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## Eco-linguistic Analysis on Flora and Fauna Lexicons on the Motifs of Batik Pekalongan, Indonesia

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### Abstract

The objective of this research is to analyze flora and fauna lexicons on the motifs of batik Pekalongan, Indonesia. Lexicon is vocabularies containing information of meaning and use of words in language. The use of flora and fauna lexicons on the motifs of batik Pekalongan is caused by close relationship between humans and the environment. In linguistics, the interaction between humans in the use of language and the environment is studied in eco-linguistics. Therefore, this research employed eco-linguistic design. The research data were in the form of vocabularies expectedly containing flora and fauna lexiconson the motifs of batik Pekalongan. The research's source of data was lexicons of various motifs of batik Pekalongan. The data were collected using the uninvolved conversation observation method (metode simak bebas libat cakap) with recording technique, documentation in the data analysis were referential matching and translational matching techniques, and immediate constituent analysis or distributional technique. The data validity technique used in this research was triangulation with phases: discussion, recheck, and consulting with expert. Based on the result of data analysis on various motifs of batik Pekalongan, flora and fauna lexicons were found in the form of (1) noun and (2) noun phrase: noun+noun, noun+verb, noun+idiom. Flora lexicons were found on the motifs of batik: buketan, hayat, isen, jlamprang, kawung, krisan, semen, and sawat. Fauna lexicons were found on the motifs of batik: buketan, semen, krisan, liong, and tokwi. The lexicons were biotic and abiotic. This research contributed to the development of eco-linguistic study and might enrich literacy of batik lexicons pursuant to the cultural values contained therein.

**Keywords:** eco-linguistics, fauna lexicon, flora lexicon, motif of batik Pekalongan.

## I. Introduction

Batik is one of Indonesia's distinctive cultures acknowledged by UNESCO and designated as the Masterpieces of the Oral and Intangible Heritage of Humanity since October 2, 2009. Therefore, batik is an embodiment of Indonesia's cultural heritage that must be preserved. Etymologically, the word *batik* is derived from Javanese language *tik* which means 'titik' (dot) (noun) and *matik* which means 'to make' (verb). From the perspective of art work, batik is a fine art work consisting of some arrangements of archipelagic motifs or ornaments with different meanings in every area. Batik may be found in various regions in Indonesia, one of which is batik Pekalongan, as confirmed by Asa [1] that Pekalongan is one area which contributes to batik values and richness in Indonesia.

Pekalongan city is a city located in Central Java province, Indonesia known as producer of batik of good quality in Indonesia. The development of batik in Pekalongan gives distinctive

characteristics to batik in Indonesia since batik Pekalongan has a complicated and long history and different characteristics from batik of other areas [2]. Pekalongan people had started to produce batik since 1800s, and the activity had become an important source of income for them for almost a century [3]. Currently, Pekalongan is a batik producing area which becomes reference, both nationally and internationally. Therefore, Pekalongan has a city branding of World's City of Batik.

Batik in Pekalongan is mostly produced by home industry, thus batik tradition is highly inherent in Pekalongan people. In the tradition, communities emerge with various motifs of batik in Pekalongan. Batik motif is divided into two main elements, which are "klowongan" (main batik motif) and "isen-isen" (filling batik motif). The shapes of batik motifs are a distinctive feature of Indonesian visual art which are different from painting art, installation art and other types of art works inherent in western concept. The batik artist community in Pekalongan tends to freely determine motif they use on batik. This leads to diverse batik motifs found in Pekalongan, which are: "buketan", "isen", "jlamprang", "kawung", "krisan", "liong", "hayat", "sawat", "semen", and "tokwi". Varied ornaments are found in those batik motifs. In connection with natural environment, the lingual element in the motifs of batik Pekalongan is in the form of lingual unit containing the names of existing flora and fauna in Indonesia. Wijayanti and Rahayu [4] explain that batik Pekalongan is inspired by local flora and fauna. Therefore, this research focuses on flora and fauna lexicons on the motifs of batik Pekalongan.

Crystal [5] states that lexicon is a component containing information of the characteristics of words in a language, such as semantic, syntactic and phonological behaviors. Elson and Pickett [6] define lexicon as vocabularies of a language or vocabularies of a language speaker, or the whole number of morphemes or words of a language. The words intended by Elson and Pickett [6] are not words which only contain separate meaning, but meaning influenced by situational context, their accompanying words, their position in grammatical pattern, and how they are used socially. Moreover, Spencer and Signe [7] state that lexicon is *the term mean simply dictionary is a list of words together with their meaning and other useful bits of linguistic information*. This statement shows that lexicon is a list of words containing a little bit of meaning as well as explanations related to linguistic information. According to Kridalaksana [8], lexicon is a language component containing information of meaning and use of words in language. The lexicon meant in this research is flora and fauna vocabularies in the form of words and or phrases containing meaning.

The research conducted by Fatehah [9] on batik lexicons in Pekalongan concludes (1) batik lexicons as vocabularies of language richness, (2) batik lexicon as social identity, (3) batik lexicon as social identity: work division by gender, (4) batik lexicon as social identity by economic strata, and (5) batik lexicon as religious identity. Fatehah's [9] research shared similarity on its usage of Lexicon as a medium to convey meaning. While Fatehah used ethnolinguistics as its research theory, this research is using eco-linguistic analysis.

The research conducted by Kurnia [10] on lexicon of plant names which form Javanese sayings finds meaning of plant lexemes which form Javanese sayings, which are: names of plants, leaves, trunks and branches, flowers, fruits, seeds, barks, roots and "panggur", wild plants, vines, and rhizomes. Kurnia's [10] research shared similarity on its usage of Lexicon as a medium to convey meaning. However, its type of lexicon and meaning itself is vastly contrasting. Kurnia used lexemes which form Javanese sayings as its research medium, this research is using flora and fauna lexicon on batik.

Furthermore, the research conducted by Suktiningsih [11] on fauna lexicons of Sundanese people, a eco-linguistic study concludes that Sundanese speech community is very close to the nature, especially fauna. This may be viewed from the emergence of fauna lexicons on metaphors used in saying or elders' advice for younger people. The metaphors expressed may be analyzed with social praxis dimension. Suktiningsih's [11] research shared similarity on its usage of eco-linguistic analysis. However, its type of lexicon and meaning itself is vastly contrasting. Suktiningsih used fauna lexicons of Sundanese people as its research medium, this research is using flora and fauna lexicon on batik.

The research conducted by Yuniawan, *et al.* [12] entitled "The Function of Eco-Lexicons in Conservation News Texts Published in Mass Media" concludes that the function of eco-lexicons contained in the conservation news texts published in mass media are as follows: (1) instrumental function, such as stating a dynamic movement; (2) representational function consisting of: (a) giving names, (b) describing characters, (c) describing activities (d) referring to a place, (e) stating art diversity, (f) describing situations, and (g) expressing types. Yuniawan, *et al.* [12] research shared similarity on its usage of eco-linguistic. However, Yuniawan, *et al.* used Conservation News Texts Published in Mass Media as its research medium, this research is using flora and fauna lexicon on batik.

Relevant research of the use of lexicon as a use of words in language were found by Widiatami, *et al.* [13] entitled "*Honorific Representation in Javanese Language Book for Junior High School*". Their finding showed that the representation of Javanese honorific lexicon was used as a vehicle to achieve competency, identity and communication medium for the speaker, indicate politeness of corresponding language user. Widiatami's [13] research shared similarity on its usage of Lexicon as a medium to convey meaning. However, its type of lexicon and meaning itself is vastly contrasting. While Widiatami used Javanese honorific lexicon as its research medium, this research is using flora and fauna lexicon on batik.

Meanwhile, flora and fauna lexicons are used on the motifs of batik Pekalongan because of close relationship between humans and the environment. Interaction between human in language use and the environment is, in linguistics, known as eco-linguistics. Eco-linguistics is an interdisciplinary study of linguistics correlated with ecology of a language. Sapir (in Fill and Muhlhausler, [14]) states that in the scope of eco-linguistics, the relation between language and the environment exists only at lexicon level. At lexicon level, the dynamics and changes of language are influenced by three dimensions [15], namely (a) ideological dimension, (b) sociological dimension, and (c) biological dimension. This means that language has reciprocal or interdependent relationship between language in which there are thoughts, behaviors, ideas of every certain community and human environment, either socially (between human and human) or in the relationship between humans and natural environment (biotic and abiotic) [29].

Mbete [16] argues that a set of words describing the condition of biotic (flora and fauna) and abiotic (rocks, clay, water) environments where a linguistic area lives and is used is called eco-lexicon. This is in line with Sapir's opinion that vocabularies reflect human physical environment and social environment. Complete vocabularies of a language are deemed a complex inventory consisting of design arranged in the speech community's thought. The vocabularies reflect the boundaries of physical environmental characters and cultural characters of society that uses them [29,14].



In eco-linguistic study, flora and fauna lexicons used on the motifs of batik Pekalongan are not just defined as a name inherent in the flora and fauna. The existence of flora and fauna is equally important to the existence of humans in an ecosystem. Equal consideration of involvement of humans with other organisms and the environment is known as ecosophy. The term ecosophy is an acronym of ecological philosophy presented by Næss and Sessions [17]. Ecosophy is used to describe a set of philosophical principles covering ecological consideration [18]. In addition, eco-linguistics through ecosophy understanding also attempts to acknowledge the deepest value of every element in the nature, both in biotic and abiotic environments. An understanding of the values is intended to encourage humans to protect and preserve a condition which supports all lives, including human life [18].

The research focus is flora and fauna lexicons on the motifs of batik Pekalongan as an eco-linguistic study. Theoretically, the research contributes to the development of eco-linguistic study and, practically, this research may enrich reader's insight in understanding the meaning of flora and fauna lexiconson batik motifs pursuant to the cultural values contained therein.

## II. Methods

This qualitative descriptive research employed an eco-linguistic design, in line with Fill's opinion [14] in Lindo & Bundsgaard [15] that eco-linguistics is the umbrella of all approaches of linguistic study in combination with the environment. Denzin and Lincoln [19] stated that a qualitative research procedure generated descriptive data in the form of written or oral words of people or behaviors observed.

The data used in this research were in the form of vocabularies expected to contain flora and fauna lexiconson the motifs of batik Pekalongan. The source of data was lexicons in various motifs of batik Pekalongan. The research data were collected using: (1) uninvolved conversation observation method (*metode simak bebas libat cakap*) with recording technique, (2) documentation in the form of writing, photo, drawing of motifs of batik Pekalongan, (3) observation guidelines, and (4) interview guidelines [20,21,22]. The data were sorted using classification technique, in which data were grouped based on similarity and difference in data identity.

The research data were analyzed using eco-linguistic study with (1) referential matching and translational matching techniques and (2) immediate constituent analysis or distributional technique [20,22]. The data validity technique used in this research was triangulation, that it combined data collection technique and existing source of data with phases: (1) discussion, (2) recheck, and (3) consulting with expert [21,23].

## III. Result and Discussion

### Flora and Fauna Lexicons on the Motifs of Batik Pekalongan

From the data analysis result, we may find various motifs of batik Pekalongan, namely: "buketan", "isen", "jlamprang", "kawung", "krisan", "liong", "hayat", "sawat", "semen", and "tokwi". Flora and fauna lexicons are found from the various batik motifs. This is in line with Haugen's opinion [24], that ecology of language is science of interaction between language and the environment. This study identifies four certain ways where ecology of language has been conceptualized as natural ecology (this approach investigates how

language is connected with biology and surrounding ecosystem, for example topography, climate, flora, fauna), symbolic ecology (this approach investigates the existence of language or symbolic system in a certain area), sociocultural ecology (this approach investigates how language is connected with social and culture), and cognitive ecology (this approach investigates how language emerges as the result of dynamic relationship between biological organism and the environment focusing on cognitive capacity which improves organism flexibility and adaptive behavior).

### Flora Lexicon on the Motifs of Batik Pekalongan

Flora lexicons are found on the motifs of batik Pekalongan, namely: “buketan”, “hayat”, “isen”, “jlamprang”, “kawung”, “krisan”, “semen”, and “sawat”. The analysis on and discussion of flora lexicon on the motifs of batik pekalongan are explained below.

#### Flora Lexicon on the Motif of Batik Buketan

“Buketan” motif takes plants or flowers as its ornament, arranged lengthwise as wide as the fabric. The word “buketan” is derived from French language bouquet which means a bouquet of flowers.

**Table 1. Flora Lexicon on the Motif of Batik “Buketan” Pekalongan, Indonesia**

Batik Motif	Flora Lexicon	Form	Biotic	Abiotic
<i>Bouquet motif</i>	<i>bunga [flower]</i>	noun	+	-
	<i>tanaman [plant]</i>	noun	+	-
	<i>bersulur[vine]</i>	noun phrase	+	



**Figure 1. Bouquet Motif**

From the data analysis, flora lexicon in the form of “*bunga*” (flower) of noun category is found on the motif of batik “*buketan*”. In addition, there is also flora lexicon “*tanaman bersulur*”(vine) of noun phrase (Noun+Verba) category. The lexicons are biotic.

“*Buketan*” motif may easily be recognized since this batik motif has drawings of flowers and vines like those growing in Europe. The drawings are strung together in a beautiful set and in beautiful colors. This motif of batik “*buketan*” widely developed on the coast of Java in the 19<sup>th</sup> century with Europe’s influence during the colonial era, especially that of the Netherlands. In addition, this motif of batik “*buketan*” was also influenced by Chinese batik traders and entrepreneurs in the past.

### Flora Lexicon on the Motif of Batik Hayat

One of the classical batik motifs with complete beauty is the “*pohon hayat*” (tree of life) motif. “*Pohon hayat*” motif is one of the main motifs in batik art in the form of drawing of tree with flowers (buds), branches and roots, and some are combined with other main motifs such as “*meru*”, “*gurda*” (*garuda*), bird, and plants [25].

Table 2. Flora Lexicon on the Motif of Batik “Hayat”Pekalongan, Indonesia

Batik Motif	Flora Lexicon	Form	Biotic	Abiotic
Hayat motif	<i>pohon Bodhi</i> [tree of Enlightenment/	noun	+	-
	<i>Ficus religiosa</i> ]	phrase	+	-
	<i>pohon hayat</i> [tree of life]	noun phrase		



Figure 2.Hayat Motif

Based on the data analysis, Flora lexicons in the form of “*pohon bodhi*” (*tree of Enlightenment/Ficus religiosa*), “*pohon hayat*”(tree of Life) of noun phrase (Noun+Noun) category and biotic characteristic are found on the motif of batik “*hayat*”.

The concept of tree of life symbol is distributed to various cultures, religions and faiths. Each culture has its own understanding of this symbol which may be different. For example, in Islam and Christianity, tree of life symbol is associated with the tree in Adam and Eve story. In Buddhism, tree of Bodhi is where the Buddha experiences “*moksa*”, etc. Similarly, in Indonesia, many ancestral faiths also use and define this symbol. “*Hayat*” motif is highly influenced by Chinese ethnicity. According to Tao teaching, tree of life produces fruit of immortality every 3000 years, and whoever eats it will gain immortality. Therefore, “*pohon hayat*” motif has a philosophy of never ending life (those broken will grow and those lost will be replaced).

In accordance with Javanese cultural expression, the illustration of “*pohon hayat*” motif is often combined with the concept of “*triloka*” which represents life with three tiered realms, namely upper realm (*niskala* world), middle realm (*niskala-sakala* world), and lower realm (*sakala* world), of which harmony in cosmic relation must be continuously attempted in order to maintain horizontal and vertical balance [25].

### Flora Lexicon on the Motif of Batik Isen

Motif of batik “*isen*” uses “*isen-isen*” in the form of dots or, in Javanese language, known as *cecek-cecek*. These dots may be in the form of “*cecek-garis*”. The “*isen*” motif is also called pattern filling motif, which is supplementary in batik motif. In batik motif making

process, there is “*isen*” or filling ornament. This ornament supplements main motif, serving to beautify batik motif.

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**Table 3. Flora Lexicon on The Motif of Batik “Isen” Pekalongan, Indonesia**

Batik Motif	Flora Lexicon	Form	Biotic	Abiotic
<i>Isen motif</i>	<i>galaran</i> [relief made of bamboo]	noun	-	+
	<i>sawut</i> [food made of coarsely grated cassava, steamed until cooked, to be eaten with grated coconut]	noun	-	+
	<i>sirapan</i> [thin pieces of board made of wood, iron or ironwood]	noun	-	+
	<i>rambutan</i>	noun	+	
	<i>cacah gori</i> [minced young jackfruit]	noun phrase	+	
	<i>sawo daun</i> [sapodilla leaf]	noun phrase	+	



**Figure 3. Isen Motif**

Based on the data analysis, flora lexicons in the form of “*galaran*”, “*sawut*”, “*sirapan*”, of noun category and abiotic characteristic and of “*rambutan*” of noun category and biotic characteristics are found on the motif of batik “*isen*”. In addition, there are also flora lexicons of “*cacah gori*”, “*sawo daun*” of noun phrase (Noun+Noun) category and biotic characteristic.

“*Isen*” may be translated into “filling”, drawings serving to fill the main ornament in batik. *Isen* motif is the main ornament and filing ornament in the form of dots, stripes, a combination of dots and stripes serving as ornaments of motif or filling in the field between ornaments. There are various *isen* motifs and there are developing “*cecek sawut*” (food made of coarsely grated cassava, steamed until cooked, to be eaten with grated coconut), “*cecek sawo daun*”, “*galaran*” (relief made of bamboo), “*rambutan*”, “*sirapan*” (thin pieces of board made of wood, iron or ironwood), “*cacah gori*” (young jackfruit).

#### **Flora Lexicon on the Motif of Batik Jlamprang**

Motif of batik “*jamprang*” is the original art work of Pekalongan [30]. Motif *jamprang* takes geometric, star, cardinal directions, and rectangular shapes. Motif of batik *jamprang* Pekalongan was inspired by batik motif of potola fabric from Gujarati traders, India [26].

There is an opinion that “*jamprang*” motif was developed by Arab-descendant batik artists, since most of the Arabs are Muslim, who are not willing to use living creature for ornament, such as animals or birds. Therefore, “*jamprang*” motif takes the form of dot, box,



rectangular, triangle, and circle. The beauty of motif of batik “*jamprang*” lies on its various ornaments which symbolize consistency. “*Jlamprang*” motif tends to be typically bright in color.

**Table 4. Flora Lexicon on the Motif of Batik “Jlamprang” Pekalongan, Indonesia**

Batik Motif	Flora Lexicon	Form	Biotic	Abiotic
<i>Jlamprang motif</i>	<i>tunas[bud]</i>	noun	+	-
	<i>bunga Padma [lotus flower]</i>	noun phrase	+	-
	<i>kuncup menjalar [creeping flower bud]</i>	noun phrase	+	-



**Figure 4. Jlamprang Motif**

The data analysis shows that flora lexicons in the form of “*tunas*” of noun category, “*bunga padma*” of noun phrase (Noun+Noun) category, “*kuncup menjalar*” of noun phrase (Noun+Verba) category are found on the motif of batik “*jamprang*”. These lexicons are biotic.

Motif of batik *jamprang* is represented with “*ceplokan*” in a frame of “*bunga padma*” and “*lung-lungan*”. In Hindu Tantrayana teaching, Syaiwapaksa (God Shiva’s arrow) symbolizes “*cakra*” in the form of an arrow, which is also an icon of God Shiva’s meditation. Meanwhile, “*bunga padma*” in Hinduism-Buddhism symbolizes life, and “*lung-lungan*” means trailing shoot or bud.

In addition, in Queen of Java Sea mythology, motif of batik “*jamprang*” is preferred by the ruler of Northern Sea, “Dewi Ayu Lanjar”. In relation to batik “*jamprang*” as a medium of expression, this batik had previously made a sacred item (sacred batik). From the past until now, batik “*jamprang*” has become profane (common) batik and is no longer sacred. However, some of Pekalongan people still use Batik “*jamprang*” as part of ceremonial items in effort to maintain mystical culture related to “*sedekah laut*” ceremony, which is a ceremony held to express people’s thanks to the ruler of the universe (God). According to Pekalongan people, instruments in such ceremony include “*motif*” of batik “*jamprang*”, intended to be an offering to the Queen of the Sea, “Dewi Ayu Lanjar”.

Batik of “*jamprang*” motif as the medium (ceremonial item) is used as a cosmological path to the upper realm (realm of Gods). Tantra is one of the schools to worship God Shiva and old Pekalongan people used batik of “*jamprang*” motif as a ceremonial item when the belief developed in Pekalongan after it was abandoned by Wangsa Sanjaya that moved to East Java in X century AD. Batik of “*jamprang*” motif was inherited from the cosmological culture and used as a medium of expression to connect lower realm (human world) with upper world (world of goods or Heaven world). Batik of “*jamprang*” motif, serving as a cosmic

medium with mystical symbol, is certainly an appropriate instrument acceptable to the upper realm (Heaven world), called as the world of “Dewi Ayu Lanjar”.

#### **Flora Lexicon on the Motif of Batik Kawung**

Motif of batik “*kawung*” is one of the oldest batiks in Indonesia originated from Java. According to some researches, “*kawung*” motif had existed from the 9<sup>th</sup> century. Batik “*kawung*” started to be renowned in 1755 during “Ngayogyakarta Hadiningrat” Sultanate. In the past, this motif was only used by royal family members.

Batik “*kawung*” is a batik motif whose ornament is in the form of orderly, geometrically arranged circles similar to “*kawung*” fruit, some kind of coconut or Arenga pinnata fruit or “*kolang-kaling*”. This arenga pinnata fruit is composed of shell, seed and fruit. When correctly formed and composed, arenga pinnata fruits may make four lines of symmetric parts.

**Table 5. Flora Lexicon on the Motif of Batik “Kawung” Pekalongan, Indonesia**

Batik Motif	Flora Lexicon	Form	Biotic	Abiotic
<i>Kawung motif</i>	<i>aren(kolang-kaling)[arenga pinnata]</i>	noun	+	-
	<i>kelapa [coconut]</i>	noun	+	-
	<i>kopi [coffee]</i>	nonima	+	-
	<i>teratai[lotus]</i>	noun	+	-



**Figure 5. Kawung otif**

Based on the data, flora lexicons in the form of “*aren (kolang-kaling)*” [*arenga pinnata*], “*kelapa*” [*coconut*], “*kopi*” [*coffee*], and “*teratai*” [*lotus*] are found on the motif of batik *kawung*. The lexicons are of noun category and biotic. The motif of four arenga pinnata fruit or “*kolang kaling*” is a symbol of four brothers. The dot motif at the center is deemed as the center of power of the universe. Therefore, “*kawung*” motif consists of four ellipses with central point at the center symbolizing unity.

In addition, this “*kawung*” motif has the meaning of pure heart. Arenga pinnata fruit or “*kolang-kaling*” is derived from arenga pinnata, a tree with white-flesh fruit hidden behind its hard shell. In the Javanese’s belief, batik *kawung* is defined as pure heart. This motif is also interpreted as lotus with four blossomed petals. Lotus is a flower symbolizing longevity and purity.

This *kawung* motif has the meaning that humans should be useful for anyone, at any time in their life. Arenga pinnata on the motif of batik “*kawung*” also has the meaning of very useful tree for humans, from its leaf, trunk, sap, fruit, to root.

“*Kawung*” motif also has the meaning of wisdom and discretion. The name *kawung* is derived from Javanese language “*suwung*” which means emptiness from worldly lust and desire. The word “*suwung*” makes a person neutral, impartial, not want to show off and follow surrounding rules. He will have extraordinary self-control and be aware of the purpose of life in the world. He may easily interact with others, since he is able to appropriately position himself with fellow humans, animals and plants.

There are various motifs of batik *kawung*, namely: “*kawung picis*”, “*kawung bribil*”, “*kawung sen*”, “*kawung sekar ageng*”, “*kawung semar*”, “*kawung sari*”, “*kawung buntal*”, “*kawung kopi*”, and “*kawung kembang*”. batik “*kawung*” is mostly in brown. The circle motif and glossy dark brown color are adapted from palm weevil’s dark brown color and oval shape. It is bright brown beetle that is commonly pest for palms, thus it is a horrible pest for farmers. The palm weevil’s color and shape inspired the idea for the form and design of batik “*kawung*”.

#### **Flora Lexicon on the Motif of Batik Krisan**

The ornament of this batik is in the form of flora growing in the Netherlands, such as chrysanthemum flower, grape flower, and European bouquet of flowers. Generally, this Dutch motif batik is in the form of sarong, since it may easily be used by visitors.

**Table 6. Flora Lexicon on the Motif of Batik “Krisan” Pekalongan, Indonesia**

Batik Motif	Flora Lexicon	Form	Biotic	Abiotic
<i>Krisan motif</i>	<i>pohon [tree]</i>	noun	+	-
	<i>buah anggur [grape fruit]</i>	noun phrase	+	-
	<i>bunga eropa [European flower]</i>	noun phrase	+	-
	<i>bunga krisan [chrysanthemum flower]</i>	noun phrase	+	-
	<i>bunga seruni [chrysanthemum flower]</i>	noun phrase	+	-



**Figure 6. Krisan Motif**

Based on the data analysis, flora lexicons in the form of “*pohon*”[*tree*]of noun category are found on the motif of batik *krisan*. In addition, there are also flora lexicons “*buah anggur*” [*grape fruit*], “*bunga Eropa*: [*European flower*], “*bunga krisan*” [*chrysanthemum flower*], “*bunga seruni*” [*chrysanthemum flower*]of noun phrase (Noun+Noun) category. The lexicons are biotic.

The motif of batik “*krisan*” has wide edge at the bottom and one end of cloth containing blossomed chrysanthemum flowers with land background and big ornamental butterfly. The blank background is in plain purple. This motif is also in the form of flowers often blossomed during autumn and trees with their shed leaves. This motif symbolizes determination in the face of condition, longevity, welfare and happiness in old age.

#### **Flora Lexicon on the Motif of Batik Sawat**

The term “*sawat*” means to throw. Ancient Javanese believed in gods, who control the universe. One of the gods they worship is God Indra. This God has a weapon “*thathit*” or flash, which is thrown in its use. It is where the term “*sawat*” motif comes from, which is none other than representation of the ancient Javanese’s belief. God Indra’s weapon has a form similar to a snake with sharp fangs.

**Table 7. Flora Lexicon on the Motif of Batik “Sawat” Pekalongan, Indonesia**

Batik Motif	Flora Lexicon	Form	Biotic	Abiotic
Sawat motif	<i>bunga</i> [flower]	noun	+	
	<i>daun</i> [leaf]	noun	+	
	<i>bunga tapak dara</i> [Madagascar Periwinkle flower]	noun phrase	+	



**Figure 7. Sawat Motif**

The data analysis shows that flora lexicons on the motif of batik *sawat* in the form of “*bunga*” [flower], *daun* [leaf] of noun category and biotic characteristic. There is also flora lexicon *bunga tapak dara* [Madagascar Periwinkle flower] of noun phrase (Noun+Noun) category and biotic characteristic.

The motif of “*sawat*” Pekalongan is no longer a stilation of “*garuda*” or peacock, but tends to be part of plant or bouquet of leaves and flowers. Sometimes, the tail of “*sawat*” takes the form of part of plant and the base takes the form of *catharanthus roseus* flower. Philosophically, “*sawat*” motif has the meaning of protection. Some people still believe that by wearing batik of this motif, they will be protected from danger.

#### **Flora Lexicon on the Motif of Batik Semen**

The motif of batik “*semen*” is a classical batik in Pekalongan, which has distinctive characteristic, that there is no “*cecek*” or dot element on the motifs of batik Pekalongan, but dominated more by decorative stripes.



5  
**Table 8. Flora Lexicon on the Motif of Batik “Semen” Pekalongan, Indonesia**

Batik Motif	Flora Lexicon	Form	Biotic	Abiotic
<i>Semen motif</i>	<i>Tumbuhan [plant]</i>	Noun	+	-
	<i>pohon [tree]</i>	noun	+	-



Figure 8. Semen Motif

Based on the data, flora lexicons are found on the motif of batik semen in the form of “*tumbuhan*” [*plant*], “*pohon*” [*tree*], of noun category and biotic characteristic.

“*Semen*” motif is defined as representation of “blossoming life” (growing or prosperous life). There are some main ornaments on “*semen*” motif, which are ornaments related to land, such as plants. There is Eandarbrata’s advice on this “*semen*” motif, who is the giver of prosperity and the world protector symbolized with tree of life. This is in line with the research conducted by Mbeté [15], that verbal expression serves to preserve the environment consisting of: (1) expression related to the universe; (2) expression related to land cultivation; (3) expression related to preservation of protected forest and wellspring; (4) expression related to preservation of coast and sea; (5) expression related to maintenance and harmony; and (6) expression related to interpersonal relations.

### 3 Fauna Lexicons on the Motifs of Batik Pekalongan

Fauna lexicons are found on the motifs of batik: “*buketan*”, “*krisan*”, “*liong*”, and “*tokwi*”. The analysis and discussion of the analysis on fauna lexicons on the motifs of batik Pekalongan are explained below.

#### 5 Fauna Lexicon on the Motif of Batik Buketan

Besides plants and flowers, “*buketan*” motif also contains fauna as ornament on batik fabric.

5  
**Table 9. Fauna Lexicon on the Motif of Batik “Buketan” Pekalongan, Indonesia**

Batik Motif	Fauna Lexicon	Form	Biotic	Abiotic
<i>Buketan motif</i>	<i>kupu-kupu [butterfly]</i>	noun	+	-
	<i>burung bangau [stork]</i>	noun phrase	+	-
	<i>burung hong [Chinese mythological bird like phoenix]</i>	noun phrase	+	-



Figure 9. Buketan motif

Based on the data analysis, fauna lexicons are found on the motif of batik “*buketan*” in the form of “*kupu-kupu*” [butterfly] of noun category. There are also fauna lexicons “*burung bangau*” [stork], “*burung hong*” [Chinese mythical bird like phoenix] of noun phrase (Noun+Noun) category and biotic characteristic.

Ornamental butterflies, fenghuangs, crane, besides flowers and vines are also found on *buketan* motif. The ornaments are presented on a beautiful set in fascinating colors.

#### *Fauna Lexicon on the Motif of Batik Krisan*

Besides containing blossomed flowers in autumn and trees with shed leaves, in the motif of batik “*krisan*”, there are also big ornamental butterflies with land background. This motif also symbolizes determination in the face of condition, prosperity, and happiness in old age.

Table 10. Fauna Lexicon on the Motif of Batik “Krisan” Pekalongan, Indonesia

Batik Motif	Fauna Lexicon	Form	Biotic	Abiotic
<i>Krisan motif</i>	<i>kupu-kupu</i> [butterfly]	noun	+	-



Figure 10. Krisan Motif

The data analysis shows that fauna lexicons are found on the motif of batik “*krisan*” in the form of *kupu-kupu* [butterfly] of noun category and biotic characteristic. This motif has wide edge at the bottom and one end of cloth containing blossomed chrysanthemum flowers with land background and big ornamental butterfly.

#### *Fauna Lexicon on the Motif of Batik Liong*

This motif of batik “*Liong*” contains dragon. This batik motif also contains phoenix motif, of which representation is similar to that of dragon. This batik motif is influenced by Chinese culture.

5  
**Table 11. Fauna Lexicon on the Motif of Batik ‘Liong’ Pekalongan, Indonesia**

Batik Motif	Fauna Lexicon	Form	Biotic	Abiotic
<i>Liong motif</i>	<i>naga [dragon]</i>	noun	+	-
	<i>burung phoenix [phoenix]</i>	noun phrase	+	-



**Figure 11. Liong Motif**

Based on the data analysis, fauna lexicons are found on the motif of batik *liong* in the form of “*naga*” [*dragon*] of noun category and biotic characteristic. In addition, there is also fauna lexicon “*burung phoenix*” [*phoenix*] of noun phrase (Noun+Noun) category and biotic characteristic.

In Chinese mythology, this motif symbolizes sources of virtue, fertility, and prosperity, and they are expected to be expressed into batik, and this batik, when sold and used, will invite great prosperity.

#### **Fauna Lexicon on the Motif of Batik Semen**

In *semen* motif, there are main types of ornaments: ornament related to land, such as four-legged animals; ornament related to air, such as “*garuda*”, bird; and ornament related to sea or water, such as snake, fish and frog. These ornaments are related to the concept of “*Triloka*” or “*Tribawana*”. This concept is a teaching of three realms; middle realm where humans live, upper realm where there are gods and saints, and lower realm where people with bad deed or full of anger live.

5  
**Table 12. Fauna Lexicon on the Motif of Batik “Semen” Pekalongan, Indonesia**

Batik Motif	Fauna Lexicon	Form	Biotic	Abiotic
<i>Semen motif</i>	<i>burung [bird]</i>	noun	+	-
	<i>garuda [eagle]</i>	noun	+	-
	<i>ikan [fish]</i>	noun	+	-
	<i>katak [frog]</i>	noun	+	-
	<i>ular [snake]</i>	noun	+	-
	<i>binatang berkaki empat [four-leg animals]</i>	noun phrase	+	-



**Figure 12. Semen Motif**

The data analysis shows that fauna lexicons are found on the motif of batik semen in the form of “*burung*” [bird], “*garuda*” [eagle], “*ikan*” [fish], “*katak*” [frog], “*ular*” [snake] of noun category. In addition, there is also fauna lexicon “*binatang berkaki empat*” [four-leg animals] of noun phrase (Noun+ Frasa Idiomatis) category and biotic characteristic.

“*Semen*” motif is defined as a representation of “blossoming life” (growing or prosperous life). This motif also contains a philosophy where there are 8 advices of life, namely “*Agnibrata*”, “*Bayubrata*”, “*Sasibrata*”, “*Dhanabrata*”, “*Yamabrata*”, “*Endabrata*”, “*Suryabrata*” and “*Pasabrata*”. According to a story developing in the society, this batik motif is inspired by the story of “*Ramawijaya*”, who is the main character in ethos “*Ramayana*”. This is in line with the research conducted by Steffensen and Fill [27] that eco-linguistic is science which inspires us to understand linguistic complexity and an effort to reach scientific community by improving the awareness of mutual dependence between discursive practice and destruction.

#### ***Fauna Lexicon on the Motif of Batik Tokwi***

Batik with “*tokwi*” motif is cloth used to cover Chinese ethnicity’s altar of worship. It was initially made with embroidery technique using embroidery threads in various colors. “*Tokwi*” is expected to develop in China during Tang Dynasty (8-9<sup>th</sup> Century AD). In Indonesia, “*tokwi*” acculturated with local culture and was made with batik technique and was popular in the 19<sup>th</sup> century.

Batik “*tokwi*” is the symbol of Chinese’s cultural adaptation in Indonesia. The main motif of Batik “*tokwi*” represents Gods of Chinese belief such as the three gods (san xing the three stars) Fu Lu Shou, God of Luck, God of Prosperity, and God of Longevity.

**Table 13. Fauna Lexicon on the Motif of Batik “Tokwi” Pekalongan, Indonesia**

Batik Motif	Fauna Lexicon	Form	Biotic	Abiotic
<i>Tokwi motif</i>	<i>kilin [unicorn-like mythological creature]</i>	noun	+	-
	<i>kupu-kupu [butterfly]</i>	noun	+	-
	<i>naga [dragon]</i>	noun	+	-
	<i>Singa [lion]</i>	noun	+	-
	<i>burung hong [Chinese mythological bird like phoenix]</i>	noun phrase	+	-
	<i>burung phoenix [phoenix]</i>	noun phrase	+	-





Figure 13. Tokwi Motif

Based on the data analysis, fauna lexicons are found on the motif of batik *tokwi* in the form of “*kilin*” [unicorn-like mythological creature], “*kupu-kupu*” [butterfly], “*naga*” [dragon], “*singa*” [lion] of noun category. There are also fauna lexicons “*burung hong*, *burung phoenix*” [Chinese mythological bird like phoenix] of noun phrase (Noun+Noun) category and biotic characteristic.

*Tokwi* ornamental variety consists of Chinese and Javanese varieties. Chinese varieties include *Naga (Liong)*, *Swastika (Banji)*, *Kilin (unicorn-like mythological creature)*, *Burung Phoenix (phoenix)*, and *Singa (lion)* [28], while Javanese varieties include puppet, human, and Javanese flora and fauna.

Motif of batik “*tokwi*” represents a combination of Taoist and Buddhist motifs. The main motif of batik *tokwi* represents goods of Chinese ethnicity’s belief. In addition, many also represent Chinese typical mythological animals and philosophical animals such as dragon, fenghuang, qilin, and butterfly.

#### IV. Conclusion

On the motifs of batik Pekalongan, flora and fauna lexicons are found in the form of (1) noun and (2) noun phrase: noun+noun, noun+verb, noun+idiom. The lexicons have biotic and abiotic characteristics. Flora lexicons are found on the motif of batik: “*buketan*”, “*hayat*”, “*isen*”, “*klamprang*”, “*kawung*”, “*krisan*”, “*semen*”, and “*sawat*”. Fauna lexicons are found on the motif of batik: “*buketan*”, “*semen*”, “*krisan*”, “*liong*”, and “*tokwi*”. Therefore, batik Pekalongan is coastal batik, since its motifs are mostly in the form of flora, fauna and environmental characteristics. Batik coastal motifs are more free and rich of motifs and colors, more free from and unbound by palace rules. This confirms that eco-linguistic study has parameters of interrelation of lexicon (language) and environment, diversity of lexicon (language) and environment, and physical and socio-cultural environments. This research greatly contributes to the development of eco-linguistic study and may enrich literacy of batik lexicons pursuant to the cultural values contained therein. The meaning contained in the lexicons of batik motif symbolizes good expectations and prayers for its users.

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