Eco-lexicon Forms in Children Book of North Sumatran Folktales

M Yusuf\textsuperscript{1}, D Widayati\textsuperscript{2}, A M Mbete\textsuperscript{3}, and A Aswani\textsuperscript{4}
\textsuperscript{1,2}Universitas Sumatera Utara, Medan, Indonesia
\textsuperscript{3}Universitas Warmadewa, Denpasar, Indonesia
\textsuperscript{4}Politeknik Negeri Medan, Medan, Indonesia

Email: yusuf\_my@usu.ac.id

Abstract. This present study attempts to depict the eco-lexicon form discovered in children's North Sumatran folktales (CBNSF) book about primary food. The qualitative content analysis method was utilized as the research design. The data source was three folktales from a children's book entitled “Asal Usul: Bunga Rampai Cerita Rakyat Sumatera Utara” under the primary theme food. The data were in the form of roots, derivative words, and phrases taken by using documentation technique. The results show that eco-lexicon forms related to primary food folktales are words (noun, verbs, and adjectives) in the form of phrase (noun phrase, and adjective phrase. Affixation in the data was found in prefix, suffix, and simulfix, which form noun and verb. Furthermore, the reference deals with biotic (\textit{plantae} and \textit{animaliae}) and abiotic reference. Therefore, it can be concluded that eco-lexicon in CBNSF was various.

1. Introduction
Ecolinguistic, as a branch of linguistics, deals with the relationship between language and environment. There is an intimate relationship between humans as language users and the environment since they live systematically [1]–[4]. Ecolinguistic also sees the natural environment in specific society [5], and this study covers two important points name language ecology and ecological language. Language ecology is the dimension of space regarding the physical, geographical environment where all languages and speakers live. Meanwhile, ecological language is a verbal form that contains the meaning of the environment [6], [7]. Another expert argues that ecolinguistic studies look at how the link between diversity and community and its environment is in one unity with the language spoken by the speaker [8]. This study has parameters, namely (1) the existence of environments, (2) the existence of diversity, and (3) the existence of interrelationships, interactions, and interdependency [9].

A verbal form can be seen in a specific linguistic unit. It consists of phonemes, morphemes, phrases, clauses, sentences, and discourse, divided into five linguistic systems of phonology, morphology, syntax, semantics, and lexicon [10]. For example, the verbal form of the word is a form that can be seen in the word, either in free or inbound morpheme [11].
Folk tale is one of local wisdom in society. It is also a part of folklore [12], and it is commonly honored by society members [13]. Folk tales are inherited through generation from mouth to mouth [14]. Therefore, folk tale contains history and also local wisdom. In Indonesia, many folk tales are starting from Aceh to Papua. There is an effort from the government of Indonesia to maintain and document the folk tales in the form of books in order to prevent them from extinction. Even it is published not only in the Indonesian language but also in the English language. This has aimed to broaden the reader and make the story is known to Indonesia and the world.

Children's book of North Sumatran folk tales (CBNSF) is written as documentation or the archive of the stories in the society. The Language Agency of North Sumatera publishes this book, and it contains folk tales from North Sumatera, Indonesia. This can be categorized as children’s literature. This folk tale is commonly in the form of narrative [15] and aims to entertain the readers [12]. This also can be used as teaching media for children [16]. A properly designed and presented children’s book can help children experience various feelings, become familiar with different cultures, develop various beliefs and values, and contribute to their social, emotional, and aesthetic development [17]. The book is not only limited to children but also adults.

The issue of environment is commonly found in folk tales. Therefore, the folk tale book can also introduce children to the environment. There is an urgency to do this because environmental education is essential [18] since future generations will always contact nature and the environment. This is supported by [19] stating that books with the topics of nature and environment can provide critical opportunities in forming children’s attitudes towards the environment, such as keeping the environment. However, it is also critical to provide information about what they are going to face in real life about the environment [20]. Therefore, it can be said that folk tale book is a media for educating and shaping the attitude of the children and adult towards society.

Many scholars from many perspectives have done the study of eco-lexicon. [19] in their study attempts to depict the concept of nature in children's picture stories. Looking at 15 stories as their data, which were issued between 1989-2002, they find out that there are many various messages, including the attitudes towards nature and the condition of nature. [13] in his research explores the use of folklore and its relation to environmental conservation. He also explains that folklore in Nigeria is related to conservation issues such as land, utilization of wild biota, and human behavior concerning resources. Other research was done by [21] also explores environmental texts in Moroccan ELT textbooks. They found out there is a euphemism in presenting hazardous environmental issues. Those related studies are the proofs that ecolinguistic can be applied in analyzing folk tales. Referring to that reason, this study attempts to depict the eco-lexicon form discovered in CBNSF folk tales about primary food.

2. Method
This study employed a qualitative content analysis method. The data source was three North Sumatran folk tales from a book entitled “Asal Usul: Bunga Rampai Cerita Rakyat Sumatera Utara” under the primary theme food. There are three stories purposively chosen, namely Asal Mula Padi (folk tale from Karonese society), Asal Mula Pulut (folk tale from Dairi society), and Asal Mula Sagu (folk tale from Asahan society). The data were in the form of root, word, and phrases. The data were analyzed by using the distributional method before inference making and drawing the conclusion.

3. Results and Discussion
The data analysis presents the eco-lexicon found in the data. Eco-lexicon in a society is a set of terms in a particular environment representing the character of society, environment, and its socio-cultural environment [22]. For example, folk tales about primary food such as paddy, sticky rice, and sago in North Sumatera society lived in society and needed to be preserved. Related to reference, biotic (plantae and animalea) and biotic were also found. Here are the lists of eco-lexicon found in the folk tales related to food in North Sumatera.

| Eco-lexicon | Examples |
|-------------|----------|
| Paddy       | Asal Mula Padi |
| Sticky Rice | Asal Mula Pulut |
| Sago        | Asal Mula Sagu |
Table 1. Eco-lexicon in the form of words

| Eco-lexicon          | Forms          | Meaning       | Reference |
|----------------------|----------------|---------------|-----------|
| Buah                 | noun           | fruit         | ✓         |
| Hutan                | noun           | forest        | ✓         |
| Bumi                 | noun           | earth         | ✓         |
| Tumbuh               | adjective      | growing       | ✓         |
| Padi (Oryza sativa)  | noun           | paddy         | ✓         |
| Air                  | noun           | water         | ✓         |
| Kalinjuang           | noun           | leaf in Karonese Society | ✓ |
| Tanah                | noun           | soil          | ✓         |
| Tepak                | noun           | A box to contain sirih and eggs | ✓ |
| Sirih (Piper betle)  | noun           | Piper betle   | ✓         |
| Ladang               | noun           | Paddy field   | ✓         |
| Panen                | verb           | To harvest    | ✓         |
| Ikan                 | noun           | fish          | ✓         |
| Jernih               | adjective      | clear         | ✓         |
| Bersih               | adjective      | clean         | ✓         |
| Pohon                | noun           | tree          | ✓         |
| Sebatang             | adjective      | a (tree)      | ✓         |
| Besar                | Adjective      | Big           | ✓         |
| Rimban               | adjective      | dense         | ✓         |
| Mendung              | adjective      | cloudy        | ✓         |
| Langit               | noun           | sky           | ✓         |
| Kokok                | noun           | crowing       | ✓         |
| Ayam jantan          | noun           | rooster       | ✓         |
| Suara                | noun           | sound         | ✓         |
| lembu                | noun           | cow           | ✓         |
| kerbau               | noun           | buffalo       | ✓         |
| daratan              | noun           | land          | ✓         |
| kacang               | noun           | nut           | ✓         |
| desa                 | noun           | village       | ✓         |
| nasi                 | noun           | rice          | ✓         |
| beras                | noun           | rice          | ✓         |
| gurih                | adjective      | delicious     | ✓         |
| wangi                | adjective      | fragrant      | ✓         |
| lembek               | adjective      | soft          | ✓         |
| Rumbia               | noun           | Sago palm     | ✓         |
| enau                 | noun           | Sugar palm    | ✓         |
| lepat                | noun           | Snack made of sticky rice wrapped in banana leaves | ✓ |
| kemarau              | adjective      | dry           | ✓         |
| bencana              | noun           | catastrophe   | ✓         |
| langsat              | noun           | Lansium domesticum | ✓ |
| malam                | noun           | night         | ✓         |
| hujan                | noun           | rain          | ✓         |
| gerimis              | noun           | drizzle       | ✓         |
| tepung               | Noun           | flour         | ✓         |
Table 1 shows that there are many eco-lexicon found in the data, categorized in the form of words. Those eco-lexicons can be categorized into nouns, adjectives, and verbs. Eco-lexicon in the form of the noun also refers to both biotic and abiotic such as *buah* (fruit), which refers to biotic, and *bumi* (earth) refers to abiotic. Eco-lexicon in the form of an adjective is also found, but it only refers to abiotic such as *kumara* (dry), *gurih* (delicious), etc. The last category, eco-lexicons in the form of the verb, were also found, such as *pain* (to harvest).

Table 2. Eco-lexicon in the form of affixation

| Eco-lexicon | Affixation | Type      | Affixation form | Meaning                        | Reference |
|-------------|------------|-----------|-----------------|--------------------------------|-----------|
| makanan     | -an        | Inflectional | noun            | food                           | Biotic    |
| tanamlah    | -lah       | Inflectional | verb            | To plant                       | Biotic    |
| Sebuah      | Ber-       | Derivational | verb            | To bear fruit                  | Abiotic   |
| menanam     | Me-        | Inflectional | verb            | To plant                       | Abiotic   |
| memercikkan | Me-, -an   | Inflectional | verb            | To splash                      | Abiotic   |
| suburlah    | -lah       | Inflectional | verb            | To fertile                     | Abiotic   |
| dipanen     | di-        | Inflectional | verb            | To be harvested                | Abiotic   |
| makanlah    | -lah       | Inflectional | verb            | To consume                     | Abiotic   |
| dituai      | di-        | Inflectional | verb            | To be harvested                | Abiotic   |
| diirik      | di-        | Inflectional | verb            | To separate the paddy from the stem | Abiotic   |
| menggunung  | Me-        | Derivational | verb            | To get bigger in amount        | Abiotic   |
| diangin     | di-        | Derivational | verb            | To put the paddy in the large area so that it can be aired. | Abiotic   |
| berkelit     | Ber-      | Inflectional | verb            | To prevent from the disturbance | Abiotic   |
| Melenguh    | Me-        | Inflectional | verb            | To gasp for breath             | Abiotic   |
| menguang    | Me-        | Inflectional | verb            | To moo                         | Abiotic   |
| meranggas   | Me-        | Inflectional | verb            | To dry up                      | Abiotic   |
| kemakmuran  | Ke-, -an   | Derivational | noun            | welfare                        | Abiotic   |
| kelaparan   | Ke-, -an   | Derivational | noun            | hunger                         | Abiotic   |
| tebanglah   | -lah      | Inflectional | verb            | To cut                         | Abiotic   |

Morphologically, the eco-lexicons found in the data were nouns, adjectives, and verbs. Regarding the type of affixation, inflectional and derivational types were used, represented by the utilization of prefix, suffix, and simulfix. For example, the prefix *ber-*, *me-*, and *di-*, were found in words such as:

\[
\text{Berbuah} = \text{Ber-} + \text{buah} \quad (1) \\
\text{(fruit) (to bear fruit)}
\]

Verb \[\text{AFFIX} + \text{Noun}\]
Menanam = me- + tanam
Verb AFFIX + Noun (plant) (to plant)

In example (1) and (2), the affixation changes the world class so it is categorized as derivational affixes. The suffix –lah was also found which is attached in the verb. This has function to emphasize. It does not change the word class so that it is categorized as inflectional affixes. The example of the use of suffix –lah is as the following:

Tebanglah = tebang + -lah
Verb to cut
to cut

The last category of affixation is simulfix (prefix + suffix). This is signaled by the use of simulfix (a) Me-, -an; and (b) ke-, -an. The example is presented as the following.

Memercikkan = Me-+percik+-an
Verb to splash

The word memercikkan is formed from the combination of simulfix and verb. Then, it does not change the word class, so it is classified into inflectional affixes. The simulfix ke-, -an was also found in the example below.

Kemakmuran = ke- + makmur + -an
Noun Welfare

The word kemakmuran is categorized as derivational affixes. It involves the word class from adjective to noun. Simulfix ke-, -an is signaled for a noun forming process.

| Eco-lexicon | Forms (noun phrase) | Headword | Meaning | Reference |
|-------------|---------------------|----------|---------|-----------|
| Si Beru Dayang | Noun phrase Dayang | Paddy | √ |
| Bibit padi | Noun phrase padi | Paddy seed | √ |
| Simalem-malem | Noun phrase male | Name of leaf in Karonese society | √ |
| Si Beru Dayang | Noun phrase Dayang | One-week aged paddy | √ |
| Si Beru Dayang Bernis | Noun phrase Dayang | One-month aged paddy | √ |
| Si Beru Dayang Kumkar | Noun phrase Dayang | The paddy that starts growing | √ |
| Si Beru Dayang Terhine-hine | Noun phrase Dayang | The paddy that contains water | √ |
| Si Beru Dayang Permegahken | Noun phrase Dayang | The paddy that is ready to be harvested | √ |
| Musim panen | Noun phrase panen | Crop season | √ |
| Si Beru Dayang Patunggungken | Noun phrase Dayang | The paddy that is ready to be harvested (older than Si | √ |
In the data, noun phrase is the only form found. It was also found that there are some phrases related to cultural terms such as *Si Beru Dayang Pasinteken* to describe paddy. It may be different to find out the word for paddy in Karonese society or Malay society. This is relevant that ecologists also highlight human and cultural resources and their relation to verbal symbolization in regional languages [23]. In addition, environmental worldviews may differ across cultures [24], and the diversity of ecological maintenance can be achieved through local languages maintenance [25].

4. Conclusion
Based on the result, it can be concluded that the eco-lexicon form found in NSF related to primary food folktales is in the form of words (noun, verbs, and adjectives) in the phrase (noun phrase, and adjective phrase. Affixation in the data was found in prefix, suffix, and simulfix, which form noun and verb. The reference deals with biotic (*plantae* and *animaliae*) and abiotic reference. Therefore, it can be concluded that eco-lexicon in NSF book under the primary theme food was various.

5. Limitation and Further Studies
This study is only limited to the analysis of NSF under the theme of primary food. Further researchers are suggested to explore other folktales related to people and places. Then, this study uses ecologists as the theory in exploring the data. Further research is also suggested to use another approach such as systemic functional linguistic to explore the context of the situation, culture, and ideology.

References
[1] J. I. Panggabean, “Maintaining marine lexicon in coastal language Sibolga, Pondok Batu village, Sarudik district, ecologist studies,” *L’Geneus: The Journal Language Generations of Intellectual Society*, vol. 9, no. 3, pp. 68–73, 2020.
[2] T. Sibarani, “Ekolinguistik kebambuan dalam masyarakat bahasa Batak Toba,” *MEDAN MAKNA: Jurnal Ilmu Kebahasaan dan Kesastraan*, vol. 12, no. 2, pp. 95–104, 2014.
[3] R. Tiani, “Ecolinguistics in the cultural acculturation of the Northern coastal communities of Central Java,” *E3S Web Conf.*, vol. 202, p. 07016, 2020, doi: 10.1051/e3sconf/202020207016.
[4] P. Yan, L. Jingjing, H. Li, and Z. Chen, “Ecological Discourse Analysis and Protection Countermeasures on Zhoushan Fisherman’s Song1,” *International Journal of Humanities,*
Social Sciences and Education, vol. 5, no. 4, pp. 116–122, 2018, doi: 10.20431/2349-0381.0504014.

[5] Jismulatif and Dahnilsyah, “Language and ecology in ecolinguistics perspective: A case study on tunjuk ajar language in Riau, Indonesia,” J. Phys.: Conf. Ser., vol. 1351, p. 012068, Nov. 2019, doi: 10.1088/1742-6596/1351/1/012068.

[6] M. Fauzi, T. S. Sinar, D. Widayati, and B. Tarigan, “Ecosophy of syair Ikan Terubuk,” in ELLiC Proceedings, 2021, vol. 4, pp. 363–370.

[7] A. M. Mbete, Penuntun singkat penulisan proposal penelitian ekolinguistik. Denpasar: Penerbit Vidia, 2013.

[8] A. Fauzi, “Ekoleksikon kelautan masyarakat Nagari Air Bangis, kecamatan Sei Beremas, kabupaten Pasaman Barat,” Bachelor Thesis, Universitas Sumatera Utara, Medan, 2016.

[9] A. Fill and P. Muhlhauser, Eds., The ecolinguistic reader language ecology and environment. New York: Continuum, 2001.

[10] A. Chaer, Linguistik umum. Jakarta: Rineka Cipta, 2007.

[11] Zainuddin, Materi pokok bahasa dan sastra Indonesia. Jakarta: Rineka Cipta, 1992.

[12] S. marler Lwin, “Revisiting a structural analysis of folktales: A means to an end?” BJLL, vol. 2, pp. 69–80, Jun. 2010, doi: 10.5750/bjll.v2i0.16.

[13] G. J. Osemeobo, “The role of folklore in environmental conservation: evidence from Edo State, Nigeria,” International Journal of Sustainable Development & World Ecology, vol. 1, no. 1, pp. 48–55, Mar. 1994, doi: 10.1080/13504509409469860.

[14] O. Suwanpratest, “An analysis of the prominent cultural values of Asian people through similar folktales,” IJSSH, vol. 6, no. 11, pp. 836–839, 2016, doi: 10.18178/ijssh.2016.V6.759.

[15] T. T. Zein, T. S. Sinar, N. Nurlela, and M. Yusuf, “The Incomplete linguistic features and schematic structure in EFL university students’ narrative texts,” J. education. teach. learning, vol. 4, no. 1, pp. 203–209, Mar. 2019, doi: 10.26737/jetl.v4i1.675.

[16] S. Sukmawan and L. Setyowati, “Environmental messages as found in Indonesian folklore and its relation to foreign language classroom,” AWEJ, vol. 8, no. 1, pp. 298–308, Mar. 2017, doi: 10.24093/awej/vol8no1.21.

[17] S. Wasta, “Be my neighbor: Exploring sense of place through children’s literature,” The Social Studies, vol. 101, pp. 189–193, 2010.

[18] M. R. Farrelly, “The significance of myth for environmental education,” Journal of Philosophy of Education, vol. 53, no. 1, pp. 127–144, Feb. 2019, doi: 10.1111/1467-9752.12315.

[19] B. Ahi, D. Yaya, and S. Ozsoy, “The concept of environment in folktales from different cultures: Analysis of content and visuals,” IEJEE-Green, vol. 4, no. 1, pp. 1–17, Jul. 2014, doi: 10.18497/iejee-green.64123.

[20] M. Gonen and T. Guler, “The environment and its place in children’s picture story books,” Procedia - Social and Behavioral Sciences, vol. 15, pp. 3633–3639, 2011, doi: 10.1016/j.sbspro.2011.04.347.

[21] M. Mliless and M. Larouz, “An ecolinguistic analysis of environment texts in Moroccan English language teaching textbooks,” International Journal of Research in Environmental Studies, vol. 5, pp. 103–116, 2018.

[22] T. Yuniawan, F. Rokhman, and H. B. Mardikanto, “Bentuk ekoleksikon dalam teks berita konservasi di laman www.unnes.ac.id: Kajian ekolinguistik,” Jurnal Tutur, vol. 3, no. 2, pp. 150–163, 2017.

[23] A. Badara, “Maintenance of the maritime language lexicon through the learning of the Indonesian language,” Journal of Language Education and Educational Technology, vol. 4, no. 2, pp. 75–82, 2019.

[24] J. Boeve-De Pauw, “Cultural Differences in the Environmental Worldview of Children,” International Electronic Journal of Environmental Education, vol. 2, no. 1, pp. 1–11, 2012.

[25] Sahril, “Leksikon ikan dalam sampiran pantun Melayu,” ttbng, vol. 8, no. 1, pp. 149–163, Jun. 2020, doi: 10.26499/ttbng.v8i1.202.