



The Relationship between *Oukup* Materials and Ecology and Language in the Karo Batak Ethnic Community: An Ecolinguistic Study

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ABSTRACT

This study examines *oukup* as a traditional healing practice of the Karo Batak ethnic group through the perspective of ecolinguistics. *Oukup* not only functions as a form of health therapy but also reflects a complex ecological knowledge system that has been transmitted across generations. Each *oukup* ingredient embodies ecological, cultural, and linguistic values that represent the reciprocal relationship between humans and nature. The research employs a descriptive qualitative method with data collection techniques consisting of observation, interviews, and documentation conducted in Rumah Kabanjahe Village, Karo Regency, North Sumatra. The data were analyzed through the stages of collection, reduction, display, and verification interactively to produce an ecological mapping of *oukup* materials. The findings reveal 34 plant species categorized into four ecological groups based on their proximity to human settlements: very near (10 species), near (21 species), far (3 species), and very far (none found). This classification not only reflects spatial distance but also signifies the social and spiritual attachment of the community to its environment. The Karo language plays a crucial role in documenting ecological knowledge through a floral lexicon that serves as a linguistic ecology map. This study emphasizes that the preservation of *oukup* cannot rely solely on its medical aspect but requires a participatory ecolinguistic approach that integrates language preservation, plant conservation, and cultural revitalization. Thus, *oukup* serves as a representation of the harmonious relationship between humans, language, and nature within the cultural cosmos of the Karo Batak community.

Keywords: Oukup, ecology, language, ecolinguistics study

Hubungan antara Bahan Oukup dengan Ekologi dan Bahasa dalam Masyarakat Etnik Batak Karo: Kajian Ekolinguistik

ABSTRAK

Penelitian ini mengkaji *oukup* sebagai praktik pengobatan tradisional masyarakat Batak Karo melalui perspektif ekolinguistik. *Oukup* tidak hanya berfungsi sebagai terapi kesehatan, tetapi juga mencerminkan sistem pengetahuan ekologis yang kompleks dan diwariskan secara turun-temurun. Setiap bahan *oukup* mengandung nilai ekologis, kultural, dan linguistik yang merepresentasikan hubungan timbal balik antara manusia dan alam. Penelitian ini menggunakan metode deskriptif kualitatif dengan teknik observasi, wawancara, dan dokumentasi yang dilakukan di Desa Rumah Kabanjahe, Kabupaten Karo, Sumatera Utara. Data dianalisis melalui tahapan pengumpulan, reduksi, penyajian, serta verifikasi secara interaktif untuk menghasilkan pemetaan ekologis bahan *oukup*. Hasil penelitian menunjukkan terdapat 34 jenis tumbuhan yang dikelompokkan ke dalam empat kategori ekologis berdasarkan kedekatan terhadap permukiman, yaitu: sangat dekat (10 jenis), dekat (21 jenis), jauh (3 jenis), dan sangat jauh (tidak ditemukan). Klasifikasi ini tidak hanya mencerminkan jarak spasial, tetapi juga tingkat keterikatan sosial dan spiritual masyarakat terhadap lingkungan. Bahasa Karo berperan penting dalam mendokumentasikan pengetahuan ekologis tersebut melalui leksikon flora yang berfungsi sebagai peta linguistik ekologi (linguistic ecology map). Penelitian ini menegaskan bahwa pelestarian *oukup* tidak cukup dilakukan melalui aspek medis semata, tetapi perlu melibatkan pendekatan ekolinguistik partisipatif yang mengintegrasikan pelestarian bahasa, konservasi tumbuhan, dan revitalisasi budaya. Dengan demikian, *oukup* berfungsi sebagai representasi hubungan harmonis antara manusia, bahasa, dan alam dalam kosmos budaya Batak Karo.

Kata kunci: Oukup, ekologi, bahasa, kajian ekolinguistik

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INTRODUCTION

Indonesia is one of the mega-biodiverse countries with the highest levels of biodiversity and cultural diversity in the world. This richness is reflected in the abundance of plant species spread across various ecological regions and the existence of hundreds of ethnic groups that have developed local knowledge systems based on long-standing interactions with their environment. For indigenous communities, plants are viewed not only as natural resources but also as an integral part of social and cultural life. Various types of plants are used as food, traditional medicine, ritual equipment, and cultural symbols, passed down from generation to generation. This knowledge develops through the collective experience of the community and is passed down through language as a medium for storing, organizing, and transmitting ecological knowledge.

One form of local knowledge that still survives today is oukup, a traditional healing practice of the Karo Batak people that utilizes the steam from boiling various aromatic and medicinal plants. Oukup is used to restore physical fitness, improve blood circulation, relieve fatigue, accelerate postpartum recovery, and maintain overall health. More than just a traditional therapy, oukup represents the harmonious relationship between humans and nature, built through the wise use of biological resources. The selection of each plant species is based on empirical knowledge that has been tested in the community's life, taking into account the plant's ecological characteristics, pharmacological properties, and the cultural values inherent in its use.

In the Karo Batak community, the practice of oukup demonstrates the close relationship between language, culture, and the environment. Each plant used has a local name that represents the community's knowledge of its habitat, biological properties, benefits, and management techniques. These names form a floral lexicon that serves not only as a linguistic unit but also as a representation of the community's ecological classification system. Through language, information about a plant's

growth location, season, harvesting methods, and medicinal uses is documented and passed down to the next generation. Thus, the floral lexicon in the practice of oukup is a manifestation of the Karo Batak community's ecological knowledge, which develops through continuous interaction with their natural environment.

Field research in Rumah Kabanjahe Village, Karo Regency, shows that the plants that make up oukup have an ecological distribution pattern that can be grouped based on their proximity to community settlements: very close, near, far, and very far. This grouping not only indicates geographic distance but also reflects the level of accessibility, intensity of use, economic value, and social and cultural proximity of the community to plant resources. Plants grown in yards or gardens are generally used routinely because they are easily obtained, while plants originating from forest areas have more specific functions and contain higher conservation value and cultural significance. This classification pattern demonstrates that the Karo people possess a structured ecological knowledge system for understanding, managing, and utilizing the environment sustainably. However, the sustainability of this knowledge system currently faces various challenges. Modernization, changes in community lifestyles, land conversion, reduced forest areas, and the decline in traditional healing practices have limited the availability of various plant species that make up the oukup (local environment). This situation not only threatens the existence of biological resources but also impacts the reduced use of the flora lexicon in the Karo language. The loss of local vocabulary ultimately results in the fading of ecological knowledge, which has long been the basis for communities to recognize, manage, and preserve their environment. This phenomenon demonstrates that the extinction of local languages often goes hand in hand with the loss of traditional knowledge about biodiversity.

This phenomenon emphasizes the importance of examining oukup practices from an ecolinguistic perspective. According to Haugen (1972), linguis-



tic ecology is the study of the reciprocal relationship between language and the environment in which it is used. This view was later developed by Jørgen Chr. Bang and Jørgen Døør (2007), who position language as part of an ecological system that represents the relationship between humans and nature and culture. Furthermore, Alwin Fill and Peter Mühlhäusler (2001) emphasized that language functions as a medium for storing environmental knowledge and as a means of transmitting ecological values between generations. From this perspective, the floral lexicon is understood not merely as vocabulary, but as a representation of a society's ecological experience, formed through a long-term relationship between humans and their environment.

From an ethnobotanical perspective, Gary J. Martin (1995) explained that the use of plants by traditional communities is the result of long-term ecological adaptation, resulting in each plant species having ecological, economic, social, and cultural functions. Similarly, Luisa Maffi (2005) emphasized the close relationship between linguistic diversity and biodiversity. The extinction of local languages is generally followed by the loss of traditional knowledge regarding the use of natural resources, so the preservation of regional languages indirectly contributes to biodiversity conservation.

Various previous studies have discussed the relationship between language, culture, and the environment in traditional communities. Research by Sembiring et al. (2022) shows that medicinal plants of the Karo people are part of a local knowledge system passed down through language and cultural practices. Research by Mbete (2016) reveals that environmental lexicons represent the community's ecological experiences and decline with declining environmental quality. Meanwhile, Maffi (2005) asserts that linguistic diversity is strongly correlated with biodiversity, making language preservation an integral part of ecological conservation.

However, these studies generally focus on medicinal plant inventories or environmental lexicon documentation. Studies specifically

analyzing the ecological proximity classification of plants based on their habitat distribution and accessibility in traditional Karo Batak medicine practices are still very limited. Furthermore, the relationship between the ecological distribution of plants, the floral lexicon system, and local knowledge has not been comprehensively studied from an ecolinguistic perspective. Therefore, this study offers novelty through an analysis of the ecological proximity classification of plants that make up the *oukup* (traditional medicinal plant) as a representation of the ecological knowledge of the Karo Batak people.

Based on this background, this study aims to describe the ecological proximity classification of plants used in the *oukup* practice of the Karo Batak people in Rumah Kabanjahe Village from an ecolinguistic perspective. Furthermore, this study aims to explain the relationship between the floral lexicon, the ecological distribution of plants, and the Karo cultural knowledge system in the use of plants as traditional medicinal ingredients. The research findings are expected to enrich ecolinguistic studies, support documentation of local knowledge based on floral lexicons, strengthen the preservation of regional languages and Karo Batak cultural heritage, and contribute to biodiversity conservation efforts through the utilization of local community ecological knowledge.

METHOD

This research uses a qualitative descriptive approach with a participatory ecolinguistic perspective. Qualitative approaches are commonly used in cultural research (Franeke et al., 2012; Abubakar, 2021; Razak, 2017). This approach was chosen because the research aims to describe the relationship between language, local knowledge, and the environment through the classification of the ecological affinities of plants used in the Karo Batak community's *oukup* practice. Ecolinguistics views language as part of a cultural ecosystem, therefore, the floral lexicon is analyzed not only

from a linguistic perspective but also from the underlying ecological, social, and cultural contexts.

The research was conducted in Rumah Kabanjahe Village, Karo Regency, North Sumatra, an area that still maintains the practice of oukup as part of traditional medicine. The research location was chosen purposively, considering that the village community still utilizes various local plants as the main ingredients for oukup and possesses traditional knowledge passed down from generation to generation.

The research data consisted of a lexicon of plant names for oukup (a traditional herbal medicine), information on plant habitats, locations of acquisition, ecological proximity to community settlements, and local knowledge regarding their functions and uses. Data sources consisted of key informants: oukup preparers (oukup teachers), traditional leaders, communities still practicing oukup, and farmers or medicinal plant foragers who understood the characteristics of the plants' habitats. Informants were selected using purposive sampling based on their knowledge, experience, and involvement in oukup practices.

Data collection was conducted using several techniques. Participatory observation was used to directly observe the process of preparing materials, preparing, and using plants in oukup practices. In-depth semi-structured interviews were conducted to obtain information on local plant names, medicinal functions, habitats, procurement methods, and the reasons for selecting plants in oukup practices. Documentation was also conducted by photographing each plant species, recording the local and scientific names (if available), recording the interview process, and documenting the location where each plant species grows. To strengthen species identification, matching was carried out with botanical literature and relevant medicinal plant references.

Data analysis used the interactive model of Miles et al. (2014), which includes four stages: data collection, data condensation, data display, and drawing and verifying conclusions. In the data condensation stage, the entire flora lexicon

obtained in the field was selected and then grouped based on their ecological characteristics. The data presentation stage was carried out through classification tables, narrative descriptions, and mapping of the relationships between plants, habitats, and cultural functions. Next, the ecological meaning of each plant group was interpreted from an ecolinguistic perspective.

The ecolinguistic analysis was conducted by classifying the plants making up the group based on their ecological proximity to community settlements: (1) very close, namely plants growing in yards or around houses; (2) close, namely plants found in community gardens or fields; (3) distant, namely plants growing in shrubbery, hills, or areas requiring special travel. and (4) very remote, namely plants found only in forest areas or relatively difficult-to-reach natural habitats. This classification was then analyzed to explain the relationship between the ecological distribution of plants, the intensity of their use, and the linguistic and cultural knowledge of the Karo Batak people. Data validity was tested through source triangulation, technical triangulation, and time triangulation. Source triangulation was conducted by comparing information obtained from various informants, while technical triangulation was conducted by matching the results of observations, interviews, and documentation. Time triangulation was conducted by collecting data at different times to ensure consistency of information. In addition, plant identification results and data interpretation were reconfirmed with informants (member checking) to ensure the data obtained had a high level of credibility and validity.

RESULTS

1. Ecological Dimensions in the Practice of Oukup in the Karo Batak Community

The use of various plant species in the production of oukup cannot be separated from the ecological system that shapes the local knowledge and traditional healing practices of the Karo Batak people. Each ingredient used not only functions as a therapeutic element but also represents a



complex ecological interaction between humans and their environment. This relationship confirms that oukup is not simply a medical practice, but rather a manifestation of a system of ecological knowledge passed down through generations, in which humans adapt to, utilize, and maintain the balance of their natural surroundings.

In the context of research in Rumah Kabanjahe Village, Karo Regency, it was found that the variety and availability of oukup materials are strongly influenced by the characteristics of the local ecosystem and the community's natural resource management patterns. Based on field observations and interviews, the authors categorized oukup material sources into four main ecological categories based on the proximity of the plants to settlements: very close, near, far, and very far. This classification not only reflects spatial distance but also reflects the community's level of ecological and social attachment to the natural resources that underpin the sustainability of the oukup tradition.

a. Very Close Category

This category includes plants that grow around the yard or small family garden. Plants such as sere (lemongrass), pandan, belo (betel leaf), and kuning gersing fall into this group. These plants have a short life cycle, are easy to cultivate, and are part of the subsistence household farming system.

The presence of these plants symbolizes the ecological independence of the household, where each family plays an active role in providing the basic ingredients for traditional medicine. From an ecolinguistic perspective, knowledge about planting, caring for, and utilizing these plants is internalized in everyday language through local terms, expressions, and metaphors that reflect values of sustainability. Thus, language functions as a medium for transmitting ecological values from one generation to the next.

b. Close Category

The "close" category refers to materials that are still easily accessible but are generally obtained

from agricultural areas or fields. Plants such as rahung gara, kelawas, bulung cumangi, and bahing fall into this group. These plants typically grow alongside staple food crops, reflecting a mixed farming system that adapts to local land and climate conditions.

The community's relationship with plants in this category is semi-intensive, indicating human intervention while still maintaining ecological balance. Community knowledge of planting times, soil types, and crop rotation patterns demonstrates the sophistication of traditional ecological systems based on natural observations. Linguistically, local plant names in this category often contain metaphorical meanings related to color, aroma, or healing properties. This demonstrates the integration of ecological perception and linguistic representation within the Karo cultural cosmos.

c. Distant Category

The "distant" category includes materials obtained from semi-wild areas such as forest edges, riverbanks, or natural thickets. Plants such as rimo begu, rimo kuku harimo, and rimo kersik fall into this group. These species are not intensively cultivated but are instead collected as needed through inherited ecological knowledge.

Obtaining materials from these areas requires the ability to recognize natural signs, such as soil moisture, wind direction, and the presence of specific fauna. The collection process is usually accompanied by oral rituals, pantun (pantun), or traditional advice imbued with ecological terminology. Within an ecolinguistic framework, this practice demonstrates how language functions as an ecological knowledge storage system, recording the location, time, and function of plants within a cultural context.

d. Very Distant Category

The "very distant" category includes materials found only in dense forests or rarely accessed mountainous areas. Although no plant species in this category were found in this study, conceptually, this category holds important

symbolic significance. Materials categorized as “very distant” typically possess high spiritual value and are used in traditional ceremonies or sacred healing.

In the Karo knowledge system, the search for such materials is carried out by individuals with specialized expertise, such as shamans or guardians of tradition (guru sibaso). The language used to name plants from this region is often sacred, full of metaphors, and not spoken casually. This emphasizes that at the highest level, the ecological relations of the Karo people transcend the material dimension, entering the spiritual and symbolic realm that holistically links humans, language, and nature.

2. Ecological and Cultural Implications

The ecological classification of oukup materials above reflects a holistic and adaptive knowledge system, where the boundaries between ecological, linguistic, and cultural aspects are not separate but interpenetrating. The Karo people understand nature not only as a resource but as an integral part of their social and linguistic systems. Through an ecolinguistic lens, the local terms used to name oukup materials function as a “linguistic ecological map,” documenting the spatial and conceptual relationships between humans and their environment—from domestic spaces to forest areas. Language thus becomes a medium for the conservation of living ecological values ??that is continuously renewed through social practices. However, the dynamics of modernization, settlement expansion, and the declining interest of the younger generation in traditional medicine have made it difficult to find many plants categorized as “distant” and “very distant.” This loss of ecological references has implications for the extinction of the flora lexicon in the Karo language, which in turn weakens the chain of ecological knowledge transmission.

Therefore, efforts to preserve oukup cannot focus solely on medical aspects but must be carried out through a participatory ecolinguistic approach, namely by documenting local languages, replanting

oukup plants, and integrating these traditional practices into cultural and environmental education. Through this strategy, oukup serves not only as a legacy of traditional medicine but also as an instrument for preserving the ecological and linguistic biodiversity of the Karo Batak people.

1) <i>Batang cekala</i>	very closed
2) <i>Pia</i>	very closed
3) <i>Lasuna</i>	very closed
4) <i>Bulung rimo</i>	closed
5) <i>Bulung rimo mungkur</i>	closed
6) <i>Bulung kayu mbentar</i>	closed
7) <i>Bulung paris</i>	closed
8) <i>Bulung pirawas</i>	closed
9) <i>Bulung kulit manis</i>	closed
10) <i>Bulung sarincayo</i>	closed
11) <i>Bulung cumangi</i>	closed
12) <i>Bulung nilam</i>	closed
13) <i>Bulung ruku-ruku</i>	closed
14) <i>Rimo begu</i>	very distant
15) <i>Rimo kuku harimo</i>	very distant
16) <i>Rimo acem</i>	very closed
17) <i>Rimo kersik</i>	very distant
18) <i>Rimo mungkur</i>	very closed
19) <i>Bahing gara</i>	very closed
20) <i>Alia</i>	closed
21) <i>Bahing</i>	closed
22) <i>Kaciwer</i>	very closed
23) <i>Kuning gersing</i>	closed
24) <i>Gersing gajah</i>	closed
25) <i>Laja</i>	closed
26) <i>Lada mbiring</i>	closed
27) <i>Lempuyang</i>	closed
28) <i>Kelawas</i>	very closed
29) <i>Rempah ratus</i>	closed
30) <i>Sere</i>	very closed
31) <i>Belo</i>	very closed
32) <i>Temu item</i>	closed
33) <i>Pedi-pedi</i>	closed
34) <i>Temu-temu</i>	closed

DISCUSSION

This research demonstrates that the practice of oukup (plant cultivation) in the Karo Batak community embodies the integration of ecological,



cultural, and linguistic knowledge. The use of various plant species in oukup not only serves medicinal purposes but also reflects the reciprocal relationship between humans and nature, which underpins the Karo cultural ecology.

Based on ecological mapping in Rumah Kabanjahe Village, 34 plant species were identified, grouped into four categories based on their distance and ecological connection: very close (10 species), close (21 species), distant (3 species), and very distant (0 species). These categories not only reflect physical distance but also indicate the intensity of community interaction with natural resources. Plants in the "very close" category reflect the household's ecological independence; the "close" category indicates an adaptive agricultural system; while the "distant" category signifies a deeper, spiritual ecological connection. From an ecolinguistic perspective, language serves as a repository and transmission of ecological knowledge. The oukup plant lexicon reflects how the community understands and manages its environment, while also forming a living "linguistic ecological map" in the Karo language. However, modern social changes such as urbanization and environmental degradation threaten the sustainability of this system through the loss of ecological references and local floral vocabulary.

Therefore, preserving oukup requires a participatory ecolinguistic approach that combines language documentation, plant conservation, and tradition revitalization. This effort is crucial for maintaining continuity between people, language, and nature, and ensuring that the oukup tradition remains a sustainable ecological and linguistic heritage for the Karo Batak people.

CONCLUSION

This research demonstrates that the oukup practices of the Karo Batak people represent ecological knowledge that integrates language, culture, and the environment into a single local knowledge system passed down through

generations. Through an ecolinguistic approach, the plant lexicon used as oukup material not only functions as linguistic markers but also reflects the community's understanding of habitat characteristics, natural resource availability, and the cultural values ??inherent in each plant species. The research findings identify that the plants comprising oukup can be classified into four categories of ecological proximity: very close, near, far, and very far from community settlements. This classification demonstrates that the ecological distribution of plants is closely related to the intensity of use, ease of access, and the strategies of the Karo Batak people in utilizing and maintaining the sustainability of biological resources. Thus, the ecological proximity classification not only describes the location of plant growth but also reflects the local knowledge system developed through the community's ecological experiences.

This research confirms that the documentation of the floral lexicon in the oukup practice plays a crucial role in the preservation of regional languages, the protection of traditional knowledge, and the conservation of biodiversity. Therefore, the oukup practice needs to be preserved as a cultural heritage containing scientific, ecological, and cultural value, while also serving as a source of learning based on local wisdom to support efforts to preserve the Karo Batak language and environmental sustainability.

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