of the Royal Society *Biological Sciences*, 363(1509), 3591-3603. https://doi.org/10.1098/rstb.2008.0145
- Schluter, D. and Conte, G. L. (2009). Genetics and ecological speciation. *Proceedings of the National Academy of Sciences*, 106(supplement_1), 9955-9962. https://doi.org/10.1073/pnas.0901264106
- Siahaan, F. (2021). Identification of application of biological architecture in the South Nias's traditional House in Indonesia. *IOP Conference Series: Earth and Environmental Science*, 878(1). https://doi.org/10.1088/1755-1315/878/1/012012
- Silva, A. R. d. and Dias, L. (2018). An interface element for numerical analysis of flat plate/shell elements with deformable connection. *Latin American Journal of Solids and Structures*, 15(2). 1-16. https://doi.org/10.1590/1679-78254640
- Sitepu, E. S., Manurung, J. S., & Rismawati, R. (2021). Implementation of sustainable tourism development of tourism villages in langkat regency. *International Journal of Applied Sciences in Tourism and Events*, 5(2), 176-189. https://doi.org/10.31940/ijaste.v5i2.176-189
- Tan, P. (2021). Naming as Styling: Inauthenticity in Building Names in Singapore. Yap 2016. https://www.academia.edu/download/67277402/Offprint.pdf
- Taskinsoy, J. (2020). From Primitive Barter to Inflationary Dollar: A Warless Economic Weapon of Mass Destruction. SSRN Electronic Journal, 1–50. https://doi.org/10.2139/ssrn.3542145
- Thompson, K., Lantz, T. C., & Ban, N. C. (2020). A review of indigenous knowledge and participation in environmental monitoring. *Ecology and Society*, 25(2). 1-27 https://doi.org/10.5751/es-11503-250210
- Tonta, Y. (2009). Preservation of scientific and cultural heritage in balkan countries. *Program*, 43(4), 419-429.

https://doi.org/10.1108/00330330910998066

- Wardana, D., Swaryo, U., Srikartini, D., & Yaniyuningsih, N. (2022). Forms of change and institutions that affect changes in village regulation policies to become traditional villages in siak regency, riau province. *International Journal of Health Sciences*, 1853-1865. https://doi.org/10.53730/ijhs.v6ns9.12777
- Yang, S., Feng, D., Qiao, L., Kan, Z., & Li, D. (2020). Exploring Pre-trained Language Models for Event Extraction and Generation. ACL 2019 57th Annual Meeting of the Association for Computational Linguistics, Proceedings of the Conference, 5284–5294.
- Ren, W., Zhang, X., & Shi, Y. (2021). Evaluation of ecological environment effect of villages land use and cover change: a case study of some villages in yudian town, guangshui city, hubei province. *Land*, 10(3), 251. https://doi.org/10.3390/land10030251
- Rose-Redwood, R., Alderman, D. H., & Azaryahu, M. (2009). Geographies of toponymic inscription: new directions in critical place-name studies. *Progress in Human Geography*, 34(4), 453-470. https://doi.org/10.1177/0309132509351042
- Vachha, B. and Adams, R. D. (2009). Implications of family environment and language development: comparing typically developing children to those with spina bifida. *Child: Care, Health and Development,* 35(5), 709-716. https://doi.org/10.1111/j.1365-2214.2009.00966.x
- Vilbrandt, C., Pasko, G., Pasko, A., Fayolle, P., Vilbrandt, T., Goodwin, J. S., ... & Kunii, T. L. (2004). Cultural heritage preservation using constructive shape modeling. *Computer Graphics Forum*, 23(1), 25-41. https://doi.org/10.1111/j.1467-8659.2004.00003.x
- Zhao, Q., Yu, M., Liu, L., Li, B., & Feng, L. (2021). Spiritual inspiration of village cadres and inclusive innovation of bricolage in rural autonomy in china. *Frontiers in Psychology*, 12. https://doi.org/10.3389/fpsyg.2021.617838